Appendix H
Air Quality

Appendix H1
Methodology

APPENDIX H1

Methodology

H1.1 Introduction

This section presents the methodology used to estimate emissions and perform dispersion modeling for the Proposed Project. Emissions were estimated for the incremental increase in activity associated with the Proposed Project, and were not calculated for activity associated with the existing landfill.

H1.2 Emission Calculation Methodology

Emissions of criteria pollutants were estimated for construction and operation of the Proposed Project. Emissions from construction of the proposed new entrance, landfill modules, and compost facility would result from on-road vehicle exhaust, off-road equipment exhaust, and fugitive dust. Operation-related emissions would result from on-road vehicle exhaust, off-road equipment exhaust, fugitive dust, flare operation, fugitive landfill gas (LFG), and composting. Onsite and offsite vehicle exhaust emissions from waste and compost haul truck trips, for both transfer trucks and direct collection trucks, were calculated and included in the operational emissions totals. Emissions were not calculated for the landfill gas-to-energy (LFGTE) plant, because operations associated with this facility were assumed to be the included with existing conditions and would not change with the Proposed Project.

The Proposed Project schedule lists the anticipated dates of entrance construction, landfill module construction, compost facility construction, landfill operation, and compost facility operation. Entrance construction is scheduled to last for 6 months in 2018. Landfill module construction is scheduled to last for 6 months and will occur in 2017 (Module 6), 2021 (Module 7), 2025 (Module 8), 2029 (Module 9), 2033 (Module 10), 2037 (Module 11), and 2041 (Module 12). Compost facility construction is scheduled to last for 4 months. Initial construction of the compost facility is scheduled for 2019 and the compost facility will be relocated twice, with construction scheduled to occur in 2028 and 2038. Proposed Project landfill operation is scheduled to ramp up over 7 years, beginning January 1, 2017. Operation at full capacity would begin in 2024.

The impact analysis conservatively summed the annual emissions that would be generated from anticipated construction activities with the emissions that would be generated from annual operation of the Proposed Project to identify the future project year with the highest potential combined emissions. Through this process, the year identified to be the project year with the highest potential combined emissions varied by pollutant. 2041 was identified to be the project year with the highest potential combined emissions of reactive organic gases (ROG), carbon monoxide (CO), particulate matter with aerodynamic diameter less than or equal to 10 microns (PM_{10}) and particulate matter with aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$), while 2037 was the worst-case year for oxides of nitrogen (NOx), and 2039 the worst-case year for sulfur oxides (SO_2). Landfill operation and compost facility operation are scheduled to occur in each of the three worst-case years, while module construction is only expected to occur in 2037 and 2041. Year 2039 represents the maximum year of LFG generation, and therefore, maximum fugitive LFG and flare emissions. Emissions would be higher when operation, construction, and LFG generation overlap.

The values estimated for the project years with the highest potential combined emissions were used in evaluation of potential air quality and acute health risk impacts. Chronic health risk impacts were evaluated based on 30 year average emissions for the 30 individual highest emission years.

Emission calculation spreadsheets are included in Appendix H-2.

H1.2.1 Module and Entrance Construction Emissions

Emissions of CO, NOx, ROG, SOx, PM_{10}, and $PM_{2.5}$ would be generated during construction of the relocated entrance, the new landfill modules, and the compost facility. Activities during construction of the relocated entrance and the compost facility would include site preparation, grading, road construction, foundation construction, and building construction. Construction activities during landfill module construction would include excavation, site preparation and placement of liner materials. Onsite and offsite construction emissions were divided into three categories: vehicle and construction equipment exhaust, fugitive dust generated by vehicle travel on paved and unpaved roads, and fugitive dust generated from earthmoving activities and paving activities. During onsite construction, activities were assumed to occur during daylight hours, 5 days per week, and 6 months per year during the late spring, summer, and early fall.

The Proposed Project would include the following best management practices (BMP) to reduce emissions during construction:

- The construction equipment, not owned by Chiquita Canyon Landfill (CCL), would be equipped with engines meeting California Air Resources Board (CARB) requirements for a large fleet at the time of construction (13 *California Code of Regulations* 2449).
- The construction equipment, not owned by CCL, would be equipped with engines meeting Tier 4f emission standards after project year 2020.
- Trucks would be prevented from idling longer than 5 minutes, to the extent feasible.
- Construction equipment idling times would be minimized, and excessive use would be prevented, to the extent feasible.
- Use of construction equipment would be suspended during Stage 2 and 3 smog alerts.
- To reduce/minimize construction-related fugitive dust, water would be applied 4 to 7 times daily, dependent on weather, to disturbed areas within the construction site.
- Fugitive dust from vehicle travel on unpaved roads would be controlled through the application of water 4 to 7 times daily, dependent on weather, the application of soil stabilizers, and the enforcement of a 15 mph speed limit.

Construction Exhaust Emissions

For construction that would occur prior to project year 2020, construction equipment exhaust emissions of CO, NOx, ROG, SOx, PM_{10}, and $PM_{2.5}$ were estimated using emission factors taken from the South Coast Air Quality Management District (SCAQMD) California Environmental Quality Act (CEQA) website. For construction that would occur after project year 2020, Tier 4f emission factors, taken from Appendix D of the CalEEMod User Guide (ENVIRON, 2013), were used to estimate construction equipment exhaust emissions of CO, NOx, ROG, PM_{10}, and $PM_{2.5}$, while SOx emissions were estimated using emission factors from the SCAQMD CEQA website. The construction equipment and service trucks used for routine onsite travel were considered onsite emission sources, while worker commute trips were considered offsite emission sources. The construction equipment fleet was assumed to meet CARB requirements for a large fleet. On-road vehicle exhaust emissions were estimated using EMFAC2014 average emission factors for the Los Angeles portion of SCAQMD. It was assumed that service trucks would travel 5 miles per day onsite, and employees would commute a distance of 40 miles roundtrip each day. Entrance construction was assumed to require 20 workers per day, while module construction would require 40 workers per day.

Construction Fugitive Dust Emissions

Fugitive dust emissions would result from vehicle travel on unpaved and paved roads, and soil disturbing activities such as module excavation. Emission factors from EMFAC 2014 were used to estimate fugitive emissions from tire and brake wear. Fugitive dust emissions from vehicle travel on unpaved and paved roads were estimated using United States Environmental Protection Agency (EPA)-approved emission factors and methodology published in AP-42 (EPA, 2006 and 2011a). It was assumed that unpaved roads would be watered 4-7 times daily, soil stabilizers would be applied, and vehicle speed on unpaved roads would be reduced to 15 miles per hour as project BMPs. Therefore, the emissions from vehicle travel on unpaved road were assumed to be reduced by 55 percent after control (SCAQMD, 2007).

Fugitive dust emissions from soil disturbance (e.g., grading and excavating activities) were estimated using recommended emission factors from the SCAQMD *California Environmental Quality Act (CEQA) Air Quality Handbook* (SCAQMD, 1993). CCL is required to implement stringent fugitive dust control measures at the existing landfill and would also apply these measures to the Proposed Project as project BMPs. A full list of Proposed Project fugitive dust control measures can be found in Chapter 11, Air Quality, Table 11-1. These fugitive dust control measures exceed the reductions associated with individual measures described in the SCAQMD CEQA guidance, therefore, an enhanced control efficiency of 75 percent was applied to fugitive dust emissions from disturbed areas and earthmoving (SMAQMD, 2015).

H1.2.2 Proposed Project Landfill Operation Emissions

Emissions of CO, NOx, ROG, SOx, PM_{10}, and $PM_{2.5}$ would result from operation of the landfill for the Proposed Project. Proposed Project operation emissions would be generated from routine maintenance activities, worker commute trips, haul truck trips, fugitive LFG, and LFG flares operated onsite. Onsite and offsite operation emissions were divided into five categories: vehicle exhaust, stationary source exhaust, fugitive dust generated by travel on paved and unpaved roads, fugitive dust generated from soil disturbance, and fugitive LFG. Operation activities at the landfill are assumed to occur 10 hours per day, 6 days per week, and 52 weeks per year. The gas collection system and the LFGTE plant are operated at all times, and fugitive LFG is emitted continuously, 24 hours per day, 7 days per week, and 52 weeks per year.

The Proposed Project would include the following BMPs to reduce emissions during operation:

- Off-road diesel equipment purchased by CCL for operation of the Proposed Project (used for additional waste received) would be equipped with engines meeting Tier 4f emission standards.
- Unnecessary truck and equipment idling would be limited to less than 5 minutes, to the extent feasible.
- Use of off-road diesel equipment would be suspended during Stage 2 and 3 smog alerts (SCAQMD, 1993), to the extent feasible.
- Fugitive dust BMPs for vehicle travel on paved roads, vehicle travel on unpaved roads, and soil disturbance would be the same as described above for construction.
- Operate the landfill to improve LFG collection efficiency to a site-wide average of 85 percent through application of a combination of daily cover, intermediate cover, and final cover to provide a beneficial improvement in ongoing LFG collection efficiency.[1]

[1] This BMP is based on the SCS Engineers Memorandum dated November 2016 (SCS, 2016a), presented in Appendix H-3, which provides an evaluation of the benefits of cover modifications to improve LFG collection efficiency at CCL. Improvements to the existing site-wide LFG collection efficiency are modeled using a methodology developed by the Solid Waste Industry for Climate Solutions (SWICS 2009), which allows for adjustment of collection efficiency within a range of values by cover type. By optimizing the landfill surface area converted to intermediate and final (impermeable membrane) cover, ongoing LFG collection efficiency can be increased at the landfill from current levels (estimated at 81.7 percent) to 85 percent, and maintained at this level by management of cover, reducing fugitive emissions of GHGs and TACs.

- The existing, approved LFGTE plant would be optimized, to use collected LFG as fuel to produce electricity and to minimize flaring of collected LFG.

Operation Vehicle Exhaust Emissions

For equipment purchased to support the increase in daily tonnage associated with the Proposed Project, Tier 4f emission factors, taken from Appendix D of the CalEEMod User Guide (ENVIRON, 2013), were used to estimate off-road diesel equipment exhaust emissions of CO, NOx, ROG, PM_{10}, and $PM_{2.5}$, while SOx emissions were estimated using emission factors taken from the SCAQMD CEQA website. Automobile and truck exhaust emissions were estimated using EMFAC2014 average emission factors for the Los Angeles portion of the SCAQMD. Trucks used for routine maintenance activities were considered onsite emission sources, while worker commute trips were considered offsite emission sources. It was assumed that service trucks would travel 5 miles per day onsite and that there would be 25 onsite employees commuting a distance of 40 miles roundtrip each day.

Waste trucks would travel both onsite and offsite. Vehicle traffic associated with transport of the solid waste associated with the Proposed Project would include traffic from both direct collection and waste transfer facilities. The net change in vehicle traffic for the peak day, taken from Chapter 2, Project Description, was used to calculate worst-case emissions for averaging periods of 24 hours or less. Emissions for averaging periods of 1 year or greater were calculated based on the net change in vehicle traffic for the average day, taken from Chapter 2, Project Description. It was assumed that local waste trucks would travel 28.2 miles per trip offsite (14.1 miles one way) and approximately 5 miles per trip onsite, with an onsite idling time of 3.5 minutes. Facility transfer waste trucks were assumed to travel 90.6 miles per trip offsite (45.3 miles one way) and approximately 5 miles per trip onsite, with an onsite idling time of 3.5 minutes. Each truck was assumed to make one trip per day.

Stationary Source Exhaust Emissions

CCL currently operates two LFG flares onsite. As part of the Proposed Project, two additional flares would be installed. Emissions from the project flares were estimated based on the potential to emit emission rates of the existing flares. Facility data shown in the Golder Associates Landfill Generation Report indicate that on average, 81.7 percent of the generated LFG is captured by the existing LFG collection system, based upon the averaging method recommended by the SCAQMD and directed for use by Los Angeles County Department of Public Works (LACDPW) (Golder Associates, 2016). Per the LFG collection efficiency BMP described above and in Chapter 11, Air Quality, Table 11-1, application of a combination of daily cover, intermediate cover, and final cover would be used to increase the LFG collection efficiency to 85 percent. Therefore, it was assumed that 85 percent of future LFG generated would be combusted by the flares.

Operation Fugitive Dust Emissions from Vehicles and Soil Disturbance

Fugitive dust would result from vehicle travel on unpaved and paved roads, and soil disturbing activities such as daily landfill covering and waste compacting. Emission factors from EMFAC 2014 were used to estimate fugitive emissions from tire and brake wear. Fugitive dust emissions from vehicle travel on unpaved and paved roads were estimated using EPA-approved emission factors and methodology published in AP-42 (EPA, 2006 and 2011a). It was assumed that unpaved roads would be watered 4-7 times daily, soil stabilizers would be applied, and vehicle speed on unpaved roads would be reduced to 15 miles per hour as project BMPs. Therefore, the emissions from vehicle travel on unpaved roads were assumed to be reduced by 55 percent after control (SCAQMD, 2007).

Fugitive dust emissions from soil disturbance (e.g., grading activities) were estimated using recommended emission factors from the SCAQMD *California Environmental Quality Act (CEQA) Air Quality Handbook* (SCAQMD, 1993). CCL is required to implement stringent fugitive dust control measures at the existing landfill and would also apply these measures to the Proposed Project as project BMPs. A full list of Proposed Project fugitive dust control measures can be found in Chapter 11, Air Quality, Table 11-1.

These fugitive dust control measures exceed the reductions associated with individual measures described in the SCAQMD CEQA guidance, therefore, an enhanced control efficiency of 75 percent was applied to fugitive dust emissions from disturbed areas and soil disturbance (SMAQMD, 2015).

Fugitive Landfill Gas Emissions

Fugitive LFG emissions would result from the aerobic decomposition of organic waste and the anaerobic bacterial digestion of buried waste. CCL is required to treat 75 percent of all generated LFG emissions, per 40 *Code of Federal Regulations* 60 Subpart WWW; however, facility data indicate that, on average, 81.7 percent of generated LFG is combusted in the flare, based upon the averaging method recommended by the SCAQMD and directed for use by LACDPW (Golder Associates, 2016). Per the LFG collection efficiency BMP described above and in Chapter 11, Air Quality, Table 11-1, application of a combination of daily cover, intermediate cover, and final cover would be used to increase the LFG collection efficiency to 85 percent. Based on the LFG capture rate, it was estimated that 15 percent of LFG generated would be emitted as fugitive emissions.

H1.2.3 Compost Facility Emissions

Emissions associated with construction and operation of the proposed compost facility were estimated by SCS Engineers. Methodology and emission totals are presented in a separate technical memorandum, included in Appendix H-6 (SCS, 2016b).

H1.3 Dispersion Modeling Methodology

Dispersion modeling was conducted to assess the potential air quality impacts of the CO, NOx, sulfur dioxide (SO_2), PM_{10}, and $PM_{2.5}$ emissions from construction and operation of the Proposed Project. Emissions were modeled using the EPA-approved AERMOD dispersion modeling system (Version 15181). The AERMOD model is a steady-state, multiple-source, dispersion model that incorporates hourly meteorological data inputs and local surface characteristics. The AERMOD modeling system uses the terrain preprocessor AERMAP and the meteorological data preprocessor AERMET. The AERMOD model was run using regulatory default control options and rural dispersion mode. SCAQMD Modeling Guidance suggests the urban option for modeling, however, it was determined the area directly around the landfill is not urban (SCAQMD, 2015). In addition, the use of rural dispersion would provide a more conservative modeling result. Significance thresholds and standards for each pollutant and averaging time were used to evaluate the results from the dispersion modeling analysis.

AERMAP (Version 11103) was used to determine the base elevations for receptors, stationary sources, and mobile sources. United States Geological Survey (USGS) National Elevation Dataset (NED) 1 arc second format data were used as the input to AERMAP. All LFG source elevations were obtained from the average elevation/height from CCL engineering drawings. All coordinates were referenced to Universal Transverse Mercator North American Datum 1983, Zone 11.

The nearest receptor locations were placed at existing residences, commercial properties, and sensitive receptors. This is consistent with the SCAQMD Localized Significance Threshold (LST) methodology (SCAQMD, 2006). Receptors were selected based initially on USGS land use/land classification maps for year 2006. These receptor locations were then further refined to better capture the worst-case scenario. Updated satellite imagery was evaluated when preparing the Partially Recirculated Draft Environmental Impact Report (EIR), and additional receptors were placed where development had occurred since the Original Draft EIR was prepared. Given the spatial variation of the landfill, the nearest receptor locations with the possibility of public presence in all directions around the landfill were included in the modeling. The refinement was based on the most recent available USGS satellite imagery, to determine the most representative receptors in each direction, radiating out from the landfill. Receptors were excluded in rural undeveloped areas where public access is either not possible or expected, in accordance with sensitive receptor criteria.

Meteorological data for the Santa Clarita station that had been pre-processed using AERMET (Version 15181) were available from SCAQMD for the years 2008 through 2012. These data were downloaded from the SCAQMD Web site for use in the modeling analysis.

The emissions sources included in the modeling and the source types used for the modeling are summarized in Table H-1.

Table H-1. Source Type Used in Air Dispersion Modeling
Chiquita Canyon Landfill Partially Recirculated Draft EIR

Source Name	Source Type
Construction Sources	
Landfill Module and Compost Facility Construction (Fugitive Dust)	Area
Landfill Module and Compost Facility Construction (Exhaust)	Gridded Point
Operational Sources	
Flares	Point
Landfill Operation (Fugitive Dust)	Area
Landfill Operation (Exhaust)	Gridded Point
Onsite Paved Road Truck Travel (Onsite Construction Service Trucks, Onsite Service Trucks, and Waste Trucks)	Volume
Onsite Unpaved Road Truck Travel (Waste Trucks Only)	Volume
Entrance Truck Idling	Gridded Point
Offsite Travel (Landfill Employees, Construction Employees, and Waste Trucks)	Volume
Compost Facility (Fugitive Dust)	Area
Compost Facility (Exhaust)	Gridded Point

Consistent with the SCAQMD LST methodology, the potential impacts from emissions from onsite sources for the Proposed Project were evaluated for the nearest receptor locations. Predicted worst-case emissions of CO, PM_{10}, and $PM_{2.5}$ from onsite sources would occur during the year 2041, predicted worst-case onsite emissions of SO_2 would occur during 2039, and predicted worst-case onsite emissions of NOx would occur during the year 2037. Activities associated with operation and construction would generate emissions of each pollutant at different rates, resulting in different maximum emission years. The dispersion modeling for the LST impact analysis used combined emissions estimated from onsite construction and operation sources in the maximum year for each pollutant. The sources included in the modeling impact assessment include activities associated with the construction of Module 12, operation of Module 11, flare operation, composting operation, and onsite vehicle trips associated with operation.

To better characterize the conversion of NOx to nitrogen dioxide (NO_2), impacts of 1-hr and annual NO_2 were modeled using the ambient ratio method. A NO_2 to NOx ratio of 0.8 was used for the 1-hr NO_2 impact analysis (EPA, 201**1b), and a NO_2 to NOx ratio of 0.75 was used for the annual NO_2 impact analysis (EPA, 2005).**

H1.4 Health Risk Assessment

The health risk assessment (HRA) was prepared to predict potential human health risks from exposure to toxic air contaminant (TAC) emissions from the Proposed Project. The risk categories evaluated include individual lifetime cancer risk, noncancer health effects from chronic (long-term) exposure, and noncancer health effects from acute (short-term) exposure. The HRA was performed following both the previous guidance outlined in the "*Air Toxics Hot Spots Program Risk Assessment Guidelines*"

(Office of Environmental Health Hazard Assessment [OEHHA], 2003), and the latest guidance outlined in the "*Guidance Manual for Preparation of Health Risk Assessments*" (OEHHA, 2015a).

Following the 2003 OEHHA guidance, the HRA modeling was performed using the CARB Hotspots Analysis and Reporting Program (HARP), Version 1.4f, along with the HARP On-Ramp program (Version 1.0). The HARP On-Ramp tool was used to import the AERMOD air dispersion modeling results (predicted concentrations at specific locations) into the HARP Risk Module. The HARP Risk Module uses AERMOD-predicted pollutant concentrations, exposure assumptions, and approved health values (i.e., pollutant-specific cancer potency values and chronic/acute reference exposure levels [RELs]) from OEHHA to predict potential health impacts in terms of lifetime cancer risk, acute hazard index (HIA), and chronic hazard index (HIC).

Following the 2003 OEHHA guidance and 2011 SCAQMD guidelines, the HRA estimated potential health impacts associated with the following exposure routes: dermal absorption, and ingestion of homegrown produce, soil, and mother's milk. In addition, because inhalation is one of the dominant exposure pathways for cancer risks, the Derived (Adjusted) Method in HARP was used for the cancer risk evaluation based on the *CARB Recommended Interim Risk Management Policy for Inhalation-Based Residential Cancer Risk* (CARB, 2003). The exposure duration for cancer risks at residential and sensitive receptors was assumed to be 24 hours per day continuously for 70 years. For cancer risks at workplace receptors, the exposure duration was assumed to be 8 hours per day, 5 days per week, for 30 years.

Following the 2015 OEHHA guidance, the HRA modeling was performed using the CARB Hotspots Analysis and Reporting Program 2 (HARP2), Version 15197. The HARP2 air dispersion and modeling tool (ADMRT) module was used in the analysis. The ADMRT module imported the plot file output from the AERMOD air dispersion modeling results. Similar to the 2003 OEHAA guidance, the 2015 OEHHA guidance uses exposure assumptions and pollutant-specific cancer potency values and chronic/acute RELs from OEHHA to predict potential health impacts in terms of lifetime cancer risk, HIA, and HIC.

Following the 2015 OEHHA guidance and the 2015 SCAQMD guidance, the HRA estimated potential health impacts associated with the following exposure routes: dermal absorption, and ingestion of homegrown produce, soil, and mother's milk. The RMP-Derived Method was used for analysis of cancer risks for residential and sensitive receptors, and the OEHHA-Derived Method was used for analysis of cancer risks for workplace receptors. The exposure duration for cancer risks at residential and sensitive receptors was assumed to be 24 hours per day continuously for 30 years. For cancer risks at workplace receptors, the exposure duration was assumed to be 8 hours per day, 5 days per week, for 25 years.

The risk calculations for chronic and acute health impacts do not differ between the 2003 OEHHA guidance and 2015 OEHHA guidance. The chronic risks are assessed by comparing the annual TAC ground level concentrations (the potential exposure levels) to the chronic RELs developed by OEHHA to obtain a HIC. The acute risks are assessed by comparing the 1-hour maximum TAC ground level concentrations with the acute RELs developed by OEHHA to obtain the HIA. The OEHHA RELs for chronic and acute risks remain the same for the 2003 and 2015 OEHHA guidance.

The list of chemicals and the associated health values used in the HRA modeling for both the 2003 OEHHA guidance and 2015 OEHHA guidance are provided in Table H-2.

Table H-2. List of Chemicals Included in the HRA and Their OEHHA/CARB-Approved Risk Assessment Health Values

Chiquita Canyon Landfill Partially Recirculated Draft EIR

Chemical	Chemical Abstracts Service	Inhalation Unit Risk $(\mu g/m^3)^{-1}$	Inhalation Cancer Potency Factor $(mg/kg\text{-}d)^{-1}$	Oral Slope Factor $(mg/kg\text{-}d)^{-1}$	Acute Inhalation $(\mu g/m^3)$	Chronic Inhalation $(\mu g/m^3)$
Hydrogen Sulfide	7783-06-4				42	10
Benzene	71-43-2	2.90E-05	0.1		27	3
Benzyl Chloride	100-44-7	4.90E-05	0.17		240	
Chlorobenzene	108-90-7					1,000
1,1-Dichloroethane (Ethylidene dichloride)	75-34-3	1.60E-06	0.0057			
Ethylene Dichloride (1,2-Dichloroethane)	107-06-2	2.10E-05	0.072			400
Vinylidene Chloride (1,1-Dichloroethylene)	75-35-4					70
Methylene Chloride (Dichloromethane)	75-09-2	1.00E-06	0.0035		14,000	400
Ethylene Dibromide (1,2-Dibromoethane)	106-93-4	7.10E-05	0.25			0.8
Perchloroethylene (Tetrachloroethylene)	127-18-4	5.90E-06	0.021		20,000	35
Carbon Tetrachloride	56-23-5	4.20E-05	0.15		1,900	40
Toluene	108-88-3				37,000	300
Methyl Chloroform (1,1,1-Trichloroethane)	71-55-6				68,000	1,000
Trichloroethylene	79-01-6	2.00E-06	0.007			600
Chloroform	67-66-3	5.30E-06	0.019		150	300
Vinyl Chloride	75-01-4	7.80E-05	0.27		180,000	
Xylenes	1330-20-7				22,000	700
Ammonia	7664-41-7				3,200	200
Diesel Particulate Matter	9901	0.0003	1.1			5

Notes:

$\mu g/m^3$ = micrograms per cubic meter

mg/kg-d = milligrams per kilograms per day

Source: OEHHA, 2015b

For the purposes of quantifying emission increases and performing HRA analysis, impacts were characterized for both construction and operation of the Proposed Project. Emission sources associated with the operation of the Proposed Project were divided into five categories: (1) LFG flares, (2) fugitive LFG emissions, (3) onsite equipment and vehicle travel, (4) fugitive emissions from composting, and (5) offsite vehicle travel. The emissions increases from the first four source categories are onsite emissions associated with operation of the Proposed Project. The fifth category includes the offsite diesel particulate matter (DPM) emissions from the associated vehicles, which include waste trucks, landfill employee vehicles, and construction employee vehicles, traveling on a 3-mile portion of State Route 126 (SR-126) between the landfill and Interstate 5, to and from the landfill. The offsite diesel emissions were included in the HRA to represent a more conservative case for future operations.

For determining impacts during construction, emission sources were only categorized for the onsite areas where active construction would be occurring. These sources were characterized as fugitive dust and construction equipment exhaust.

For modeling, the emissions were divided into short-term emissions (for acute risks) and long-term emissions (for cancer and chronic risks). The 2039 year was chosen for the short-term emissions analysis, because it represented the highest flare and fugitive LFG emissions. The short-term emissions were modeled over the landfill area that would be active in 2039. For example, Module 12 was not included because operation would occur after 2039. The compost facility fugitive emissions were included only over a specific footprint. In addition, the short-term emissions due to construction and operation vehicle exhaust (emitted as DPM) were not included because acute health values are not available for DPM.

Long-term emissions were calculated using the highest 30 year average emissions. The fugitive LFG emissions were assumed to emit at the same levels over the entire landfill footprint. Similarly, the fugitive compost emissions were evenly allocated to the entire footprint of the landfill (in contrast to the short-term fugitive compost emissions which emitted over a specific footprint). The exhaust emissions estimated for construction vehicles were equally allocated over the modules to be constructed (Modules 6 through 12). The compost construction vehicle exhaust emissions were added to the module construction vehicle exhaust emissions.

The receptors used in the risk assessment for the Proposed Project were different than those used in the cumulative analysis. The receptors for the Proposed Project were based on a grid that covered residences and commercial properties out to approximately 7 kilometers from the property boundary. Receptors were not included in locations where the terrain proved too steep for development according to aerial, topographic, and elevation maps. The cumulative analysis included receptors similar to the Proposed Project analysis, but added receptors for proposed new developments, such as Newhall Ranch.

The predicted cancer and noncancer health risks associated with exposure to TAC emissions from the Proposed Project at selected locations were compared to the applicable SCAQMD significance thresholds. Maximally exposed individual (MEI) locations were selected from the modeled receptor grids for residential and workplace receptors. The residential MEI (MEIR) was selected from receptors in residential areas in the facility vicinity, especially in the areas northwest and northeast of the landfill. The workplace MEI (MEIW) was selected from receptors in commercial areas near the facility.

If a predicted cancer risk, per individual unit, was greater than 1 in 1 million, the cancer burden was calculated for each census block receptor. Cancer burden is defined as the estimated increase in the occurrence of cancer cases in a population resulting from exposure to carcinogenic air contaminants. The cancer burden analysis was conducted based on both the 2011 and 2015 SCAQMD guidelines. Following the 2011 SCAQMD guidelines, cancer risk was determined using the same cancer risk methodology described above, taken from the 2003 OEHHA guidance, with census blocks. Following the 2015 SCAQMD guidelines, a HARP2 analysis on census block receptors was conducted using a 70 year exposure and the RMP-Derived Method. For both analyses, cancer burden was calculated by multiplying risk by population, as associated with the census block receptors, for receptors indicating cancer risk values above 1 in 1 million. Population data for census block receptors were based on the population information within the HARP 2 database for both analyses.

H1.4.1 Uncertainty of Risk Assessments

The risk assessment process carries a substantial level of uncertainty. From the onset, there is uncertainty in the assumptions used in calculating the TAC emission inventory for the proposed project. This includes uncertainties in assumptions about future construction, operations, and equipment, and limited or unavailable emission factors for emission estimation. For example, construction and operation emissions do not occur simultaneously throughout the life of the project.

Additional uncertainty stems from risk factors and health effects values that are derived from animal studies or surveys of occupational exposure, under conditions that differ significantly from human residential or workplace exposure. Uncertainty also exists in applying to the general population results generated for individuals at specific locations (i.e., locations where the highest TAC impacts associated with landfill operations are expected to occur).

In order to address these uncertainties, HRAs for TACs are prepared in a manner that substantially overstates the risks in order to assure protection of public health. They are based on "worst-plausible" assumptions describing the potential for exposure to emissions from a facility. The methods used to evaluate cancer risks are designed to provide the highest possible estimate of risk associated with the worst-case exposure scenario. The methods used to evaluate the potential for other kinds of adverse health effects are based on protection of sensitive members of the population. The results are considered to be worst-plausible estimates, representing the upper limits of risk (i.e., the real risks are not expected to be as high as the predicted numbers, and may be substantially lower).

H1.5 CO Hotspot Analysis

Localized impacts due to CO emissions from the Proposed Project were assessed using the California LINE Source Dispersion Model, Version 4 (CALINE4). Potential CO concentrations in the vicinity of the affected intersections for the existing year 2015 and the project year 2017 were estimated. This is consistent with the traffic analysis described in Chapter 10.0, Traffic and Transportation, of the Original EIR. CO concentrations for year 2017 are expected to be higher than CO concentrations for future project years due to ongoing improvements in vehicle exhaust emission control technology.

Five signalized intersections were screened using level of service (LOS) and traffic data estimates to identify the intersections where exhaust from vehicle traffic would be most likely to create a CO hot spot. The University of California, Davis *Transportation Project-Level Carbon Monoxide Protocol* recommends further analysis at signalized intersections where the LOS is E or F, or where the LOS is degraded to E or F as a result of the project (Niemeier et al., 1997). Signalized intersections where the LOS was D were also considered, due to the high percentage of heavy duty trucks in the vehicle mix. Using these criteria, two intersections were identified as areas where potential CO hot spots could occur: SR-126 and Wolcott Way, which is at the entrance to the landfill, and SR-126 and Commerce Center Drive.

The CO hotspot modeling was performed according to the methodology outlined in the University of California, Davis *Transportation Project-Level Carbon Monoxide Protocol*. CO emissions were calculated using factors from EMFAC2014. All receptors used were located at a height of 1.8 meters. Receptors for the intersection analysis were located 3 meters from the roadway so they were not within the mixing zone of the travel lanes and were spaced at 0, 25, and 50 meters from the intersection for both the 1-hour and 8-hour analyses (Niemeier et al., 1997). The predicted concentrations were compared to the National and California Ambient Air Quality Standards for CO to determine whether the Proposed Project would cause a hotspot at the intersection.

H1.6 References

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Appendix H2
Calculations
(e-deliverable only)

CCLF Modeled Criteria Pollutant Emissions

	Emissions (gram per second per source) [1]										
Point/Volume Sources	**1-hr CO**	**8-hr CO**	**1-hr NO2**	**Annual NO2**	**1-hr SO2**	**3-hr SO2**	**24-hr SO2**	**24-hr PM10**	**Annual PM10**	**24-hr PM2.5**	**Annual PM2.5**
Flares	2.49E-01	2.49E-01	2.49E-01	2.49E-01	3.26E-01	3.26E-01	3.26E-01	2.52E-02	2.52E-02	2.52E-02	2.52E-02
Module 11 Operation Exhaust	5.24E-03	5.24E-03	6.52E-04	1.79E-04	1.86E-05	1.86E-05	5.73E-06	5.01E-06	4.28E-06	5.01E-06	4.28E-06
Module 12 Construction Exhaust	3.42E-02	3.42E-02	3.95E-03	2.80E-04	1.28E-04	1.28E-04	5.09E-05	4.82E-05	8.55E-06	4.82E-05	8.55E-06
Composting Operation Exhaust	2.78E-03	2.78E-03	3.16E-04	2.93E-05	7.05E-06	7.05E-06	7.64E-07	1.06E-06	9.04E-07	1.06E-06	9.04E-07
Truck Idle	2.78E-04	2.78E-04	4.87E-03	1.19E-03	2.87E-06	2.87E-06	1.20E-06	2.73E-06	1.60E-06	2.61E-06	1.53E-06
Onsite Paved Roads	1.97E-04	1.97E-04	1.43E-02	4.32E-03	5.38E-05	5.38E-05	2.24E-05	9.49E-02	5.64E-02	2.33E-02	1.38E-02
Onsite Unpaved Roads	5.02E-05	5.02E-05	3.65E-03	1.10E-03	1.37E-05	1.37E-05	5.73E-06	5.39E-02	3.18E-02	5.40E-03	3.18E-03

	Emissions (grams per second per square meter) [1]			
Area Sources	**24-hr PM10**	**Annual PM10**	**24-hr PM2.5**	**Annual PM2.5**
Module 11 Operation Fugitive Dust	9.41E-07	7.31E-07	1.96E-07	1.52E-07
Module 12 Construction Fugitive Dust	1.39E-05	2.21E-06	2.88E-06	4.52E-07
Composting Operation Fugitive Dust	1.33E-07	1.14E-07	6.23E-08	5.32E-08

[1] Emissions incorporate peak daily truck trip counts, with the exception of annual emissions, which are based on average daily truck trip counts.

CCLF Landfill Toxic Emissions 85.0% Control

	Short Term 2039; Long Term 30 year average																							
	Compost		Flare		Per Flare		Total Operation LFG		Main Landfill		Module 6		Module 7		Module 8		Module 9		Module 10		Module 11		Module 12	
	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year
Hydrogen sulfide 2	0	0	6.32E-04	3.59E+00	3.16E-04	1.80E+00	8.42E-01	6247.1	4.94E-01	3477	4.16E-02	292.6	4.90E-02	344.9	3.30E-02	232.2	8.11E-02	570.2	7.65E-02	537.8	6.64E-02	467.2	0	325.6
Benzene 2	0	0	5.79E-06	3.29E-02	2.90E-06	1.65E-02	9.74E-02	722.6	5.72E-02	402.1	4.81E-03	33.84	5.67E-03	39.89	3.82E-03	26.86	9.38E-03	65.95	8.85E-03	62.21	7.69E-03	54.04	0	37.66
Benzylchloride 2	0	0	1.76E-05	1.00E-01	8.80E-06	5.00E-02	9.23E-03	68.46	5.42E-03	38.10	4.56E-04	3.206	5.37E-04	3.779	3.62E-04	2.544	8.89E-04	6.248	8.38E-04	5.893	7.28E-04	5.120	0	3.567
Chlorobenzene 2	0	0	1.04E-05	5.93E-02	5.22E-06	2.97E-02	6.91E-03	51.26	4.06E-03	28.53	3.41E-04	2.401	4.02E-04	2.830	2.71E-04	1.905	6.65E-04	4.679	6.28E-04	4.413	5.45E-04	3.834	0	2.671
Dichlorobenzene 2	0	0	2.72E-05	1.55E-01	1.36E-05	7.75E-02	3.41E-02	252.7	2.00E-02	140.6	1.68E-03	11.84	1.98E-03	13.95	1.34E-03	9.393	3.28E-03	23.07	3.09E-03	21.76	2.69E-03	18.90	0	13.17
31,1-Dichloroethane 2	0	0	9.17E-06	5.21E-02	4.59E-06	2.61E-02	6.08E-03	45.07	3.57E-03	25.08	3.00E-04	2.111	3.54E-04	2.488	2.38E-04	1.675	5.85E-04	4.114	5.52E-04	3.880	4.79E-04	3.371	0	2.349
1,2-Dichloroethane 2	0	0	9.17E-06	5.21E-02	4.59E-06	2.61E-02	1.53E-02	113.2	8.96E-03	63.02	7.54E-04	5.303	8.89E-04	6.251	5.99E-04	4.209	1.47E-03	10.34	1.39E-03	9.748	1.20E-03	8.469	0	5.901
1,1-Dichloroethylene 2	0	0	8.98E-06	5.11E-02	4.49E-06	2.55E-02	5.95E-03	44.15	3.49E-03	24.57	2.94E-04	2.068	3.47E-04	2.437	2.33E-04	1.641	5.73E-04	4.030	5.41E-04	3.801	4.70E-04	3.302	0	2.301
Dichloromethane 2	0	0	1.68E-05	9.55E-02	8.40E-06	4.77E-02	2.11E-02	156.7	1.24E-02	87.19	1.04E-03	7.337	1.23E-03	8.649	8.28E-04	5.823	2.03E-03	14.30	1.92E-03	13.49	1.67E-03	11.72	0	8.164
1,2-dibromoethane 2	0	0	1.74E-05	9.90E-02	8.71E-06	4.95E-02	1.15E-02	85.56	6.77E-03	47.61	5.70E-04	4.007	6.72E-04	4.723	4.52E-04	3.180	1.11E-03	7.809	1.05E-03	7.365	9.10E-04	6.399	0	4.459
Perchloroethene 2	0	0	1.23E-05	6.99E-02	6.15E-06	3.50E-02	3.52E-02	261.0	2.07E-02	145.3	1.74E-03	12.22	2.05E-03	14.41	1.38E-03	9.701	3.39E-03	23.83	3.20E-03	22.47	2.78E-03	19.52	0	13.60
Carbon tetrachloride 2	0	0	1.14E-05	6.48E-02	5.70E-06	3.24E-02	8.26E-03	61.30	4.85E-03	34.11	4.08E-04	2.871	4.81E-04	3.384	3.24E-04	2.278	7.96E-04	5.595	7.50E-04	5.277	6.52E-04	4.584	0	3.194
Toluene 2	0	0	3.31E-05	1.88E-01	1.65E-05	9.40E-02	9.26E-01	6871	5.44E-01	3824	4.58E-02	321.8	5.39E-02	379.3	3.63E-02	255.4	8.92E-02	627.1	8.41E-02	591.5	7.31E-02	513.9	0	358.0
1,1,1-trichloroethane 2	0	0	9.89E-06	5.62E-02	4.95E-06	2.81E-02	7.17E-03	53.16	4.21E-03	29.58	3.54E-04	2.490	4.17E-04	2.935	2.81E-04	1.976	6.90E-04	4.852	6.51E-04	4.576	5.65E-04	3.976	0	2.770
Trichloroethene 2	0	0	9.74E-06	5.54E-02	4.87E-06	2.77E-02	7.06E-03	52.36	4.14E-03	29.14	3.49E-04	2.452	4.11E-04	2.891	2.77E-04	1.946	6.80E-04	4.779	6.41E-04	4.508	5.57E-04	3.916	0	2.729
Chloroform 2	0	0	8.85E-06	5.03E-02	4.43E-06	2.52E-02	6.41E-03	47.57	3.77E-03	26.47	3.17E-04	2.228	3.73E-04	2.626	2.51E-04	1.768	6.18E-04	4.342	5.82E-04	4.095	5.06E-04	3.558	0	2.479
Vinyl chloride 2	0	0	5.79E-06	3.29E-02	2.90E-06	1.65E-02	3.36E-03	24.91	1.97E-03	13.86	1.66E-04	1.166	1.96E-04	1.375	1.32E-04	0.926	3.23E-04	2.273	3.05E-04	2.144	2.65E-04	1.863	0	1.298
m-Xylene 2	0	0	9.84E-06	5.59E-02	4.92E-06	2.80E-02	5.13E-01	3807	3.01E-01	2119	2.54E-02	178.3	2.99E-02	210.2	2.01E-02	141.5	4.94E-02	347.5	4.66E-02	327.8	4.05E-02	284.8	0	198.4
o+p-Xylene 2	0	0	9.84E-06	5.59E-02	4.92E-06	2.80E-02	1.48E-01	1097	8.68E-02	610.4	7.31E-03	51.37	8.61E-03	60.56	5.80E-03	40.77	1.42E-02	100.1	1.34E-02	94.43	1.17E-02	82.04	0	57.16
Total Xylenes	0	0	**1.97E-05**	**1.12E-01**	**9.84E-06**	**5.59E-02**	**6.61E-01**	**4904**	**3.88E-01**	**2729**	**3.27E-02**	**229.7**	**3.85E-02**	**270.7**	**2.59E-02**	**182.3**	**6.37E-02**	**447.6**	**6.00E-02**	**422.2**	**5.22E-02**	**366.8**	**0**	**255.6**
Ammonia	3.08		0	0	0	0	0	23,088	0	12849	0	1081	0	1275	0	858.1	0	2107	0	1988		1727	0	1203

CCLF Truck Toxic Emissions - Average Counts

	30 year average	
Diesel PM Exhaust Emissions	**lb/hr**	**lb/yr**
Compost Operation	No DPM health values for acute health index	8.120E-03
Compost Construction		1.160E-02
Main Landfill Operation		2.788E-02
Module 6 Operation		2.788E-02
Module 6 Construction		5.554E-01
Module 6 Total		**5.833E-01**
Module 7 Operation		2.788E-02
Module 7 Construction		3.022E-02
Module 7 Total		**5.810E-02**
Module 8 Operation		2.788E-02
Module 8 Construction		3.803E-02
Module 8 Total		**6.591E-02**
Module 9 Operation		2.788E-02
Module 9 Construction		2.376E-02
Module 9 Total		**5.164E-02**
Module 10 Operation		2.788E-02
Module 10 Construction		2.269E-02
Module 10 Total		**5.057E-02**
Module 11 Operation		2.788E-02
Module 11 (construction)		2.541E-02
Module 11 Total		**5.329E-02**
Module 12 (operation)		2.788E-02
Module 12 (construction)		3.142E-02
Module 12 Total		**5.930E-02**
Operation Onsite unpaved		7.667E-02
Construction Onsite unpaved		9.030E-05
Total Onsite Unpaved		**7.676E-02**
Operation Onsite paved		2.999E-01
Construction Onsite paved		1.254E-05
Total Onsite Paved		**3.000E-01**
Compost Construction Offsite		5.152E-04
Operation Offsite		8.152E-02
Construction Offsite		2.335E-03
Total Offsite		**8.437E-02**
Idle		1.292E-01
Entrance Construction		7.262E-01
Entrance Total		**8.554E-01**

CCLF Truck Toxic Emissions - Peak Counts

	30 year average	
Diesel PM Exhaust Emissions	**lb/hr**	**lb/yr**
Compost Operation	No DPM health values for acute health index	8.120E-03
Compost Construction		1.160E-02
Main Landfill Operation		2.788E-02
Module 6 Operation		2.788E-02
Module 6 Construction		5.554E-01
Module 6 Total		**5.833E-01**
Module 7 Operation		2.788E-02
Module 7 Construction		3.022E-02
Module 7 Total		**5.810E-02**
Module 8 Operation		2.788E-02
Module 8 Construction		3.803E-02
Module 8 Total		**6.591E-02**
Module 9 Operation		2.788E-02
Module 9 Construction		2.376E-02
Module 9 Total		**5.164E-02**
Module 10 Operation		2.788E-02
Module 10 Construction		2.269E-02
Module 10 Total		**5.057E-02**
Module 11 Operation		2.788E-02
Module 11 (construction)		2.541E-02
Module 11 Total		**5.329E-02**
Module 12 (operation)		2.788E-02
Module 12 (construction)		3.142E-02
Module 12 Total		**5.930E-02**
Operation Onsite unpaved		1.051E-01
Construction Onsite unpaved		9.030E-05
Total Onsite Unpaved		**1.052E-01**
Operation Onsite paved		4.113E-01
Construction Onsite paved		1.254E-05
Total Onsite Paved		**4.113E-01**
Compost Construction Offsite		5.152E-04
Operation Offsite		1.116E-01
Construction Offsite		2.335E-03
Total Offsite		**1.144E-01**
Idle		1.885E-01
Entrance Construction		7.262E-01
Entrance Total		**9.147E-01**

Chiquita Canyon Landfill EIR
Summary Construction and Operation Emissions
Controlled Emissions

Year: 2017

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	35.66	59.10	9.09	1.10E-01	2.77E+00	2.55E+00	17.48	3.63	N/A	220.85	396.48	59.67	0.73	17.87	16.44	174.75	36.35	N/A	20,893.04	36,334.09	5,536.03	67.48	1,647.81	1,515.99	9,897.24	2,058.63	N/A
Off-site Construction Mobile Sources (trucks / cars)	1.61	0.13	0.03	4.62E-03	2.70E-03	2.48E-03	1.05	0.27	N/A	64.34	5.35	1.37	0.18	0.11	0.10	42.01	10.79	N/A	7,720.68	642.19	163.80	22.18	12.94	11.91	5,040.90	1,294.59	N/A
On-site Construction Mobile Sources (trucks / cars)	0.01	0.00	0.00	1.36E-05	1.44E-05	1.33E-05	0.84	0.10	N/A	0.04	0.00	0.00	0.00	0.00	0.00	3.37	0.39	N/A	5.12	0.47	0.13	0.01	0.01	0.01	404.90	46.47	N/A
Yearly Construction Total	37.27	59.24	9.12	1.14E-01	2.77E+00	2.55E+00	19.37	4.00	N/A	285.24	401.84	61.04	0.91	17.97	16.54	220.13	47.52	N/A	28,618.85	36,976.75	5,699.96	89.67	1,660.76	1,527.90	15,343.04	3,399.68	N/A
Flares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	6.33	0.87	0.16	0.02	0.02	0.02	17.25	3.59	N/A	1,973.88	272.49	50.29	7.44	6.51	6.51	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.24	12.28	0.04	3.20E-02	2.75E-02	2.63E-02	0.77	0.21	N/A	1.47	122.70	0.34	0.32	0.27	0.26	7.06	1.89	N/A	459.96	38,283.33	106.90	98.94	85.19	81.49	2,203.17	589.16	N/A
On-site Operational Mobile Sources (trucks / cars)	0.03	0.84	0.01	1.99E-03	3.70E-03	3.54E-03	9.20	1.94	N/A	0.27	8.44	0.07	0.02	0.04	0.04	92.04	19.40	N/A	83.33	2,632.28	23.19	6.22	11.53	11.04	28,717.50	6,051.93	N/A
Yearly Operational Total	6.64	13.91	0.20	5.66E-02	5.17E-02	5.04E-02	11.70	2.50	N/A	8.07	132.01	0.58	0.36	0.33	0.32	116.35	24.87	N/A	2,517.17	41,188.10	180.37	112.59	103.23	99.04	35,815.95	7,659.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compost Process Emissions	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Compost Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Total	**43.91**	**73.15**	**9.32**	**0.17**	**2.83**	**2.60**	**31.07**	**6.50**	**0.00**	**293.30**	**533.85**	**61.62**	**1.27**	**18.30**	**16.85**	**336.49**	**72.40**	**0.00**	**31,136.01**	**78,164.85**	**5,880.33**	**202.27**	**1,763.99**	**1,626.94**	**51,158.98**	**11,058.99**	**0.00**

Year: 2018

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	14.07	21.87	3.59	4.49E-02	9.51E-01	8.75E-01	7.27	1.51	N/A	109.46	190.37	30.90	0.39	7.42	6.83	72.72	15.13	N/A	7,249.56	11,327.96	1,739.01	23.60	479.27	440.93	2,778.38	577.90	N/A
Off-site Construction Mobile Sources (trucks / cars)	0.72	0.06	0.01	2.25E-03	1.34E-03	1.23E-03	0.53	0.13	N/A	14.36	1.18	0.27	0.04	0.03	0.02	10.50	2.70	N/A	1,723.72	141.17	32.95	5.40	3.21	2.95	1,260.22	323.65	N/A
On-site Construction Mobile Sources (trucks / cars)	0.02	0.00	0.00	2.65E-05	2.63E-05	2.42E-05	1.69	0.19	N/A	0.15	0.01	0.00	0.00	0.00	0.00	13.50	1.55	N/A	17.81	1.62	0.38	0.03	0.03	0.02	1,619.61	185.87	N/A
Yearly Construction Total	14.81	21.93	3.60	4.72E-02	9.52E-01	8.76E-01	9.48	1.84	N/A	123.97	191.56	31.18	0.44	7.45	6.85	96.72	19.37	N/A	8,991.09	11,470.75	1,772.35	29.02	482.51	443.91	5,658.21	1,087.42	N/A
Flares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	12.65	1.75	0.32	0.05	0.04	0.04	17.25	3.59	N/A	3,947.76	544.98	100.57	14.88	13.02	13.02	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.43	24.14	0.06	6.39E-02	4.71E-02	4.51E-02	1.54	0.41	N/A	2.54	241.27	0.58	0.63	0.47	0.45	14.12	3.78	N/A	792.23	75,277.72	179.82	197.78	146.08	139.75	4,406.33	1,178.33	N/A
On-site Operational Mobile Sources (trucks / cars)	0.05	1.64	0.01	3.98E-03	6.14E-03	5.87E-03	18.41	3.88	N/A	0.48	16.37	0.13	0.04	0.06	0.06	184.09	38.79	N/A	148.36	5,106.85	40.77	12.43	19.15	18.32	57,435.00	12,103.85	N/A
Yearly Operational Total	6.84	26.57	0.23	9.05E-02	7.39E-02	7.15E-02	21.67	4.65	N/A	15.67	259.39	1.03	0.72	0.57	0.55	215.46	46.16	N/A	4,888.35	80,929.55	321.16	225.09	178.24	171.09	66,736.61	14,300.40	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compost Process Emissions	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Compost Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Total	**21.65**	**48.50**	**3.83**	**0.14**	**1.03**	**0.95**	**31.16**	**6.49**	**0.00**	**139.64**	**450.95**	**32.21**	**1.16**	**8.02**	**7.40**	**312.18**	**65.53**	**0.00**	**13,879.44**	**92,400.30**	**2,093.51**	**254.11**	**660.75**	**614.99**	**72,394.82**	**15,387.82**	**0.00**

Year: 2019

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	18.98	2.62	0.48	0.07	0.06	0.06	17.25	3.59	N/A	5,921.64	817.47	150.86	22.32	19.53	19.53	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.58	35.63	0.08	9.58E-02	6.37E-02	6.10E-02	2.31	0.62	N/A	3.44	356.14	0.77	0.95	0.63	0.61	21.18	5.67	N/A	1,074.24	111,114.35	239.43	296.32	197.31	188.79	6,609.50	1,767.49	N/A
On-site Operational Mobile Sources (trucks / cars)	0.07	2.39	0.02	5.97E-03	8.09E-03	7.74E-03	27.61	5.82	N/A	0.66	23.92	0.18	0.06	0.08	0.08	276.13	58.19	N/A	206.73	7,464.50	55.93	18.62	25.24	24.15	86,152.50	18,155.78	N/A
Yearly Operational Total	7.01	38.82	0.26	1.24E-01	9.24E-02	8.93E-02	31.65	6.79	N/A	23.09	382.68	1.43	1.08	0.78	0.75	314.56	67.44	N/A	7,202.61	119,396.32	446.22	337.27	242.07	232.47	97,657.27	20,941.49	N/A
On-Site Compost Facility Construction Sources	11.18	13.95	1.29	0.02	0.68	0.63	0.56	0.31	N/A	89.46	111.64	10.34	0.12	5.46	5.03	4.52	2.48	N/A	11,090.94	13,526.21	1,262.45	14.76	673.98	620.06	896.12	469.16	N/A
Off-Site Compost Facility Construction Sources	0.43	0.03	0.02	0.00	0.00	0.00	0.03	0.01	N/A	3.42	0.27	0.18	0.01	0.01	0.01	0.27	0.07	N/A	443.88	35.44	23.62	1.30	0.78	0.72	103.55	27.47	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	17.53	14.66	23.26	3.16E-02	7.05E-01	6.50E-01	2.22	1.08	3.08	108.28	113.66	533.92	0.17	5.52	5.09	9.01	4.52	74.00	16,339.62	14,107.65	164,586.87	28.23	691.60	637.62	2,316.44	1,110.84	23,088.00
Yearly Total	**24.55**	**53.48**	**23.52**	**0.16**	**0.80**	**0.74**	**33.87**	**7.87**	**3.08**	**131.37**	**496.34**	**535.35**	**1.25**	**6.30**	**5.83**	**323.57**	**71.97**	**74.00**	**23,542.23**	**133,503.97**	**165,033.09**	**365.50**	**933.67**	**870.09**	**99,973.71**	**22,052.32**	**23,088.00**

Year: 2020

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	25.31	3.49	0.64	0.10	0.08	0.08	17.25	3.59	N/A	7,895.52	1,089.97	201.14	29.76	26.04	26.04	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.69	46.26	0.08	0.13	0.07	0.07	3.09	0.36	N/A	4.44	743.71	0.69	2.19	0.64	0.61	28.13	7.52	N/A	1,184.82	144,263.62	244.65	392.40	213.76	204.50	8,775.19	2,346.46	N/A
On-site Operational Mobile Sources (trucks / cars)	0.08	3.06	0.02	0.01	0.01	0.01	36.59	7.71	N/A	0.75	30.59	0.20	0.08	0.08	0.08	365.93	77.12	N/A	234.64	9,544.90	61.86	24.65	25.78	24.66	114,169.58	24,060.10	N/A
Yearly Operational Total	7.14	50.11	0.26	1.57E-01	9.80E-02	9.47E-02	41.40	8.43	N/A	30.49	777.80	1.53	2.37	0.81	0.77	411.30	88.22	N/A	9,314.97	154,898.49	507.65	446.82	265.58	255.20	127,840.05	27,424.78	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**13.06**	**50.79**	**22.21**	**0.17**	**0.12**	**0.12**	**43.03**	**9.19**	**3.08**	**45.89**	**779.55**	**524.93**	**2.40**	**0.86**	**0.83**	**415.52**	**90.19**	**74.00**	**14,119.77**	**155,444.49**	**163,808.45**	**458.99**	**282.43**	**272.04**	**129,156.81**	**28,038.99**	**23,088.00**

Chiquita Canyon Landfill EIR
Summary Construction and Operation Emissions
Controlled Emissions
Year: 2021

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	29.35	3.38	0.78	1.10E-01	1.04E-01	1.04E-01	17.48	3.63	N/A	277.49	32.41	7.44	1.05	0.99	0.99	174.75	36.35	N/A	17,805.95	2,100.77	481.98	67.48	64.22	64.22	9,897.24	2,058.63	N/A
Off-site Construction Mobile Sources (trucks / cars)	1.13	0.09	0.02	4.13E-03	2.59E-03	2.38E-03	1.05	0.27	N/A	45.13	3.44	0.73	0.17	0.10	0.10	42.01	10.79	N/A	5,415.42	413.31	87.67	19.80	12.44	11.43	5,040.90	1,294.59	N/A
On-site Construction Mobile Sources (trucks / cars)	0.01	0.00	0.00	1.23E-05	1.10E-05	1.01E-05	0.84	0.10	N/A	0.03	0.00	0.00	0.00	0.00	0.00	3.37	0.39	N/A	3.32	0.29	0.06	0.01	0.01	0.00	404.90	46.47	N/A
Yearly Construction Total	30.48	3.47	0.80	1.14E-01	1.06E-01	1.06E-01	19.37	4.00	N/A	322.64	35.85	8.17	1.21	1.10	1.09	220.13	47.52	N/A	23,224.69	2,514.37	569.72	87.29	76.66	75.65	15,343.04	3,399.68	N/A
Flares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	31.63	4.37	0.81	0.12	0.10	0.10	17.25	3.59	N/A	9,869.40	1,362.46	251.43	37.21	32.54	32.54	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.73	56.66	0.07	1.59E-01	5.83E-02	5.57E-02	3.85	1.03	N/A	3.69	566.32	0.64	1.57	0.57	0.55	35.19	9.41	N/A	1,151.15	176,692.60	200.05	490.62	179.33	171.34	10,978.36	2,935.62	N/A
On-site Operational Mobile Sources (trucks / cars)	0.08	3.69	0.02	9.88E-03	5.79E-03	5.54E-03	45.80	9.65	N/A	0.78	36.90	0.19	0.10	0.06	0.06	457.97	96.51	N/A	242.50	11,511.85	59.25	30.83	18.08	17.28	142,887.08	30,112.03	N/A
Yearly Operational Total	7.18	61.14	0.25	1.91E-01	8.47E-02	8.18E-02	51.38	11.04	N/A	36.10	607.59	1.64	1.79	0.74	0.71	510.41	109.51	N/A	11,263.05	189,566.90	510.72	558.65	229.95	221.17	158,760.71	34,065.87	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**43.58**	**65.29**	**22.99**	**0.32**	**0.21**	**0.21**	**72.37**	**15.80**	**3.08**	**374.14**	**645.19**	**533.21**	**3.04**	**1.89**	**1.85**	**734.76**	**159.00**	**74.00**	**39,292.54**	**192,627.28**	**164,381.23**	**658.11**	**323.46**	**313.67**	**175,420.52**	**38,079.76**	**23,088.00**

Year: 2022

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	37.96	5.24	0.97	0.14	0.13	0.13	17.25	3.59	N/A	11,843.28	1,634.95	301.71	44.65	39.05	39.05	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.84	67.38	0.08	0.19	0.07	0.06	4.62	1.23	N/A	4.34	673.49	0.75	1.89	0.67	0.64	42.25	11.30	N/A	1,352.65	210,129.04	233.09	588.76	208.65	199.60	13,181.52	3,524.79	N/A
On-site Operational Mobile Sources (trucks / cars)	0.09	4.36	0.02	0.01	0.01	0.01	55.00	11.59	N/A	0.93	43.65	0.22	0.12	0.07	0.06	550.01	115.91	N/A	289.46	13,618.32	69.52	36.98	20.67	19.77	171,604.57	36,163.96	N/A
Yearly Operational Total	7.30	72.54	0.26	2.25E-01	9.50E-02	9.18E-02	61.35	13.18	N/A	43.22	722.38	1.94	2.15	0.86	0.83	609.51	130.80	N/A	13,485.39	225,382.31	604.32	670.39	268.37	258.42	189,681.38	40,706.96	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**13.22**	**73.21**	**22.21**	**0.24**	**0.12**	**0.11**	**62.97**	**13.94**	**3.08**	**58.62**	**724.13**	**525.34**	**2.19**	**0.91**	**0.88**	**613.73**	**132.76**	**74.00**	**18,290.19**	**225,928.31**	**163,905.12**	**682.55**	**285.22**	**275.27**	**190,998.14**	**41,321.17**	**23,088.00**

Year: 2023

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	0.00	0.00	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.91	76.88	0.08	0.22	0.07	0.07	5.39	1.44	N/A	4.67	768.46	0.69	2.20	0.70	0.67	49.31	13.19	N/A	1,457.94	239,760.65	215.24	686.43	218.85	209.35	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.88	0.02	0.01	0.01	0.01	64.21	13.53	N/A	1.03	48.75	0.23	0.14	0.06	0.06	642.06	135.31	N/A	321.08	15,210.15	70.99	43.09	20.24	19.36	200,322.07	42,215.88	N/A
Yearly Operational Total	7.38	82.55	0.26	2.58E-01	9.83E-02	9.49E-02	69.60	14.97	N/A	49.99	823.33	2.05	2.51	0.91	0.88	708.62	152.08	N/A	15,596.17	256,878.24	638.23	781.60	284.65	274.27	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**13.30**	**83.22**	**22.20**	**0.27**	**0.12**	**0.12**	**71.22**	**15.73**	**3.08**	**65.39**	**825.08**	**525.45**	**2.54**	**0.97**	**0.93**	**712.84**	**154.05**	**74.00**	**20,400.97**	**257,424.24**	**163,939.03**	**793.77**	**301.49**	**291.12**	**221,918.81**	**47,962.26**	**23,088.00**

Year: 2024

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	0.00	0.00	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.88	76.23	0.08	0.22	0.07	0.07	5.39	1.44	N/A	4.62	762.01	0.69	2.20	0.69	0.66	49.31	13.19	N/A	1,442.48	237,746.89	215.67	685.78	214.45	205.14	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.83	0.02	0.01	0.01	0.01	64.21	13.53	N/A	1.03	48.32	0.22	0.14	0.06	0.06	642.06	135.31	N/A	320.86	15,076.98	70.15	43.04	19.64	18.79	200,322.07	42,215.88	N/A
Yearly Operational Total	7.35	81.85	0.25	2.58E-01	9.67E-02	9.34E-02	69.60	14.97	N/A	49.94	816.45	2.04	2.50	0.90	0.86	708.62	152.08	N/A	15,580.49	254,731.32	637.81	780.91	279.65	269.49	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**13.27**	**82.53**	**22.20**	**0.27**	**0.12**	**0.11**	**71.22**	**15.73**	**3.08**	**65.34**	**818.20**	**525.44**	**2.54**	**0.95**	**0.92**	**712.84**	**154.05**	**74.00**	**20,385.29**	**255,277.32**	**163,938.61**	**793.08**	**296.50**	**286.34**	**221,918.81**	**47,962.26**	**23,088.00**

Chiquita Canyon Landfill EIR

Summary Construction and Operation Emissions

Controlled Emissions

Year: 2025

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)							
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	29.35	3.38	0.78	1.10E-01	1.04E-01	1.04E-01	17.48	3.63	N/A	277.49	32.41	7.44	1.05	0.99	0.99	174.75	36.35	N/A	17,805.95	2,100.77	481.98	67.48	64.22	64.22	9,897.24	2,058.63	N/A
Off-site Construction Mobile Sources (trucks / cars)	0.89	0.06	0.01	3.65E-03	2.54E-03	2.33E-03	1.05	0.27	N/A	35.72	2.51	0.51	0.15	0.10	0.09	42.01	10.79	N/A	4,286.68	301.34	61.53	17.50	12.17	11.19	5,040.90	1,294.59	N/A
On-site Construction Mobile Sources (trucks / cars)	0.00	0.00	0.00	1.08E-05	9.00E-06	8.27E-06	0.84	0.10	N/A	0.02	0.00	0.00	0.00	0.00	0.00	3.37	0.39	N/A	2.32	0.20	0.04	0.01	0.00	0.00	404.90	46.47	N/A
Yearly Construction Total	30.25	3.45	0.79	1.13E-01	1.06E-01	1.06E-01	19.37	4.00	N/A	313.23	34.92	7.95	1.19	1.09	1.08	220.13	47.52	N/A	22,094.95	2,402.30	543.55	84.99	76.40	75.42	15,343.04	3,399.68	N/A
Flares	0.20	0.20	0.04	2.56E-01	1.98E-02	1.98E-02	N/A	N/A	N/A	4.68	4.68	0.94	6.14	0.47	0.47	N/A	N/A	N/A	1,708.95	1,708.95	344.27	2,241.45	173.37	173.37	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.85	75.67	0.07	2.21E-01	6.86E-02	6.56E-02	5.39	1.44	N/A	4.57	756.40	0.69	2.20	0.67	0.65	49.31	13.19	N/A	1,427.20	235,995.73	215.81	685.19	210.57	201.35	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.79	0.02	1.38E-02	6.12E-03	5.86E-03	64.21	13.53	N/A	0.53	8.04	0.12	0.00	0.02	0.02	642.06	135.31	N/A	320.46	14,958.17	69.36	42.99	19.10	18.27	200,322.07	42,215.88	N/A
Yearly Operational Total	7.52	81.45	0.29	5.13E-01	1.15E-01	1.12E-01	71.32	15.33	N/A	54.07	775.23	2.89	8.51	1.31	1.28	708.62	152.08	N/A	17,273.77	254,570.29	981.44	3,021.72	448.60	438.56	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**43.69**	**85.57**	**23.03**	**0.64**	**0.24**	**0.24**	**92.32**	**20.09**	**3.08**	**382.70**	**811.90**	**534.24**	**9.74**	**2.46**	**2.42**	**932.97**	**201.57**	**74.00**	**44,173.52**	**257,518.59**	**164,825.79**	**3,118.87**	**541.85**	**530.82**	**237,261.85**	**51,361.94**	**23,088.00**

Year: 2026

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)							
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	0.50	0.50	0.10	0.65	0.05	0.05	N/A	N/A	N/A	11.93	11.93	2.40	15.65	1.21	1.21	N/A	N/A	N/A	4,356.10	4,356.10	877.53	5,713.43	441.92	441.92	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.83	75.12	0.07	0.22	0.07	0.06	5.39	1.44	N/A	4.53	750.91	0.69	2.19	0.66	0.63	49.31	13.19	N/A	1,412.50	234,285.07	215.58	684.56	206.19	197.24	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.76	0.02	0.01	0.01	0.01	64.21	13.53	N/A	1.02	47.58	0.22	0.14	0.06	0.06	642.06	135.31	N/A	319.65	14,844.29	68.47	42.94	18.54	17.74	200,322.07	42,215.88	N/A
Yearly Operational Total	7.79	81.16	0.35	9.10E-01	1.44E-01	1.41E-01	71.32	15.33	N/A	61.77	816.54	4.44	18.15	2.08	2.05	708.62	152.08	N/A	19,905.40	255,392.89	1,513.58	6,493.03	712.22	702.47	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**13.72**	**81.84**	**22.30**	**0.92**	**0.16**	**0.16**	**72.95**	**16.08**	**3.08**	**77.17**	**818.29**	**527.84**	**18.19**	**2.13**	**2.10**	**712.84**	**154.05**	**74.00**	**24,710.20**	**255,938.89**	**164,814.38**	**6,505.19**	**729.07**	**719.32**	**221,918.81**	**47,962.26**	**23,088.00**

Year: 2027

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)							
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	0.80	0.80	0.16	1.04	0.08	0.08	N/A	N/A	N/A	19.08	19.08	3.84	25.03	1.94	1.94	N/A	N/A	N/A	6,965.29	6,965.29	1,403.15	9,135.64	706.62	706.62	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.80	74.73	0.07	0.22	0.07	0.06	5.39	1.44	N/A	4.48	747.06	0.69	2.19	0.65	0.62	49.31	13.19	N/A	1,397.28	233,082.73	214.74	684.06	202.91	194.11	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.73	0.02	0.01	0.01	0.01	64.21	13.53	N/A	1.02	47.28	0.22	0.14	0.06	0.06	642.06	135.31	N/A	318.77	14,752.70	67.81	42.90	18.12	17.34	200,322.07	42,215.88	N/A
Yearly Operational Total	8.07	81.05	0.41	1.30E+00	1.73E-01	1.70E-01	71.32	15.33	N/A	68.87	819.54	5.88	27.53	2.79	2.76	708.62	152.08	N/A	22,498.50	256,708.16	2,037.70	9,914.69	973.22	963.63	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**13.99**	**81.72**	**22.36**	**1.31**	**0.19**	**0.19**	**72.95**	**16.08**	**3.08**	**84.27**	**821.29**	**529.28**	**27.57**	**2.84**	**2.81**	**712.84**	**154.05**	**74.00**	**27,303.30**	**257,254.16**	**165,338.50**	**9,926.85**	**990.07**	**980.48**	**221,918.81**	**47,962.26**	**23,088.00**

Year: 2028

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)							
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	1.09	1.09	0.22	1.43E+00	1.10E-01	1.10E-01	N/A	N/A	N/A	26.10	26.10	5.26	34.23	2.65	2.65	N/A	N/A	N/A	9,527.05	9,527.05	1,919.22	12,495.62	966.51	966.51	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.78	74.39	0.07	2.21E-01	6.49E-02	6.21E-02	5.39	1.44	N/A	4.44	743.71	0.69	2.19	0.64	0.61	49.31	13.19	N/A	1,384.27	232,038.77	214.15	683.54	199.47	190.86	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.70	0.02	1.37E-02	5.68E-03	5.44E-03	64.21	13.53	N/A	1.02	47.04	0.22	0.14	0.06	0.05	642.06	135.31	N/A	318.14	14,676.37	67.22	42.86	17.72	16.96	200,322.07	42,215.88	N/A
Yearly Operational Total	8.34	80.98	0.47	1.68E+00	2.01E-01	1.98E-01	71.32	15.33	N/A	75.84	822.97	7.29	36.73	3.49	3.46	708.62	152.08	N/A	25,046.61	258,149.63	2,552.58	13,274.11	1,229.27	1,219.89	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	9.12	0.82	0.19	0.02	0.03	0.03	0.56	0.31	N/A	72.95	6.53	1.51	0.12	0.20	0.20	4.52	2.48	N/A	8,889.35	782.38	180.54	14.76	24.07	24.07	891.30	468.64	N/A
Off-Site Compost Facility Construction Sources	0.40	0.03	0.02	0.00	0.00	0.00	0.03	0.01	N/A	3.19	0.25	0.17	0.01	0.01	0.01	0.27	0.07	N/A	413.90	32.88	22.10	1.30	0.77	0.72	103.55	27.47	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	15.44	1.52	22.16	3.16E-02	4.66E-02	4.66E-02	2.22	1.08	3.08	91.54	8.53	525.08	0.17	0.26	0.26	9.01	4.52	74.00	14,108.06	1,361.26	163,503.44	28.23	41.69	41.64	2,311.62	1,110.32	23,088.00
Yearly Total	**23.78**	**82.50**	**22.63**	**1.71**	**0.25**	**0.24**	**73.55**	**16.40**	**3.08**	**167.38**	**831.50**	**532.36**	**36.90**	**3.75**	**3.72**	**717.63**	**156.60**	**74.00**	**39,154.66**	**259,510.89**	**166,056.02**	**13,302.34**	**1,270.96**	**1,261.53**	**222,913.66**	**48,458.37**	**23,088.00**

Chiquita Canyon Landfill EIR
Summary Construction and Operation Emissions
Controlled Emissions
Year: 2029

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	29.35	3.38	0.78	1.10E-01	1.04E-01	1.04E-01	17.48	3.63	N/A	277.49	32.41	7.44	1.05	0.99	0.99	174.75	36.35	N/A	17,805.95	2,100.77	481.98	67.48	64.22	64.22	9,897.24	2,058.63	N/A
Off-site Construction Mobile Sources (trucks / cars)	0.74	0.05	0.01	3.30E-03	2.07E-03	1.90E-03	1.05	0.27	N/A	29.66	1.97	0.39	0.13	0.08	0.08	42.01	10.79	N/A	3,559.13	236.43	46.56	15.83	9.93	9.13	5,040.90	1,294.59	N/A
On-site Construction Mobile Sources (trucks / cars)	0.00	0.00	0.00	9.60E-06	6.98E-06	6.42E-06	0.84	0.10	N/A	0.01	0.00	0.00	0.00	0.00	0.00	3.37	0.39	N/A	1.68	0.14	0.03	0.00	0.00	0.00	404.90	46.47	N/A
Yearly Construction Total	30.09	3.43	0.79	1.13E-01	1.06E-01	1.05E-01	19.37	4.00	N/A	307.16	34.38	7.83	1.18	1.07	1.07	220.13	47.52	N/A	21,366.76	2,337.33	528.57	83.32	74.15	73.36	15,343.04	3,399.68	N/A
Flares	1.37	1.37	0.28	1.80E+00	1.39E-01	1.39E-01	N/A	N/A	N/A	32.99	32.99	6.65	43.27	3.35	3.35	N/A	N/A	N/A	12,041.36	12,041.36	2,425.72	15,793.38	1,221.59	1,221.59	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.77	73.87	0.07	2.20E-01	6.30E-02	6.03E-02	5.39	1.44	N/A	4.39	738.51	0.68	2.19	0.62	0.59	49.31	13.19	N/A	1,369.65	230,415.31	213.63	682.82	193.87	185.45	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.67	0.02	1.37E-02	5.49E-03	5.25E-03	64.21	13.53	N/A	1.02	46.74	0.21	0.14	0.05	0.05	642.06	135.31	N/A	316.83	14,581.97	66.20	42.81	17.13	16.39	200,322.07	42,215.88	N/A
Yearly Operational Total	8.61	80.71	0.53	2.06E+00	2.29E-01	2.26E-01	71.32	15.33	N/A	82.68	824.35	8.67	45.76	4.17	4.14	708.62	152.08	N/A	27,544.99	258,946.08	3,057.55	16,571.09	1,478.15	1,468.99	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**44.63**	**84.82**	**23.26**	**2.19**	**0.35**	**0.35**	**92.32**	**20.09**	**3.08**	**405.24**	**860.48**	**539.90**	**46.98**	**5.30**	**5.26**	**932.97**	**201.57**	**74.00**	**53,716.55**	**261,829.42**	**166,886.92**	**16,666.58**	**1,569.15**	**1,559.20**	**237,261.85**	**51,361.94**	**23,088.00**

Year: 2030

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	1.66	1.66	0.33	2.17	0.17	0.17	N/A	N/A	N/A	39.75	39.75	8.01	52.13	4.03	4.03	N/A	N/A	N/A	14,508.23	14,508.23	2,922.67	19,028.92	1,471.85	1,471.85	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.75	73.50	0.07	0.22	0.06	0.06	5.39	1.44	N/A	4.34	734.81	0.68	2.19	0.61	0.58	49.31	13.19	N/A	1,355.33	229,260.29	212.77	682.16	189.08	180.87	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.65	0.02	0.01	0.01	0.01	64.21	13.53	N/A	1.01	46.50	0.21	0.14	0.05	0.05	642.06	135.31	N/A	315.75	14,508.32	65.49	42.77	16.67	15.95	200,322.07	42,215.88	N/A
Yearly Operational Total	8.87	80.60	0.58	2.43E+00	2.55E-01	2.52E-01	71.32	15.33	N/A	89.39	827.17	10.03	54.62	4.84	4.81	708.62	152.08	N/A	29,996.47	260,184.29	3,552.93	19,805.92	1,723.16	1,714.24	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**14.80**	**81.27**	**22.53**	**2.44**	**0.28**	**0.27**	**72.95**	**16.08**	**3.08**	**104.79**	**828.92**	**533.43**	**54.66**	**4.89**	**4.86**	**712.84**	**154.05**	**74.00**	**34,801.27**	**260,730.29**	**166,853.73**	**19,818.09**	**1,740.01**	**1,731.08**	**221,918.81**	**47,962.26**	**23,088.00**

Year: 2031

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	1.93	1.93	0.39	2.53	0.20	0.20	N/A	N/A	N/A	46.38	46.38	9.34	60.83	4.70	4.70	N/A	N/A	N/A	16,927.67	16,927.67	3,410.07	22,202.23	1,717.30	1,717.30	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.73	73.11	0.07	0.22	0.06	0.06	5.39	1.44	N/A	4.30	730.90	0.68	2.18	0.59	0.56	49.31	13.19	N/A	1,340.75	228,042.36	211.81	681.43	183.71	175.74	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.63	0.02	0.01	0.01	0.00	64.21	13.53	N/A	1.01	46.26	0.21	0.14	0.05	0.05	642.06	135.31	N/A	314.61	14,433.28	64.83	42.72	16.20	15.50	200,322.07	42,215.88	N/A
Yearly Operational Total	9.13	80.46	0.64	2.79E+00	2.81E-01	2.79E-01	71.32	15.33	N/A	95.97	829.66	11.36	63.32	5.49	5.46	708.62	152.08	N/A	32,400.18	261,310.74	4,038.71	22,978.47	1,962.78	1,954.10	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**15.05**	**81.13**	**22.58**	**2.81**	**0.30**	**0.30**	**72.95**	**16.08**	**3.08**	**111.37**	**831.41**	**534.76**	**63.35**	**5.55**	**5.52**	**712.84**	**154.05**	**74.00**	**37,204.98**	**261,856.74**	**167,339.51**	**22,990.63**	**1,979.62**	**1,970.95**	**221,918.81**	**47,962.26**	**23,088.00**

Year: 2032

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	2.20	2.20	0.44	2.89	0.22	0.22	N/A	N/A	N/A	52.88	52.88	10.65	69.35	5.36	5.36	N/A	N/A	N/A	19,299.66	19,299.66	3,887.90	25,313.33	1,957.94	1,957.94	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.71	72.63	0.07	0.22	0.06	0.06	5.39	1.44	N/A	4.25	726.12	0.68	2.18	0.57	0.54	49.31	13.19	N/A	1,325.57	226,550.42	210.87	680.56	177.36	169.67	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.60	0.02	0.01	0.01	0.00	64.21	13.53	N/A	1.00	45.98	0.21	0.14	0.05	0.05	642.06	135.31	N/A	313.40	14,345.53	64.27	42.66	15.73	15.05	200,322.07	42,215.88	N/A
Yearly Operational Total	9.39	80.22	0.69	3.15E+00	3.07E-01	3.04E-01	71.32	15.33	N/A	102.41	831.09	12.66	71.84	6.13	6.10	708.62	152.08	N/A	34,755.79	262,103.06	4,515.03	26,088.64	2,196.59	2,188.22	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**15.31**	**80.90**	**22.64**	**3.16**	**0.33**	**0.32**	**72.95**	**16.08**	**3.08**	**117.81**	**832.84**	**536.06**	**71.88**	**6.18**	**6.16**	**712.84**	**154.05**	**74.00**	**39,560.59**	**262,649.06**	**167,815.83**	**26,100.81**	**2,213.44**	**2,205.06**	**221,918.81**	**47,962.26**	**23,088.00**

Chiquita Canyon Landfill EIR
Summary Construction and Operation Emissions
Controlled Emissions

Year: 2033

	Emissions (lb/hr)									Emissions (lb/day)										Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	29.35	3.38	0.78	1.10E-01	1.04E-01	1.04E-01	17.48	3.63	N/A	277.49	32.41	7.44	1.05	0.99	0.99	174.75	36.35	N/A	17,805.95	2,100.77	481.98	67.48	64.22	64.22	9,897.24	2,058.63	N/A
Off-site Construction Mobile Sources (trucks / cars)	0.63	0.04	0.01	3.08E-03	1.63E-03	1.50E-03	1.05	0.27	N/A	25.26	1.60	0.30	0.12	0.07	0.06	42.01	10.79	N/A	3,031.77	191.65	35.95	14.80	7.84	7.21	5,040.90	1,294.59	N/A
On-site Construction Mobile Sources (trucks / cars)	0.00	0.00	0.00	8.79E-06	4.97E-06	4.57E-06	0.84	0.10	N/A	0.01	0.00	0.00	0.00	0.00	0.00	3.37	0.39	N/A	1.14	0.08	0.02	0.00	0.00	0.00	404.90	46.47	N/A
Yearly Construction Total	29.98	3.42	0.78	1.13E-01	1.05E-01	1.05E-01	19.37	4.00	N/A	302.76	34.01	7.74	1.17	1.06	1.05	220.13	47.52	N/A	20,838.86	2,292.50	517.95	82.29	72.06	71.44	15,343.04	3,399.68	N/A
Flares	2.47	2.47	0.50	3.24E+00	2.50E-01	2.50E-01	N/A	N/A	N/A	59.24	59.24	11.93	77.70	6.01	6.01	N/A	N/A	N/A	21,624.22	21,624.22	4,356.18	28,362.20	2,193.76	2,193.76	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.70	72.14	0.07	2.19E-01	5.55E-02	5.31E-02	5.39	1.44	N/A	4.20	721.23	0.67	2.18	0.55	0.52	49.31	13.19	N/A	1,310.89	225,022.84	209.96	679.66	171.06	163.64	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.57	0.02	1.37E-02	4.89E-03	4.68E-03	64.21	13.53	N/A	1.00	45.70	0.20	0.14	0.05	0.05	642.06	135.31	N/A	312.14	14,259.01	63.67	42.61	15.26	14.60	200,322.07	42,215.88	N/A
Yearly Operational Total	9.64	79.97	0.75	3.49E+00	3.31E-01	3.29E-01	71.32	15.33	N/A	108.73	832.29	13.94	80.19	6.75	6.73	708.62	152.08	N/A	37,064.41	262,813.51	4,981.82	29,136.55	2,425.64	2,417.56	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**45.54**	**84.07**	**23.48**	**3.62**	**0.46**	**0.45**	**92.32**	**20.09**	**3.08**	**426.90**	**868.04**	**545.08**	**81.40**	**7.86**	**7.83**	**932.97**	**201.57**	**74.00**	**62,708.07**	**265,652.02**	**168,800.57**	**29,231.01**	**2,514.55**	**2,505.84**	**237,261.85**	**51,361.94**	**23,088.00**

Year: 2034

	Emissions (lb/hr)									Emissions (lb/day)										Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	2.73	2.73	0.55	3.58	0.28	0.28	N/A	N/A	N/A	65.48	65.48	13.19	85.89	6.64	6.64	N/A	N/A	N/A	23,901.33	23,901.33	4,814.91	31,348.85	2,424.77	2,424.77	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.68	71.35	0.07	0.22	0.05	0.05	5.39	1.44	N/A	4.15	713.38	0.67	2.17	0.52	0.50	49.31	13.19	N/A	1,294.37	222,574.47	209.29	678.42	162.57	155.52	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.53	0.02	0.01	0.00	0.00	64.21	13.53	N/A	0.99	45.30	0.20	0.14	0.05	0.04	642.06	135.31	N/A	310.31	14,132.90	62.81	42.54	14.62	13.99	200,322.07	42,215.88	N/A
Yearly Operational Total	9.88	79.41	0.80	3.83E+00	3.55E-01	3.52E-01	71.32	15.33	N/A	114.91	830.27	15.19	88.36	7.36	7.33	708.62	152.08	N/A	39,323.17	262,516.15	5,439.00	32,121.90	2,647.53	2,639.84	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**15.80**	**80.08**	**22.74**	**3.85**	**0.38**	**0.37**	**72.95**	**16.08**	**3.08**	**130.31**	**832.02**	**538.59**	**88.40**	**7.41**	**7.39**	**712.84**	**154.05**	**74.00**	**44,127.97**	**263,062.15**	**168,739.80**	**32,134.07**	**2,664.38**	**2,656.69**	**221,918.81**	**47,962.26**	**23,088.00**

Year: 2035

	Emissions (lb/hr)									Emissions (lb/day)										Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	2.98	2.98	0.60	3.91	0.30	0.30	N/A	N/A	N/A	71.59	71.59	14.42	93.90	7.26	7.26	N/A	N/A	N/A	26,131.01	26,131.01	5,264.07	34,273.28	2,650.97	2,650.97	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.67	70.83	0.07	0.22	0.05	0.05	5.39	1.44	N/A	4.10	708.17	0.67	2.17	0.51	0.48	49.31	13.19	N/A	1,279.56	220,949.58	208.36	677.57	157.72	150.88	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.50	0.02	0.01	0.00	0.00	64.21	13.53	N/A	0.99	45.02	0.20	0.14	0.05	0.04	642.06	135.31	N/A	308.81	14,046.39	62.14	42.49	14.23	13.61	200,322.07	42,215.88	N/A
Yearly Operational Total	10.12	79.11	0.85	4.17E+00	3.79E-01	3.77E-01	71.32	15.33	N/A	120.97	830.90	16.42	96.37	7.96	7.94	708.62	152.08	N/A	41,536.53	263,034.42	5,886.57	35,045.43	2,868.48	2,861.03	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**16.04**	**79.78**	**22.79**	**4.18**	**0.40**	**0.40**	**72.95**	**16.08**	**3.08**	**136.37**	**832.65**	**539.82**	**96.41**	**8.01**	**7.99**	**712.84**	**154.05**	**74.00**	**46,341.33**	**263,580.42**	**169,187.37**	**35,057.60**	**2,885.33**	**2,877.87**	**221,918.81**	**47,962.26**	**23,088.00**

Year: 2036

	Emissions (lb/hr)									Emissions (lb/day)										Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	3.23	3.23	0.65	4.24	0.33	0.33	N/A	N/A	N/A	77.57	77.57	15.63	101.74	7.87	7.87	N/A	N/A	N/A	28,313.24	28,313.24	5,703.68	37,135.48	2,872.36	2,872.36	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.65	70.42	0.07	0.22	0.05	0.05	5.39	1.44	N/A	4.06	704.02	0.67	2.17	0.50	0.48	49.31	13.19	N/A	1,267.63	219,652.98	207.60	677.04	156.91	150.10	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.48	0.02	0.01	0.00	0.00	64.21	13.53	N/A	0.99	44.79	0.20	0.14	0.05	0.04	642.06	135.31	N/A	307.56	13,975.73	61.62	42.47	14.07	13.46	200,322.07	42,215.88	N/A
Yearly Operational Total	10.35	78.92	0.90	4.49E+00	4.04E-01	4.01E-01	71.32	15.33	N/A	126.90	832.49	17.62	104.21	8.56	8.54	708.62	152.08	N/A	43,705.59	263,849.40	6,324.90	37,907.08	3,088.90	3,081.48	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**16.28**	**79.59**	**22.84**	**4.51**	**0.42**	**0.42**	**72.95**	**16.08**	**3.08**	**142.30**	**834.24**	**541.02**	**104.25**	**8.62**	**8.59**	**712.84**	**154.05**	**74.00**	**48,510.39**	**264,395.40**	**169,625.70**	**37,919.25**	**3,105.75**	**3,098.33**	**221,918.81**	**47,962.26**	**23,088.00**

Chiquita Canyon Landfill EIR
Summary Construction and Operation Emissions
Controlled Emissions
Year: 2037

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)							
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	29.35	3.38	0.78	1.10E-01	1.04E-01	1.04E-01	17.48	3.63	N/A	277.49	32.41	7.44	1.05	0.99	0.99	174.75	36.35	N/A	17,805.95	2,100.77	481.98	67.48	64.22	64.22	9,897.24	2,058.63	N/A
Off-site Construction Mobile Sources (trucks / cars)	0.55	0.03	0.01	2.96E-03	1.30E-03	1.20E-03	1.05	0.27	N/A	21.88	1.37	0.24	0.12	0.05	0.05	42.01	10.79	N/A	2,626.00	164.51	28.55	14.21	6.26	5.75	5,040.90	1,294.59	N/A
On-site Construction Mobile Sources (trucks / cars)	0.00	0.00	0.00	8.27E-06	3.76E-06	3.46E-06	0.84	0.10	N/A	0.01	0.00	0.00	0.00	0.00	0.00	3.37	0.39	N/A	0.84	0.06	0.01	0.00	0.00	0.00	404.90	46.47	N/A
Yearly Construction Total	29.90	3.42	0.78	1.13E-01	1.05E-01	1.05E-01	19.37	4.00	N/A	299.38	33.78	7.68	1.17	1.04	1.04	220.13	47.52	N/A	20,432.79	2,265.34	510.55	81.70	70.48	69.97	15,343.04	3,399.68	N/A
Flares	3.48	3.48	0.70	4.56E+00	3.53E-01	3.53E-01	N/A	N/A	N/A	83.42	83.42	16.80	109.41	8.46	8.46	N/A	N/A	N/A	30,448.04	30,448.04	6,133.74	39,935.47	3,088.93	3,088.93	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.64	70.04	0.07	2.18E-01	5.09E-02	4.87E-02	5.39	1.44	N/A	4.03	700.28	0.66	2.17	0.50	0.48	49.31	13.19	N/A	1,257.11	218,487.78	207.04	676.77	156.97	150.17	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.46	0.02	1.36E-02	4.47E-03	4.28E-03	64.21	13.53	N/A	0.98	44.59	0.20	0.14	0.04	0.04	642.06	135.31	N/A	306.24	13,913.45	61.07	42.45	13.96	13.35	200,322.07	42,215.88	N/A
Yearly Operational Total	10.59	78.77	0.95	4.81E+00	4.29E-01	4.26E-01	71.32	15.33	N/A	132.72	834.41	18.79	111.88	9.16	9.13	708.62	152.08	N/A	45,828.54	264,756.71	6,753.84	40,706.77	3,305.42	3,298.01	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**46.41**	**82.86**	**23.67**	**4.94**	**0.55**	**0.55**	**92.32**	**20.09**	**3.08**	**447.49**	**869.94**	**549.87**	**113.09**	**10.25**	**10.23**	**932.97**	**201.57**	**74.00**	**71,066.13**	**267,568.05**	**170,565.19**	**40,800.64**	**3,392.75**	**3,384.83**	**237,261.85**	**51,361.94**	**23,088.00**

Year: 2038

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)							
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	3.71	3.71	0.75	4.87E+00	3.77E-01	3.77E-01	N/A	N/A	N/A	89.14	89.14	17.96	116.91	9.04	9.04	N/A	N/A	N/A	32,535.39	32,535.39	6,554.23	42,673.23	3,300.69	3,300.69	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.63	69.56	0.07	2.18E-01	5.13E-02	4.90E-02	5.39	1.44	N/A	4.00	695.50	0.66	2.17	0.51	0.49	49.31	13.19	N/A	1,249.09	216,994.87	207.21	676.77	158.23	151.35	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.44	0.02	1.36E-02	4.45E-03	4.25E-03	64.21	13.53	N/A	0.98	44.35	0.19	0.14	0.04	0.04	642.06	135.31	N/A	304.82	13,838.70	60.44	42.44	13.87	13.27	200,322.07	42,215.88	N/A
Yearly Operational Total	10.82	78.51	0.99	5.13E+00	4.53E-01	4.51E-01	71.32	15.33	N/A	138.40	835.10	19.94	119.39	9.74	9.72	708.62	152.08	N/A	47,906.46	265,276.40	7,173.88	43,444.54	3,518.35	3,510.88	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	9.12	0.82	0.19	0.02	0.03	0.03	0.56	0.31	N/A	72.95	6.53	1.51	0.12	0.20	0.20	4.52	2.48	N/A	8,889.35	782.38	180.54	14.76	24.07	24.07	891.30	468.64	N/A
Off-Site Compost Facility Construction Sources	0.40	0.03	0.02	0.00	0.00	0.00	0.03	0.01	N/A	3.19	0.25	0.17	0.01	0.01	0.01	0.27	0.07	N/A	413.90	32.88	22.10	1.30	0.77	0.72	103.55	27.47	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	15.44	1.52	22.16	3.16E-02	4.66E-02	4.66E-02	2.22	1.08	3.08	91.54	8.53	525.08	0.17	0.26	0.26	9.01	4.52	74.00	14,108.06	1,361.26	163,503.44	28.23	41.69	41.64	2,311.62	1,110.32	23,088.00
Yearly Total	**26.26**	**80.03**	**23.15**	**5.16**	**0.50**	**0.50**	**73.55**	**16.40**	**3.08**	**229.94**	**843.63**	**545.02**	**119.56**	**10.00**	**9.98**	**717.63**	**156.60**	**74.00**	**62,014.51**	**266,637.66**	**170,677.32**	**43,472.77**	**3,560.05**	**3,552.52**	**222,913.66**	**48,458.37**	**23,088.00**

Year: 2039

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)							
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	3.95	3.95	0.80	5.18	0.40	0.40	N/A	N/A	N/A	94.73	94.73	19.08	124.24	9.61	9.61	N/A	N/A	N/A	34,575.31	34,575.31	6,965.17	45,348.77	3,507.64	3,507.64	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.63	69.22	0.07	0.22	0.05	0.05	5.39	1.44	N/A	3.99	692.04	0.67	2.17	0.52	0.50	49.31	13.19	N/A	1,245.50	215,916.82	208.11	677.88	162.23	155.19	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.42	0.02	0.01	0.00	0.00	64.21	13.53	N/A	0.97	44.18	0.19	0.14	0.04	0.04	642.06	135.31	N/A	303.68	13,784.85	59.91	42.50	13.94	13.34	200,322.07	42,215.88	N/A
Yearly Operational Total	11.04	78.38	1.04	5.43E+00	4.78E-01	4.75E-01	71.32	15.33	N/A	143.98	837.06	21.07	126.72	10.32	10.30	708.62	152.08	N/A	49,941.64	266,184.42	7,585.19	46,121.24	3,729.37	3,721.73	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**16.96**	**79.05**	**22.99**	**5.45**	**0.50**	**0.50**	**72.95**	**16.08**	**3.08**	**159.38**	**838.81**	**544.47**	**126.76**	**10.37**	**10.35**	**712.84**	**154.05**	**74.00**	**54,746.44**	**266,730.42**	**170,885.99**	**46,133.41**	**3,746.22**	**3,738.58**	**221,918.81**	**47,962.26**	**23,088.00**

Year: 2040

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)							
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	3.92	3.92	0.79	5.14	0.40	0.40	N/A	N/A	N/A	94.08	94.08	18.95	123.39	9.54	9.54	N/A	N/A	N/A	34,338.11	34,338.11	6,917.39	45,037.66	3,483.58	3,483.58	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.62	68.61	0.07	0.22	0.05	0.05	5.39	1.44	N/A	3.99	685.99	0.67	2.18	0.54	0.51	49.31	13.19	N/A	1,244.55	214,029.67	209.90	679.22	167.92	160.64	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.39	0.02	0.01	0.00	0.00	64.21	13.53	N/A	0.97	43.89	0.19	0.14	0.05	0.04	642.06	135.31	N/A	302.48	13,692.38	59.32	42.57	14.07	13.46	200,322.07	42,215.88	N/A
Yearly Operational Total	11.01	77.71	1.04	5.40E+00	4.77E-01	4.75E-01	71.32	15.33	N/A	143.32	830.07	20.94	125.87	10.27	10.25	708.62	152.08	N/A	49,702.29	263,967.60	7,538.61	45,811.54	3,711.12	3,703.24	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**16.93**	**78.39**	**22.98**	**5.41**	**0.50**	**0.50**	**72.95**	**16.08**	**3.08**	**158.72**	**831.82**	**544.34**	**125.91**	**10.33**	**10.30**	**712.84**	**154.05**	**74.00**	**54,507.09**	**264,513.60**	**170,839.41**	**45,823.71**	**3,727.97**	**3,720.08**	**221,918.81**	**47,962.26**	**23,088.00**

Chiquita Canyon Landfill EIR
Summary Construction and Operation Emissions
Controlled Emissions
Year: 2041

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)							
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	29.35	3.38	0.78	1.10E-01	1.04E-01	1.04E-01	17.48	3.63	N/A	277.49	32.41	7.44	1.05	0.99	0.99	174.75	36.35	N/A	17,805.95	2,100.77	481.98	67.48	64.22	64.22	9,897.24	2,058.63	N/A
Off-site Construction Mobile Sources (trucks / cars)	0.51	0.03	0.01	2.90E-03	1.10E-03	1.01E-03	1.05	0.27	N/A	20.21	1.27	0.21	0.12	0.04	0.04	42.01	10.79	N/A	2,425.76	152.72	25.52	13.93	5.27	4.83	5,040.90	1,294.59	N/A
On-site Construction Mobile Sources (trucks / cars)	0.00	0.00	0.00	7.97E-06	3.09E-06	2.84E-06	0.84	0.10	N/A	0.01	0.00	0.00	0.00	0.00	0.00	3.37	0.39	N/A	0.73	0.05	0.01	0.00	0.00	0.00	404.90	46.47	N/A
Yearly Construction Total	29.86	3.42	0.78	1.13E-01	1.05E-01	1.05E-01	19.37	4.00	N/A	297.71	33.68	7.65	1.16	1.04	1.03	220.13	47.52	N/A	20,232.44	2,253.54	507.51	81.42	69.49	69.06	15,343.04	3,399.68	N/A
Flares	3.74	3.74	0.75	4.91E+00	3.80E-01	3.80E-01	N/A	N/A	N/A	89.79	89.79	18.09	117.77	9.11	9.11	N/A	N/A	N/A	32,772.59	32,772.59	6,602.01	42,984.34	3,324.76	3,324.76	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.62	67.72	0.07	2.19E-01	5.65E-02	5.40E-02	5.39	1.44	N/A	3.99	677.09	0.68	2.18	0.56	0.54	49.31	13.19	N/A	1,245.74	211,250.76	212.35	680.46	174.67	167.11	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.34	0.02	1.37E-02	4.57E-03	4.37E-03	64.21	13.53	N/A	0.97	43.44	0.19	0.14	0.05	0.04	642.06	135.31	N/A	301.42	13,554.61	58.80	42.63	14.25	13.63	200,322.07	42,215.88	N/A
Yearly Operational Total	10.83	76.60	1.00	5.16E+00	4.61E-01	4.58E-01	71.32	15.33	N/A	139.03	816.43	20.08	120.25	9.86	9.83	708.62	152.08	N/A	48,136.91	259,485.41	7,225.16	43,759.52	3,559.24	3,551.06	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**46.61**	**80.69**	**23.73**	**5.29**	**0.59**	**0.58**	**92.32**	**20.09**	**3.08**	**452.14**	**851.86**	**551.14**	**121.45**	**10.95**	**10.92**	**932.97**	**201.57**	**74.00**	**73,174.14**	**262,284.94**	**171,033.48**	**43,853.11**	**3,645.57**	**3,636.96**	**237,261.85**	**51,361.94**	**23,088.00**

Year: 2042

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)							
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	3.57	3.57	0.72	4.68	0.36	0.36	N/A	N/A	N/A	85.63	85.63	17.25	112.31	8.69	8.69	N/A	N/A	N/A	31,254.52	31,254.52	6,296.20	40,993.24	3,170.75	3,170.75	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.62	66.50	0.07	0.22	0.06	0.06	5.39	1.44	N/A	4.00	664.89	0.69	2.18	0.58	0.55	49.31	13.19	N/A	1,247.80	207,444.43	214.76	680.87	180.86	173.02	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.28	0.02	0.01	0.00	0.00	64.21	13.53	N/A	0.96	42.82	0.19	0.14	0.05	0.04	642.06	135.31	N/A	300.92	13,359.94	58.58	42.65	14.46	13.83	200,322.07	42,215.88	N/A
Yearly Operational Total	10.65	75.14	0.97	4.94E+00	4.46E-01	4.43E-01	71.32	15.33	N/A	134.88	799.45	19.25	114.80	9.46	9.43	708.62	152.08	N/A	46,620.39	253,966.33	6,921.53	41,768.85	3,411.63	3,403.16	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**16.58**	**75.82**	**22.91**	**4.95**	**0.47**	**0.46**	**72.95**	**16.08**	**3.08**	**150.28**	**801.20**	**542.65**	**114.84**	**9.51**	**9.49**	**712.84**	**154.05**	**74.00**	**51,425.19**	**254,512.33**	**170,222.33**	**41,781.02**	**3,428.47**	**3,420.01**	**221,918.81**	**47,962.26**	**23,088.00**

Year: 2043

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)							
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	3.39	3.39	0.68	4.45	0.34	0.34	N/A	N/A	N/A	81.47	81.47	16.41	106.86	8.27	8.27	N/A	N/A	N/A	29,736.44	29,736.44	5,990.38	39,002.14	3,016.74	3,016.74	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.62	64.55	0.07	0.22	0.06	0.06	5.39	1.44	N/A	4.02	645.37	0.70	2.18	0.61	0.58	49.31	13.19	N/A	1,254.07	201,354.13	218.74	680.84	189.17	180.98	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	4.18	0.02	0.01	0.00	0.00	64.21	13.53	N/A	0.96	41.81	0.19	0.14	0.05	0.05	642.06	135.31	N/A	300.90	13,045.80	58.61	42.65	14.79	14.15	200,322.07	42,215.88	N/A
Yearly Operational Total	10.48	72.92	0.93	4.71E+00	4.31E-01	4.28E-01	71.32	15.33	N/A	130.74	774.76	18.43	109.34	9.06	9.04	708.62	152.08	N/A	45,108.56	246,043.80	6,619.73	39,777.71	3,266.27	3,257.43	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**16.40**	**73.59**	**22.88**	**4.72**	**0.45**	**0.45**	**72.95**	**16.08**	**3.08**	**146.14**	**776.51**	**541.83**	**109.38**	**9.12**	**9.09**	**712.84**	**154.05**	**74.00**	**49,913.36**	**246,589.80**	**169,920.53**	**39,789.88**	**3,283.12**	**3,274.28**	**221,918.81**	**47,962.26**	**23,088.00**

Year: 2044

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)							
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	3.23	3.23	0.65	4.23	0.33	0.33	N/A	N/A	N/A	77.44	77.44	15.60	101.57	7.86	7.86	N/A	N/A	N/A	28,265.80	28,265.80	5,694.13	37,073.26	2,867.55	2,867.55	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.62	60.74	0.07	0.22	0.07	0.06	5.39	1.44	N/A	4.07	607.29	0.72	2.18	0.65	0.62	49.31	13.19	N/A	1,268.53	189,475.12	226.08	680.08	202.62	193.84	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	3.99	0.02	0.01	0.00	0.00	64.21	13.53	N/A	0.97	39.86	0.19	0.14	0.05	0.05	642.06	135.31	N/A	301.11	12,436.28	58.73	42.61	15.33	14.67	200,322.07	42,215.88	N/A
Yearly Operational Total	10.31	68.75	0.90	4.49E+00	4.18E-01	4.15E-01	71.32	15.33	N/A	126.76	730.71	17.64	104.05	8.70	8.67	708.62	152.08	N/A	43,652.60	232,084.64	6,330.93	37,848.04	3,131.06	3,121.62	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**16.24**	**69.42**	**22.85**	**4.50**	**0.44**	**0.44**	**72.95**	**16.08**	**3.08**	**142.16**	**732.46**	**541.04**	**104.09**	**8.75**	**8.72**	**712.84**	**154.05**	**74.00**	**48,457.40**	**232,630.64**	**169,631.73**	**37,860.21**	**3,147.91**	**3,138.46**	**221,918.81**	**47,962.26**	**23,088.00**

Chiquita Canyon Landfill EIR
Summary Construction and Operation Emissions
Controlled Emissions
Year: 2045

	Emissions (lb/hr)									Emissions (lb/day)										Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	3.06	3.06	0.62	4.02	0.31	0.31	N/A	N/A	N/A	73.54	73.54	14.81	96.46	7.46	7.46	N/A	N/A	N/A	26,842.61	26,842.61	5,407.42	35,206.61	2,723.16	2,723.16	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.63	56.36	0.08	0.22	0.07	0.07	5.39	1.44	N/A	4.13	563.45	0.76	2.18	0.70	0.67	49.31	13.19	N/A	1,289.10	175,797.07	235.77	679.20	217.64	208.21	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	3.76	0.02	0.01	0.01	0.00	64.21	13.53	N/A	0.97	37.60	0.19	0.14	0.05	0.05	642.06	135.31	N/A	301.65	11,732.47	59.00	42.57	15.93	15.24	200,322.07	42,215.88	N/A
Yearly Operational Total	10.16	63.98	0.87	4.27E+00	4.07E-01	4.03E-01	71.32	15.33	N/A	122.93	680.71	16.89	98.94	8.36	8.32	708.62	152.08	N/A	42,250.51	216,279.58	6,054.19	35,980.47	3,002.29	2,992.17	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**16.08**	**64.65**	**22.82**	**4.29**	**0.43**	**0.42**	**72.95**	**16.08**	**3.08**	**138.33**	**682.46**	**540.29**	**98.98**	**8.41**	**8.38**	**712.84**	**154.05**	**74.00**	**47,055.31**	**216,825.58**	**169,354.99**	**35,992.63**	**3,019.14**	**3,009.02**	**221,918.81**	**47,962.26**	**23,088.00**

Year: 2046

	Emissions (lb/hr)									Emissions (lb/day)										Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	2.90	2.90	0.58	3.81	0.29	0.29	N/A	N/A	N/A	69.64	69.64	14.03	91.34	7.07	7.07	N/A	N/A	N/A	25,419.41	25,419.41	5,120.72	33,339.95	2,578.78	2,578.78	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.64	51.19	0.08	0.22	0.08	0.07	5.39	1.44	N/A	4.23	511.80	0.80	2.17	0.75	0.72	49.31	13.19	N/A	1,319.59	159,681.36	249.30	678.14	234.48	224.33	15,384.69	4,113.95	N/A
On-site Operational Mobile Sources (trucks / cars)	0.10	3.49	0.02	0.01	0.01	0.01	64.21	13.53	N/A	0.97	34.93	0.19	0.14	0.05	0.05	642.06	135.31	N/A	302.75	10,898.78	59.51	42.52	16.58	15.86	200,322.07	42,215.88	N/A
Yearly Operational Total	10.00	58.38	0.84	4.06E+00	3.96E-01	3.92E-01	71.32	15.33	N/A	119.13	622.49	16.15	93.82	8.02	7.98	708.62	152.08	N/A	40,858.90	197,906.99	5,781.53	34,112.70	2,875.41	2,864.53	220,602.04	47,348.05	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**15.93**	**59.05**	**22.79**	**4.08**	**0.42**	**0.41**	**72.95**	**16.08**	**3.08**	**134.53**	**624.24**	**539.55**	**93.86**	**8.07**	**8.04**	**712.84**	**154.05**	**74.00**	**45,663.70**	**198,452.99**	**169,082.33**	**34,124.87**	**2,892.25**	**2,881.38**	**221,918.81**	**47,962.26**	**23,088.00**

Summary Data Request

Construction

Sources included in the proposed project:

	Schedule	*Notes and Assumptions*
Construction Sources / Assumptions (See Construction Tab for information provided by CCL - for rows 6-12)		
Construction of module 6	4/1/2017 - 9/30/2017	Construction equipment assumptions based on data provided on July 20, 2011 and included in construction tab (attached). Since construction contractors would be large operators of diesel off-road equipment, all off-road diesel equipment would be compliant with CARB requirements at the time of construction. After 2020, all off-road diesel equipment would meet Tier 4 Final emission standards. When there are inconsistencies associated with the # and type of equipment for the activities (i.e. water truck should be used for the entire project duration, need a paver for paving activities), the project specific data provided have been supplemented with the appropriate equipment for consistency. The total area for the proposed lateral expansion is 142.7 acres as per Figure 2-1, Existing and Proposed Landfill footprint. Schedule information provided by CCL team via email from Brenda Eells/CH2M on 8/13/15 (CCL - construction operation schedule and information.msg).
Construction of module 7	4/1/2021 - 9/30/2021	
Construction of module 8	4/1/2025 - 9/30/2025	
Construction of module 9	4/1/2029 - 9/30/2029	
Construction of module 10	4/1/2033 - 9/30/2033	
Construction of module 11	4/1/2037 - 9/30/2037	
Construction of module 12	4/1/2041 - 9/30/2041	
New Entrance Area and Construction		
Construction of new paved road entrance	**10 days**	**Area paved: 1.5 miles long from entrance into landfill - assumes an average road width of 20 feet wide for total area to be paved of approximately 8 acres**. Note: we have modified the equipment provided to include a paver based on the construction of the paved entrance. **2 weeks to pave road**
Other Construction Activities (Construction of parking, administration building, larger berm, and scale house)	4/1/2018 - 9/30/2018	Size and volumes were estimated from site plans. Approximate size of buildings: 22,925 square feet. Approximate area to be paved for parking: 116,875 square feet (~2.7 acres). Approximate volume of soil to be cut / filled for construction of the berm 1,317,911 cubic feet. Air Quality team made assumptions regarding the type and number of equipment needed to build these buildings based on model default schedule and # of equipment. Assumed the berm material was excavated from onsite soil and not imported. Total area for new entrance (including new paved road): Approx. 30 acres (based on maps and estimated areas) -> provided by CCL team via email from Brenda Eells/CH2M on 8/13/15 (CCL - construction operation schedule and information.msg).

Construction Truck Trips (See Construction Tab for information provided by CCL - also taken from previous analysis)		
Construction employees: Data provided on 07/20/2011 will be used instead of what is provided in project description which indicates 100 daily construction workers and is not schedule specific	Corresponds with construction module schedule	40 workers for module construction, 10 workers for new entrance construction, workers for other construction activities based on AQ model to generate default # of construction workers for other construction activities based on size of buildings. All construction worker travel would be offsite on paved roads and is about 20 miles one-way (including 3 miles from the interstate to the facility entrance).
Onsite pickup trucks:		Based on previous data provided it is assumed that an onsite truck travels about 1.25 miles / hr (~10 miles in an 8 hr day). Based on previous data 20% of that travel is on paved roads and 80% is on unpaved roads. Based on data provided on construction tab (07/20/2011) indicating that the truck would operate 4hrs / day: each truck would travel ~1 mile on paved roads and ~4 miles on unpaved roads per day.
Other construction equipment:		Additional travel other than equipment operation is minimal and not included in analysis.

Summary Data Request

Operation

Operational Sources / Assumptions:	*Schedule*	*Notes and Assumptions*
Landfill operational emissions based on disposal capacity: Total from build out (89.3 total - 23.2 from existing facility) = 66.1 MMCY spread out over construction of 7 new modules = 9.44 MMCY per module increase.	Emissions calculated for all years during which construction and operation would overlap.	***Source of Data - Based on data provided by Golder Associates (04/2011 , updated 03/2015)*** Annual LFG recovery rate will be 85% with implementation of project BMPs (SCS, 2016a), therefore it is assumed that 85% of the LFG will be combusted by the flares and 15% will be fugitive. The fugitive landfill emissions will be calculated using the LFG generation for each year, the amount not recovered (15%), and emission factors for CH4 and CO2 based on the 2011 % concentration (50 / 50%) and the toxic pollutants based on the landfill source test data. For air dispersion modeling the source characteristics will be chosen so that they are representative of the landfill area. (representative data will be used)

Operation of 2 additional flares (Source: Golder Associates 09/16)		***The project does not include the operation of the existing two flares. The operating schedule is based Golder Associates 09/16 LFG report***
Flare 1 Location: (UTM NAD 83, Zone 11): **348,900 Easting, 3,811,085 Northing (meters)**		Flare emissions: **Flare emission rates (lbs/dscf) from the Flare 2 2012 source test (report dated 02/16/12) will be used to represent the emissions associated with the two new flares.**
Flare 2 Location (UTM NAD 83, Zone 11): **348,888 Easting, 3,811,078 Northing (meters)**		Flare Stack parameters (temperature, flow rate, stack diameter): Based on SCAQMD records and source test results for the existing flares (height 50 feet, diameter 12 feet, exhaust temperature 1,596.4 F, exhaust velocity 15.6 feet per second)

Operation Assumptions (See Operation Tab for information provided by CCL - also taken from previous analysis)	*Schedule*	*Notes and Assumptions*
Operation Workers: includes 22 new staff - **Source: Project Description, Table 2-4 (dated October 3, 2016)**	Ramp-up: 2017-2023 Full Operation: 2024	Assumes operation of the Proposed Project would ramp up evenly over a seven year period starting January 1, 2017, with full operation beginning January 1, 2024. This assumes that the new equipment and employees will be used to operate the additional capacity from the existing landfill.**(Air Quality Assumption)**
Operation Onsite Off-road Equipment: **Source Data Provided 7-20-11: Project description data inconsistent and less specific, therefore it is not used: (***18 new pieces of equipment (two motor graders, three bulldozers, three landfill compactors, two scrapers, two water trucks, five trailer-mounted light plants, and one water wagon*)	Ramp-up: 2017-2023 Full Operation: 2024	Assumes operation of the Proposed Project would ramp up evenly over a seven year period starting January 1, 2017, with full operation beginning January 1, 2024. Approximate hours of use for each piece of equipment are based on data provided on July 20, 2011 and are included in the operation tab (attached).***All equipment used for operation of the proposed project would meet Tier 4 Final emission standards. Note that the values provided are different that what is included in the project description - Air Quality Team will use specific data provided on 7-20-11 unless otherwise indicated.***

Summary Data Request

Operational Waste Deliveries Assumptions	*Schedule*		*Notes and Assumptions*
Truck Trips			All truck deliveries will start at the beginning of the operation of the project and will continue at the same rate for the duration of the project. **All distances are roundtrip.**
Operational Truck deliveries (from Project Description: Table 2-4 in the Project Description dated 10/03/16): [1]	Net increase in number of vehicles		**Waste Trucks**: Onsite travel on paved roads: 4 miles, Onsite travel on unpaved roads (gravel): 0.568 miles (3,000 ft RT from end of paved road to working face); road paved as much as possible as project control. Offsite travel on paved roads: 90.6 miles for transfer trucks and 28.2 miles for collection trucks.
	HHDT	272	**Onsite service truck**: Operate 4hrs per day which equates to 5 miles traveled total (~1 miles on paved and 4 miles on unpaved roads - same assumption as for construction service trucks.
	MHDT	300	**Offsite vehicle travel** (employees, waste trucks): 40 miles on paved roads (Includes 6 miles on paved roads from the interstate)
	LHDT2	0	Total duration of waste truck idling time is 3.5 min.
	LDT2	0	***Assumes operation of the Proposed Project would ramp up evenly over a seven year period starting January 1, 2017, with full operation beginning January 1, 2024.***
	LDT1	0	
	LDA	22	

Sources not a part of the proposed project and not included in the evaluation:

Operation of 2 existing flares
Operation of the waste to energy generation unit.

Notes:

[1] *Per EMFAC Users guide truck classification is as follows: HHDT (33001 - 60000), MHDT (14001 - 33000), LHDT2 (100001 - 14000), LHDT1 (8501 - 10000), LDT2 (3751- 5750), LDT1 (0 - 3750), LDA (all passenger cars))*

Methodology Assumptions:

The project would include mitigation measures to reduce fugitive dust emissions during construction and operation.
Total annual project emissions are compared to the SCAQMD emission thresholds
Mitigation measures are used whenever the annual project emissions exceed the SCAQMD daily thresholds
Annual construction and operation emissions estimated for each year of construction activity.

Chiquita Canyon Landfill EIR

Summary of Construction and Operation Sources Used in LST and Criteria Modeling

Source Group	Name of Source(s) In AERMOD	Source Type	Number of Sources	Source Area (m^2)	Description of Sources
Flares	FLARE(1-2)	Point	2	N/A	Landfill Gas Flares
Module 11 Operation Exhaust	M11_(001-153)	Point	153	N/A	Offroad Construction Equipment and Truck Exhaust
Module 12 Construction Exhaust	M12_(001-108)	Point	108	N/A	Offroad Operational Equipment and Truck Exhaust
Composting Operation Exhaust	COMP_(001-268)	Point	268	N/A	Offroad Composting Equipment and Truck Exhaust
Truck Idle	IDLE_(01-22)	Point	22	N/A	Waste Collection Truck Exhaust
Onsite Paved Roads	OSP_OP(18-44)	Volume	27	N/A	Exhaust and Fugitive Emissions From On-site Paved Road Travel
Onsite Unpaved Roads	OSU_(0002-0016)	Volume	15	N/A	Exhaust and Fugitive Emissions From On-site Unpaved Road Travel
Module 11 Operation Fugitive Dust	MODULE11	Area	1	96,261	Offroad Construction Fugitive Dust
Module 12 Construction Fugitive Dust	MODULE12	Area	1	67,074	Offroad Operational Fugitive Dust
Composting Operation Fugitive Dust	COMP	Area	1	166,005	Offroad Composting Fugitive Dust

Chiquita Canyon Landfill EIR

Summary of Construction and Operation Emissions Used in LST and Criteria Modeling

	Emissions (pound per hour total for all sources)										
Point/Volume Sources	**1-hr CO**	**8-hr CO**	**1-hr NO_2**	**Annual NO_2**	**1-hr SO_2**	**3-hr SO_2**	**24-hr SO_2**	**24-hr PM_{10}**	**Annual PM_{10}**	**24-hr $PM_{2.5}$**	**Annual $PM_{2.5}$**
Flares	3.95	3.95	3.95	3.95	5.18	5.18	5.18	0.40	0.40	0.40	0.40
Module 11 Operation Exhaust	6.37	6.37	0.79	0.22	0.023	0.023	0.0070	0.0061	0.0052	0.0061	0.0052
Module 12 Construction Exhaust	29.4	29.4	3.4	0.24	0.110	0.110	0.044	0.041	0.007	0.041	0.007
Composting Operation Exhaust	5.92	5.92	0.67	0.06	0.015	0.015	0.0016	0.002	0.002	0.002	0.002
Truck Idle	4.85E-02	4.85E-02	8.50E-01	3.03E-01	5.02E-04	5.02E-04	2.09E-04	4.77E-04	4.08E-04	4.56E-04	3.90E-04
Onsite Paved Roads	4.21E-02	4.21E-02	3.06E+00	1.09E+00	1.15E-02	1.15E-02	4.80E-03	2.03E+01	1.74E+01	5.00E+00	4.27E+00
Onsite Unpaved Roads	5.98E-03	5.98E-03	4.35E-01	1.55E-01	1.64E-03	1.64E-03	6.82E-04	6.42E+00	5.49E+00	6.43E-01	5.50E-01

	Emissions (pounds per hour)			
Area Sources	**24-hr PM_{10}**	**Annual PM_{10}**	**24-hr $PM_{2.5}$**	**Annual $PM_{2.5}$**
Module 11 Operation Fugitive Dust	0.72	0.15	0.56	0.12
Module 12 Construction Fugitive Dust	7.42	1.53	1.18	0.24
Composting Operation Fugitive Dust	0.18	0.08	0.15	0.07

	Emissions (gram per second per source)										
Point/Volume Sources	**1-hr CO**	**8-hr CO**	**1-hr NO_2**	**Annual NO_2**	**1-hr SO_2**	**3-hr SO_2**	**24-hr SO_2**	**24-hr PM_{10}**	**Annual PM_{10}**	**24-hr $PM_{2.5}$**	**Annual $PM_{2.5}$**
Flares	2.49E-01	2.49E-01	2.49E-01	2.49E-01	3.26E-01	3.26E-01	3.26E-01	2.52E-02	2.52E-02	2.52E-02	2.52E-02
Module 11 Operation Exhaust	5.24E-03	5.24E-03	6.52E-04	1.79E-04	1.86E-05	1.86E-05	5.73E-06	5.01E-06	4.28E-06	5.01E-06	4.28E-06
Module 12 Construction Exhaust	3.42E-02	3.42E-02	3.95E-03	2.80E-04	1.28E-04	1.28E-04	5.09E-05	4.82E-05	8.55E-06	4.82E-05	8.55E-06
Composting Operation Exhaust	2.78E-03	2.78E-03	3.16E-04	2.93E-05	7.05E-06	7.05E-06	7.64E-07	1.06E-06	9.04E-07	1.06E-06	9.04E-07
Truck Idle	2.78E-04	2.78E-04	4.87E-03	1.73E-03	2.87E-06	2.87E-06	1.20E-06	2.73E-06	2.34E-06	2.61E-06	2.23E-06
Onsite Paved Roads	1.97E-04	1.97E-04	1.43E-02	5.09E-03	5.38E-05	5.38E-05	2.24E-05	9.49E-02	8.11E-02	2.33E-02	1.99E-02
Onsite Unpaved Roads	5.02E-05	5.02E-05	3.65E-03	1.30E-03	1.37E-05	1.37E-05	5.73E-06	5.39E-02	4.61E-02	5.40E-03	4.62E-03

	Emissions (grams per second per square meter)			
Area Sources	**24-hr PM_{10}**	**Annual PM_{10}**	**24-hr $PM_{2.5}$**	**Annual $PM_{2.5}$**
Module 11 Operation Fugitive Dust	9.41E-07	7.31E-07	1.96E-07	1.52E-07
Module 12 Construction Fugitive Dust	1.39E-05	2.21E-06	2.88E-06	4.51E-07
Composting Operation Fugitive Dust	1.33E-07	1.14E-07	6.23E-08	5.32E-08

HARP Area sources

Module	Area Source Size (m^2)	AERMOD Input
Module 6	60,278.88	1.65896E-05
Module 7	71,055.57	1.40735E-05
Module 8	47,837.00	2.09043E-05
Module 9	117,479.77	8.5121E-06
Module 10	110,803.29	9.025E-06
Module 11	96,260.55	1.03885E-05
Module 12	67,073.74	1.4909E-05
Main	716,292.38	1.39608E-06
Compost - 2039	166005.43	6.0239E-06

2039 Total active landfill area	30 year average Total active landfill area
1,220,007.44	1,287,081.18

Note:
Each area source was modeled as 1/area
Long term compost emissions are allocated evenly over the entire landfill footprint

		30 year average	
Diesel PM Exhaust Emissions	**# of sources**	**lb/hr**	**lb/yr**
Compost Operation	Added to modules	No DPM health values for acute health index	8.120E-03
Compost Construction	Added to modules		1.160E-02
Main Landfill Operation	1146		2.788E-02
Module 6 Operation	101		2.788E-02
Module 6 Construction	101		5.554E-01
Module 6 Total			**5.833E-01**
Module 7 Operation	115		2.788E-02
Module 7 Construction	115		3.022E-02
Module 7 Total			**5.810E-02**
Module 8 Operation	81		2.788E-02
Module 8 Construction	81		3.803E-02
Module 8 Total			**6.591E-02**
Module 9 Operation	176		2.788E-02
Module 9 Construction	176		2.376E-02
Module 9 Total			**5.164E-02**
Module 10 Operation	193		2.788E-02
Module 10 Construction	193		2.269E-02
Module 10 Total			**5.057E-02**
Module 11 Operation	155		2.788E-02
Module 11 (construction)	155		2.541E-02
Module 11 Total			**5.329E-02**
Module 12 (operation)	108		2.788E-02
Module 12 (construction)	108		3.142E-02
Module 12 Total			**5.930E-02**
Operation Onsite unpaved	15		1.051E-01
Construction Onsite unpaved	15		9.030E-05
Total Onsite Unpaved			**1.052E-01**
Operation Onsite paved	27		4.113E-01
Construction Onsite paved	27		1.254E-05
Total Onsite Paved			**4.113E-01**
Compost Construction Offsite	150		5.152E-04
Operation Offsite	150		1.116E-01
Construction Offsite	150		2.335E-03
Total Offsite			**1.144E-01**
Idle	22		1.885E-01
Entrance Construction	22		7.262E-01
Entrance Total			**9.147E-01**

Note:
Each individual source was modeled in 1 g/s in AERMOD. Emissions were divided by number of individual sources per source group
Onsite emissions are unpaved source group (OSUP) plus onsite paved (OSP)
Onsite compost operation/construction emissions are allocated over the entire facility
Long term emissions are based on a 30 year average
Diesel PM exhaust does not have acute values therefore short term emissions were not included

HARP Emissions

	Short Term 2039; Long Term 30 year average																					
	Compost		Flare		Per Flare		Total Operation LFG		Main Landfill		Module 6		Module 7		Module 8		Module 9		Module 10		Module 11		Module 12	
	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year
Hydrogen sulfide 2	0	0	6.317E-04	3.591E+00	3.158E-04	1.796	8.421E-01	6247.1	4.944E-01	3477	4.161E-02	292.6	4.905E-02	344.9	3.302E-02	232.2	8.109E-02	570.2	7.648E-02	537.8	6.645E-02	467.2	0	325.6
Benzene 2	0	0	5.791E-06	3.293E-02	2.896E-06	0.01646	9.741E-02	722.6	5.719E-02	402.1	4.813E-03	33.84	5.673E-03	39.89	3.819E-03	26.86	9.380E-03	65.95	8.847E-03	62.21	7.685E-03	54.04	0	37.66
Benzylchloride 2	0	0	1.760E-05	1.000E-01	8.798E-06	0.05002	9.228E-03	68.46	5.418E-03	38.10	4.559E-04	3.206	5.375E-04	3.779	3.618E-04	2.544	8.886E-04	6.248	8.381E-04	5.893	7.281E-04	5.120	0	3.567
Chlorobenzene 2	0	0	1.043E-05	5.931E-02	5.216E-06	0.02965	6.910E-03	51.26	4.057E-03	28.53	3.414E-04	2.401	4.025E-04	2.830	2.710E-04	1.905	6.654E-04	4.679	6.276E-04	4.413	5.452E-04	3.834	0	2.671
Dichlorobenzene 2	0	0	2.725E-05	1.549E-01	1.362E-05	0.07746	3.407E-02	252.7	2.000E-02	140.6	1.683E-03	11.84	1.984E-03	13.95	1.336E-03	9.393	3.281E-03	23.07	3.094E-03	21.76	2.688E-03	18.90	0	13.17
31,1-Dichloroethane 2	0	0	9.172E-06	5.215E-02	4.586E-06	0.02607	6.076E-03	45.07	3.567E-03	25.08	3.002E-04	2.111	3.539E-04	2.488	2.382E-04	1.675	5.851E-04	4.114	5.518E-04	3.880	4.794E-04	3.371	0	2.349
1,2-Dichloroethane 2	0	0	9.171E-06	5.214E-02	4.586E-06	0.02607	1.526E-02	113.2	8.962E-03	63.02	7.542E-04	5.303	8.890E-04	6.251	5.985E-04	4.209	1.470E-03	10.34	1.386E-03	9.748	1.204E-03	8.469	0	5.901
1,1-Dichloroethylene 2	0	0	8.984E-06	5.108E-02	4.492E-06	0.02554	5.951E-03	44.15	3.494E-03	24.57	2.940E-04	2.068	3.466E-04	2.437	2.334E-04	1.641	5.731E-04	4.030	5.405E-04	3.801	4.696E-04	3.302	0	2.301
Dichloromethane 2	0	0	1.679E-05	9.548E-02	8.397E-06	0.04774	2.112E-02	156.7	1.240E-02	87.19	1.043E-03	7.337	1.230E-03	8.649	8.281E-04	5.823	2.034E-03	14.30	1.918E-03	13.49	1.666E-03	11.72	0	8.164
1,2-dibromoethane 2	0	0	1.741E-05	9.899E-02	8.705E-06	0.04949	1.153E-02	85.56	6.771E-03	47.61	5.698E-04	4.007	6.717E-04	4.723	4.522E-04	3.180	1.111E-03	7.809	1.047E-03	7.365	9.100E-04	6.399	0	4.459
Perchloroethene 2	0	0	1.229E-05	6.990E-02	6.147E-06	0.03495	3.519E-02	261.0	2.066E-02	145.3	1.739E-03	12.22	2.049E-03	14.41	1.380E-03	9.701	3.388E-03	23.83	3.196E-03	22.47	2.776E-03	19.52	0	13.60
Carbon tetrachloride 2	0	0	1.140E-05	6.484E-02	5.702E-06	0.03242	8.263E-03	61.30	4.851E-03	34.11	4.083E-04	2.871	4.812E-04	3.384	3.240E-04	2.278	7.957E-04	5.595	7.505E-04	5.277	6.520E-04	4.584	0	3.194
Toluene 2	0	0	3.307E-05	1.880E-01	1.654E-05	0.09401	9.262E-01	6871	5.438E-01	3824	4.576E-02	321.8	5.394E-02	379.3	3.632E-02	255.4	8.919E-02	627.1	8.412E-02	591.5	7.308E-02	513.9	0	358.0
1,1,1-trichloroethane 2	0	0	9.891E-06	5.623E-02	4.945E-06	0.02812	7.166E-03	53.16	4.207E-03	29.58	3.541E-04	2.490	4.174E-04	2.935	2.810E-04	1.976	6.900E-04	4.852	6.508E-04	4.576	5.654E-04	3.976	0	2.770
Trichloroethene 2	0	0	9.742E-06	5.539E-02	4.871E-06	0.02769	7.059E-03	52.36	4.144E-03	29.14	3.488E-04	2.452	4.111E-04	2.891	2.768E-04	1.946	6.797E-04	4.779	6.411E-04	4.508	5.569E-04	3.916	0	2.729
Chloroform 2	0	0	8.851E-06	5.032E-02	4.426E-06	0.02516	6.413E-03	47.57	3.765E-03	26.47	3.169E-04	2.228	3.735E-04	2.626	2.515E-04	1.768	6.175E-04	4.342	5.824E-04	4.095	5.060E-04	3.558	0	2.479
Vinyl chloride 2	0	0	5.792E-06	3.293E-02	2.896E-06	0.01647	3.357E-03	24.91	1.971E-03	13.86	1.659E-04	1.166	1.955E-04	1.375	1.316E-04	0.926	3.233E-04	2.273	3.049E-04	2.144	2.649E-04	1.863	0	1.298
m-Xylene 2	0	0	9.839E-06	5.594E-02	4.919E-06	0.02797	5.132E-01	3807	3.013E-01	2119	2.536E-02	178.3	2.989E-02	210.2	2.012E-02	141.5	4.942E-02	347.5	4.661E-02	327.8	4.050E-02	284.8	0	198.4
o+p-Xylene 2	0	0	9.839E-06	5.594E-02	4.919E-06	0.02797	1.479E-01	1097	8.681E-02	610.4	7.306E-03	51.37	8.612E-03	60.56	5.798E-03	40.77	1.424E-02	100.1	1.343E-02	94.43	1.167E-02	82.04	0	57.16
Total Xylenes	0	0	**1.968E-05**	**1.119E-01**	**9.839E-06**	**0.05594**	**6.611E-01**	**4904**	**3.882E-01**	**2729**	**3.266E-02**	**229.7**	**3.850E-02**	**270.7**	**2.592E-02**	**182.3**	**6.366E-02**	**447.6**	**6.004E-02**	**422.2**	**5.216E-02**	**366.8**	**0**	**255.6**
Ammonia	3.08		0	0	0	0	0	23,088	0	12849	0	1081	0	1275	0	858.1	0	2107	0	1988		1727	0	1203

Notes:

1-g= 0.0022 lb

Short term LFG/Flares emissions are based on 2039 (the maxiumum flare emissions year) following the LST methodology
Long term LFG/Flares emissions are based on 30 year average

Chiquita Canyon Landfill EIR

Compost Facility Emissions - Construction and Operation

Source

Supplemental Air Quality Impact Assessment for Chiquita Landfill Compost Operation. SCS Engineers. November, 2016. (SCS, 2016b)

Assumptions:

Construction Schedule:	8	hrs/day
Paving	80	days/year
Grading	80	days/year
Site Preparation	80	days/year

Note: Phase duration based on May-August compost construction schedule provided by CCL and 5 working days per week. Conservatively assumes all phases would occur for the entire 4 months.

Operation Schedule:	2.6	hrs/day (Equipment)
	24	hrs/day (Process)
	6	days/week
	52	weeks/year

Process Emissions (2019 - 2046)

Scenario	Process Rate	VOC EF	Uncontrolled VOC Emissions	Controlled VOC Emissions	Ammonia EF	Uncontrolled Ammonia Emissions	Controlled Ammonia Emissions
	(tpd)	(lb/ton processed)	(lb/day)	(lb/day)	(lb/ton processed)	(lb/day)	(lb/day)
Greater than 10% Foodwaste	560	4.67	2,615	523	0.66	370	74
Less than 10% Foodwaste	560	4.67	2,615	1,663	0.66	370	318

Operation Emissions (2019-2046)

	Exhaust Emissions (lbs/day)						Fugitive Emissions (lbs/day)	
	CO	NOx	ROG	SOx	PM10	PM2.5	PM10	PM2.5
On-Site Operation Sources	15.4	1.75	0.4	0.039	0.054	0.054	4.2204	1.9686

Note: Off-site vechicle travel associated with operation of the compost facility is included with off-site vehicle travel for landfill operation.

Construction Emissions

2019

	Exhaust Emissions (lbs/day)						Fugitive Emissions (lbs/day)	
	CO	NOx	ROG	SOx	PM10	PM2.5	PM10	PM2.5
Paving On-Site Sources	14.3652	14.9353	1.4259	0.0223	0.8094	0.7447	0	0
Paving Off-Site Sources	0.9678	0.0773	0.0515	0.00284	0.00169	0.00157	0.2258	0.0599
Grading On-Site Sources	40.2888	54.1978	4.8912	0.0617	2.5049	2.3045	2.1683	0.8991
Grading Off-Site Sources	1.2903	0.103	0.0687	0.00378	0.00226	0.00209	0.301	0.0798
Site Prep On-Site Sources	34.8088	42.5046	4.0188	0.0391	2.1505	1.9784	4.5166	2.4827
Site Prep Off-Site Sources	1.1613	0.0927	0.0618	0.00341	0.00203	0.00188	0.2709	0.0719
Maximum Day On-Site	89.4628	111.6377	10.3359	0.1231	5.4648	5.0276	6.6849	3.3818
Maximum Day Off-Site	3.4194	0.273	0.182	0.01003	0.00598	0.00554	0.7977	0.2116

Note: Maximum daily emissions assume all phases could overlap.

2028 & 2038

	Exhaust Emissions (lbs/day)						Fugitive Emissions (lbs/day)	
	CO	NOx	ROG	SOx	PM10	PM2.5	PM10	PM2.5
Paving On-Site Sources	16.9276	1.1895	0.2745	0.0223	0.0366	0.0366	0	0
Paving Off-Site Sources	0.9024	0.0717	0.0482	0.00284	0.00168	0.00156	0.2258	0.0599
Grading On-Site Sources	34.7787	3.2778	0.7564	0.0617	0.1009	0.1009	2.1081	0.8926
Grading Off-Site Sources	1.2032	0.0956	0.0642	0.00378	0.00224	0.00208	0.301	0.0798
Site Prep On-Site Sources	21.2415	2.0615	0.4757	0.0391	0.0634	0.0634	4.5166	2.4827
Site Prep Off-Site Sources	1.0829	0.086	0.0578	0.00341	0.00202	0.00187	0.2709	0.0719
Grading On-Site Sources	72.9478	6.5288	1.5066	0.1231	0.2009	0.2009	6.6247	3.3753
Grading Off-Site Sources	3.1885	0.2533	0.1702	0.01003	0.00594	0.00551	0.7977	0.2116

Note: Maximum daily emissions assume all phases could overlap.

Assumptions:
- Includes the facility construction and EV surplus for new entrance construction crew company construction includes construction of the admin building, scale house, and berm.
- Operation of the Proposed Project would ramp up quickly over a 3-year period before reaching January 1, 2017, with full operation beginning in 2018. Number of vehicles for 2017-2018 have been averaged to account for the ramp up of operations over the course of the year.
- Worker trips are 1 per day.
- Water truck trips are 2 per day on paved roads (included in miles on paved roads from the kilometer).
- Water truck trips are 2 per day on unpaved roads (included in miles on unpaved roads from the kilometer).
- Tractor trips assumed to occur on the unpaved and disposal roads.
- Disposal vehicle assumed to occur on the unpaved road and disposal road to the dump site would be paved at a certain extent.

Operating Schedule	Construction Year 1	Construction Year 2	Construction Year 3	Worker Round Trips	Worker Trips	Worker Trips	Worker Trips	Worker Trips	Worker Trips	Worker Trips	Worker Trips	Worker Trips
	Number	Unit	Number	Unit	Number	Unit	Number	Unit	Number	Unit	Number	Unit
Employee Commute	250	days/year	250	days/year	250	days/year	250	days/year	250	days/year	250	days/year
Construction	75	5	75	5	75	5	75	5	75	5	75	5
Operation	75	5	75	5	75	5	75	5	75	5	75	5
Training	10	5	10	5	10	5	10	5	10	5	10	5

On Road Vehicles	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends
Water Truck (CAT 6)	0	0	0	0	0	0	0	0	0	0	0	0
Water Truck (CAT 6 - unpaved roads)	54	54	0	0	0	0	0	0	0	0	0	0
Water Truck (CAT 6 - disposal road)	54	54	0	0	0	0	0	0	0	0	0	0
Water Truck (CAT 6 - paved roads)	54	54	0	0	0	0	0	0	0	0	0	0
Light Duty Work Trucks	54	54	0	0	0	0	0	0	0	0	0	0
Tractor	54	54	0	0	0	0	0	0	0	0	0	0

Off Road Vehicles	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends	# Trip Ends
Excavator	54	54	0	0	0	0	0	0	0	0	0	0
Dozer	54	54	0	0	0	0	0	0	0	0	0	0
Loader	54	54	0	0	0	0	0	0	0	0	0	0

Off Road Vehicles	Horsepower	Load Factor
Excavator	1,000	0.59
Dozer	1,000	0.59
Loader	1,000	0.59

On Road Vehicles	Horsepower	Load Factor
Water Truck (CAT 6)	1,000	0.59
Water Truck (CAT 6 - unpaved roads)	1,000	0.59
Water Truck (CAT 6 - disposal road)	1,000	0.59
Water Truck (CAT 6 - paved roads)	1,000	0.59
Light Duty Work Trucks	1,000	0.59
Tractor	1,000	0.59

Operation Emission Calculations
Emission Calculations
Unmitigated Operation
Operation Year - 2017
Vehicle Classes

Equipment Type	# Cal3QHR Equipment Type	Equipment Code	Operation Year	Emission Factor g/HP	CO	NOx	VOC	SOx	PM10 Exhaust	PM2.5 Exhaust	CO2	CH4	CO2e
EXCAVATOR 1EA	1	1EA	2017	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
EXCAVATOR 2 EA	1	2EA	2017	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6)	1	3EA	2017	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - unpaved roads)	1	4EA	2017	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - disposal road)	1	5EA	2017	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - paved roads)	1	6EA	2017	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Light Duty Work Trucks	1	7EA	2017	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Tractor	1	8EA	2017	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
DOZER 1EA	1	9EA	2017	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
LOADER 1EA	1	10EA	2017	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb

Operation Emission Calculations
Emission Calculations
Unmitigated Operation
Operation Year - 2018
Vehicle Classes

Equipment Type	# Cal3QHR Equipment Type	Equipment Code	Operation Year	Emission Factor g/HP	CO	NOx	VOC	SOx	PM10 Exhaust	PM2.5 Exhaust	CO2	CH4	CO2e
EXCAVATOR 1EA	1	1EA	2018	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
EXCAVATOR 2 EA	1	2EA	2018	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6)	1	3EA	2018	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - unpaved roads)	1	4EA	2018	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - disposal road)	1	5EA	2018	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - paved roads)	1	6EA	2018	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Light Duty Work Trucks	1	7EA	2018	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Tractor	1	8EA	2018	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
DOZER 1EA	1	9EA	2018	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
LOADER 1EA	1	10EA	2018	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb

Operation Emission Calculations
Emission Calculations
Unmitigated Operation
Operation Year - 2019
Vehicle Classes

Equipment Type	# Cal3QHR Equipment Type	Equipment Code	Operation Year	Emission Factor g/HP	CO	NOx	VOC	SOx	PM10 Exhaust	PM2.5 Exhaust	CO2	CH4	CO2e
EXCAVATOR 1EA	1	1EA	2019	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
EXCAVATOR 2 EA	1	2EA	2019	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6)	1	3EA	2019	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - unpaved roads)	1	4EA	2019	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - disposal road)	1	5EA	2019	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - paved roads)	1	6EA	2019	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Light Duty Work Trucks	1	7EA	2019	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Tractor	1	8EA	2019	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
DOZER 1EA	1	9EA	2019	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
LOADER 1EA	1	10EA	2019	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb

Operation Emission Calculations
Emission Calculations
Unmitigated Operation
Operation Year - 2020
Vehicle Classes

Equipment Type	# Cal3QHR Equipment Type	Equipment Code	Operation Year	Emission Factor g/HP	CO	NOx	VOC	SOx	PM10 Exhaust	PM2.5 Exhaust	CO2	CH4	CO2e
EXCAVATOR 1EA	1	1EA	2020	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
EXCAVATOR 2 EA	1	2EA	2020	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6)	1	3EA	2020	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - unpaved roads)	1	4EA	2020	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - disposal road)	1	5EA	2020	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - paved roads)	1	6EA	2020	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Light Duty Work Trucks	1	7EA	2020	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Tractor	1	8EA	2020	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
DOZER 1EA	1	9EA	2020	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
LOADER 1EA	1	10EA	2020	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb

Operation Emission Calculations
Emission Calculations
Unmitigated Operation
Operation Year - 2021
Vehicle Classes

Equipment Type	# Cal3QHR Equipment Type	Equipment Code	Operation Year	Emission Factor g/HP	CO	NOx	VOC	SOx	PM10 Exhaust	PM2.5 Exhaust	CO2	CH4	CO2e
EXCAVATOR 1EA	1	1EA	2021	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
EXCAVATOR 2 EA	1	2EA	2021	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6)	1	3EA	2021	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - unpaved roads)	1	4EA	2021	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - disposal road)	1	5EA	2021	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - paved roads)	1	6EA	2021	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Light Duty Work Trucks	1	7EA	2021	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Tractor	1	8EA	2021	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
DOZER 1EA	1	9EA	2021	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
LOADER 1EA	1	10EA	2021	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb

Operation Emission Calculations
Emission Calculations
Unmitigated Operation
Operation Year - 2022
Vehicle Classes

Equipment Type	# Cal3QHR Equipment Type	Equipment Code	Operation Year	Emission Factor g/HP	CO	NOx	VOC	SOx	PM10 Exhaust	PM2.5 Exhaust	CO2	CH4	CO2e
EXCAVATOR 1EA	1	1EA	2022	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
EXCAVATOR 2 EA	1	2EA	2022	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6)	1	3EA	2022	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - unpaved roads)	1	4EA	2022	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - disposal road)	1	5EA	2022	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - paved roads)	1	6EA	2022	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Light Duty Work Trucks	1	7EA	2022	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Tractor	1	8EA	2022	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
DOZER 1EA	1	9EA	2022	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
LOADER 1EA	1	10EA	2022	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb

Operation Emission Calculations
Emission Calculations
Unmitigated Operation
Operation Year - 2023
Vehicle Classes

Equipment Type	# Cal3QHR Equipment Type	Equipment Code	Operation Year	Emission Factor g/HP	CO	NOx	VOC	SOx	PM10 Exhaust	PM2.5 Exhaust	CO2	CH4	CO2e
EXCAVATOR 1EA	1	1EA	2023	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
EXCAVATOR 2 EA	1	2EA	2023	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6)	1	3EA	2023	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - unpaved roads)	1	4EA	2023	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - disposal road)	1	5EA	2023	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - paved roads)	1	6EA	2023	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Light Duty Work Trucks	1	7EA	2023	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Tractor	1	8EA	2023	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
DOZER 1EA	1	9EA	2023	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
LOADER 1EA	1	10EA	2023	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb

Operation Emission Calculations
Emission Calculations
Unmitigated Operation
Operation Year - 2024
Vehicle Classes

Equipment Type	# Cal3QHR Equipment Type	Equipment Code	Operation Year	Emission Factor g/HP	CO	NOx	VOC	SOx	PM10 Exhaust	PM2.5 Exhaust	CO2	CH4	CO2e
EXCAVATOR 1EA	1	1EA	2024	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
EXCAVATOR 2 EA	1	2EA	2024	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6)	1	3EA	2024	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - unpaved roads)	1	4EA	2024	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - disposal road)	1	5EA	2024	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - paved roads)	1	6EA	2024	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Light Duty Work Trucks	1	7EA	2024	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Tractor	1	8EA	2024	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
DOZER 1EA	1	9EA	2024	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
LOADER 1EA	1	10EA	2024	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb

Operation Emission Calculations
Emission Calculations
Unmitigated Operation
Operation Year - 2025
Vehicle Classes

Equipment Type	# Cal3QHR Equipment Type	Equipment Code	Operation Year	Emission Factor g/HP	CO	NOx	VOC	SOx	PM10 Exhaust	PM2.5 Exhaust	CO2	CH4	CO2e
EXCAVATOR 1EA	1	1EA	2025	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
EXCAVATOR 2 EA	1	2EA	2025	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6)	1	3EA	2025	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - unpaved roads)	1	4EA	2025	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - disposal road)	1	5EA	2025	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - paved roads)	1	6EA	2025	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Light Duty Work Trucks	1	7EA	2025	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Tractor	1	8EA	2025	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
DOZER 1EA	1	9EA	2025	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
LOADER 1EA	1	10EA	2025	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb

Operation Emission Calculations
Emission Calculations
Unmitigated Operation
Operation Year - 2026
Vehicle Classes

Equipment Type	# Cal3QHR Equipment Type	Equipment Code	Operation Year	Emission Factor g/HP	CO	NOx	VOC	SOx	PM10 Exhaust	PM2.5 Exhaust	CO2	CH4	CO2e
EXCAVATOR 1EA	1	1EA	2026	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
EXCAVATOR 2 EA	1	2EA	2026	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6)	1	3EA	2026	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - unpaved roads)	1	4EA	2026	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - disposal road)	1	5EA	2026	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - paved roads)	1	6EA	2026	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Light Duty Work Trucks	1	7EA	2026	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Tractor	1	8EA	2026	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
DOZER 1EA	1	9EA	2026	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
LOADER 1EA	1	10EA	2026	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb

Operation Emission Calculations
Emission Calculations
Unmitigated Operation
Operation Year - 2027
Vehicle Classes

Equipment Type	# Cal3QHR Equipment Type	Equipment Code	Operation Year	Emission Factor g/HP	CO	NOx	VOC	SOx	PM10 Exhaust	PM2.5 Exhaust	CO2	CH4	CO2e
EXCAVATOR 1EA	1	1EA	2027	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
EXCAVATOR 2 EA	1	2EA	2027	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6)	1	3EA	2027	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - unpaved roads)	1	4EA	2027	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - disposal road)	1	5EA	2027	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - paved roads)	1	6EA	2027	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Light Duty Work Trucks	1	7EA	2027	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Tractor	1	8EA	2027	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
DOZER 1EA	1	9EA	2027	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
LOADER 1EA	1	10EA	2027	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb

Operation Emission Calculations
Emission Calculations
Unmitigated Operation
Operation Year - 2028
Vehicle Classes

Equipment Type	# Cal3QHR Equipment Type	Equipment Code	Operation Year	Emission Factor g/HP	CO	NOx	VOC	SOx	PM10 Exhaust	PM2.5 Exhaust	CO2	CH4	CO2e
EXCAVATOR 1EA	1	1EA	2028	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
EXCAVATOR 2 EA	1	2EA	2028	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6)	1	3EA	2028	BTGP	1.00 lb	4.00 lb	0.50 lb	0.00 lb	0.25 lb	0.23 lb	1,000 lb	0.10 lb	1,002 lb
Water Truck (CAT 6 - unpaved roads)	1

Chiquita Canyon Landfill EIR
Construction Emissions - Proposed Project Exhaust Emissions

Assumptions: [1]

Construction Schedule:	4	weeks/month
	5	days/week
	10	hrs/day

Additional travel other than equipment operation is minimal and not included in this analysis.
Since construction contractors would be large operators of diesel off-road equipment, all off-road diesel equipment would be compliant with CARB requirements at the time of construction.
After 2020, all off-road diesel construction equipment would meet Tier 4 Final emission standards.

Entrance Construction

Construction Period:	4/1/2018	to	9/30/2018
Number of workers: [2]	20	Duration (weeks):	24

Off Road Equipment Type	Number (ea)	Daily Hours	Annual Days Equipment Used [3]
Demolition			
Scraper - CAT 657	6	10	12
Water Truck - 4000 gal, 3 axle, 58000 gvw	2	8	12
Site Preparation			
Bulldozer - CAT D9, D7	2	8	30
Compactor - CAT 825/835	1	10	20
Trailer Mounted Light Plant	2	8	30
Tractors/Loaders/Backhoes [4, 5]	4	8	20
Rubber Tired Dozers [4, 5]	3	8	30
Water Truck - 4000 gal, 3 axle, 58000 gvw	2	8	30
Grading			
Graders - CAT 14G	2	8	12
Backhoe/Loader - CAT 440	2	8	20
Rubber Tired Dozers [4, 5]	1	8	20
Tractors/Loaders/Backhoes [4, 5]	3	8	20
Graders [4, 5]	1	8	12
Excavators [4, 5]	1	8	12
Water Truck - 4000 gal, 3 axle, 58000 gvw	2	8	20
Berm Construction [6]			
Grader	1	6	62
Tractors/Loaders/Backhoes	1	6	62
Rubber Tired Dozers	1	7	62
Soil Haul Trucks [7]	5	8	62
Water Truck - 4000 gal, 3 axle, 58000 gvw	1	8	62
Building Construction [4,8]			
Cranes	1	4	48
Forklifts	2	6	48
Tractors/Loaders/Backhoes	2	8	48
Water Truck - 4000 gal, 3 axle, 58000 gvw	2	8	48
Paving [9]			
Paver	2	8	10
Cement and Mortar Mixers	1	8	10
Rollers	2	8	10
Tractors/Loaders/Backhoes	1	8	10
Paving Equipment	1	8	10

Chiquita Canyon Landfill EIR
Construction Emissions - Proposed Project Exhaust Emissions

Entrance Construction

Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit
Demolition				
Scraper	Scrapers	1	2018	lb/hr
Water Truck	Off-Highway Trucks	1	2018	lb/hr
Site Preparation				
Bulldozer	Rubber Tired Dozers	1	2018	lb/hr
Compactor	Plate Compactors	1	2018	lb/hr
Trailer Mounted Light Plant	Generator Sets	1	2018	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2018	lb/hr
Bulldozer	Rubber Tired Dozers	1	2018	lb/hr
Water Truck	Off-Highway Trucks	1	2018	lb/hr
Grading				
Graders	Graders	1	2018	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2018	lb/hr
Bulldozer	Rubber Tired Dozers	1	2018	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2018	lb/hr
Graders	Graders	1	2018	lb/hr
Excavator	Excavators	1	2018	lb/hr
Water Truck	Off-Highway Trucks	1	2018	lb/hr
Berm Construction				
Graders	Graders	1	2018	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2018	lb/hr
Bulldozer	Rubber Tired Dozers	1	2018	lb/hr
Haul Truck	Off-Highway Trucks	1	2018	lb/hr
Water Truck	Off-Highway Trucks	1	2018	lb/hr
Building Construction				
Crane	Cranes	1	2018	lb/hr
Forklifts	Forklifts	1	2018	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2018	lb/hr
Water Truck	Off-Highway Trucks	1	2018	lb/hr
Paving				
Paver	Pavers	1	2018	lb/hr
Cement and Mortar Mixer	Cement and Mortar Mixers	1	2018	lb/hr
Roller	Rollers	1	2018	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2018	lb/hr
Paving Equipment	Paving Equipment	1	2018	lb/hr

Chiquita Canyon Landfill EIR
Construction Emissions - Proposed Project

CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
9.16E-01	1.53E+00	2.46E-01	3.15E-03	7.07E-02	6.50E-02	3.21E+02	2.22E-02
5.58E-01	1.34E+00	1.66E-01	2.67E-03	3.51E-02	3.23E-02	2.72E+02	1.49E-02
1.03E+00	9.22E-01	2.53E-01	2.60E-03	7.87E-02	7.24E-02	2.65E+02	2.28E-02
2.63E-02	3.56E-02	5.02E-03	6.71E-05	1.23E-03	1.13E-03	4.31E+00	4.53E-04
4.69E-01	6.58E-01	6.42E-02	9.14E-04	3.33E-02	3.06E-02	7.79E+01	5.79E-03
3.43E-01	3.84E-01	4.35E-02	6.07E-04	1.84E-02	1.69E-02	5.17E+01	3.92E-03
1.03E+00	9.22E-01	2.53E-01	2.60E-03	7.87E-02	7.24E-02	2.65E+02	2.28E-02
5.58E-01	1.34E+00	1.66E-01	2.67E-03	3.51E-02	3.23E-02	2.72E+02	1.49E-02
7.29E-01	6.49E-01	1.06E-01	1.39E-03	3.85E-02	3.54E-02	1.24E+02	9.56E-03
3.43E-01	3.84E-01	4.35E-02	6.07E-04	1.84E-02	1.69E-02	5.17E+01	3.92E-03
1.03E+00	9.22E-01	2.53E-01	2.60E-03	7.87E-02	7.24E-02	2.65E+02	2.28E-02
3.43E-01	3.84E-01	4.35E-02	6.07E-04	1.84E-02	1.69E-02	5.17E+01	3.92E-03
7.29E-01	6.49E-01	1.06E-01	1.39E-03	3.85E-02	3.54E-02	1.24E+02	9.56E-03
6.64E-01	5.87E-01	8.24E-02	1.26E-03	2.64E-02	2.43E-02	1.12E+02	7.43E-03
5.58E-01	1.34E+00	1.66E-01	2.67E-03	3.51E-02	3.23E-02	2.72E+02	1.49E-02
7.29E-01	6.49E-01	1.06E-01	1.39E-03	3.85E-02	3.54E-02	1.24E+02	9.56E-03
3.43E-01	3.84E-01	4.35E-02	6.07E-04	1.84E-02	1.69E-02	5.17E+01	3.92E-03
1.03E+00	9.22E-01	2.53E-01	2.60E-03	7.87E-02	7.24E-02	2.65E+02	2.28E-02
5.58E-01	1.34E+00	1.66E-01	2.67E-03	3.51E-02	3.23E-02	2.72E+02	1.49E-02
5.58E-01	1.34E+00	1.66E-01	2.67E-03	3.51E-02	3.23E-02	2.72E+02	1.49E-02
2.52E-01	5.92E-01	7.87E-02	1.26E-03	2.12E-02	1.95E-02	1.12E+02	7.10E-03
2.12E-01	1.88E-01	2.65E-02	3.66E-04	1.08E-02	9.94E-03	3.12E+01	2.39E-03
3.43E-01	3.84E-01	4.35E-02	6.07E-04	1.84E-02	1.69E-02	5.17E+01	3.92E-03
5.58E-01	1.34E+00	1.66E-01	2.67E-03	3.51E-02	3.23E-02	2.72E+02	1.49E-02
7.63E-01	5.02E-01	1.37E-01	1.44E-03	5.39E-02	4.96E-02	1.28E+02	1.23E-02
3.86E-02	5.22E-02	7.36E-03	9.83E-05	1.82E-03	1.67E-03	6.32E+00	6.64E-04
3.92E-01	3.26E-01	6.80E-02	6.92E-04	3.41E-02	3.14E-02	5.90E+01	6.14E-03
3.43E-01	3.84E-01	4.35E-02	6.07E-04	1.84E-02	1.69E-02	5.17E+01	3.92E-03
5.97E-01	4.47E-01	1.06E-01	1.14E-03	4.24E-02	3.90E-02	1.01E+02	9.59E-03

Entrance Construction

	Hourly Emissions (lb/hr)								
Equipment Type	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO
Demolition									
Scraper	5.499	9.194	1.475	0.019	0.424	0.390	1,929	0.133	54.988
Water Truck	1.116	2.681	0.331	0.005	0.070	0.065	545	0.030	8.925
Site Preparation									
Bulldozer	2.068	1.844	0.506	0.005	0.157	0.145	530	0.046	16.540
Compactor	0.026	0.036	0.005	0.000	0.001	0.001	4	0.000	0.263
Trailer Mounted Light Plant	0.939	1.316	0.128	0.002	0.067	0.061	156	0.012	7.511
Backhoe/Loader	1.370	1.535	0.174	0.002	0.073	0.068	207	0.016	10.964
Bulldozer	3.101	2.766	0.759	0.008	0.236	0.217	795	0.069	24.810
Water Truck	1.116	2.681	0.331	0.005	0.070	0.065	545	0.030	8.925
Grading									
Graders	1.459	1.297	0.212	0.003	0.077	0.071	248	0.019	11.671
Backhoe/Loader	0.685	0.767	0.087	0.001	0.037	0.034	103	0.008	5.482
Bulldozer	1.034	0.922	0.253	0.003	0.079	0.072	265	0.023	8.270
Backhoe/Loader	1.028	1.151	0.130	0.002	0.055	0.051	155	0.012	8.223
Graders	0.729	0.649	0.106	0.001	0.038	0.035	124	0.010	5.835
Excavator	0.664	0.587	0.082	0.001	0.026	0.024	112	0.007	5.313
Water Truck	1.116	2.681	0.331	0.005	0.070	0.065	545	0.030	8.925
Berm Construction									
Graders	0.729	0.649	0.106	0.001	0.038	0.035	124	0.010	4.376
Backhoe/Loader	0.343	0.384	0.043	0.001	0.018	0.017	52	0.004	2.056
Bulldozer	1.034	0.922	0.253	0.003	0.079	0.072	265	0.023	7.236
Haul Truck	2.789	6.702	0.828	0.013	0.176	0.162	1,362	0.075	22.314
Water Truck	0.558	1.340	0.166	0.003	0.035	0.032	272	0.015	4.463
Building Construction									
Crane	0.252	0.592	0.079	0.001	0.021	0.019	112	0.007	1.009
Forklift	0.424	0.377	0.053	0.001	0.022	0.020	62	0.005	2.541
Backhoe/Loader	0.685	0.767	0.087	0.001	0.037	0.034	103	0.008	5.482
Water Truck	1.116	2.681	0.331	0.005	0.070	0.065	545	0.030	8.925
Paving									
Paver	1.526	1.003	0.273	0.003	0.108	0.099	257	0.025	12.212
Cement and Mortar Mixer	0.039	0.052	0.007	0.000	0.002	0.002	6	0.001	0.309
Roller	0.784	0.651	0.136	0.001	0.068	0.063	118	0.012	6.270
Backhoe/Loader	0.343	0.384	0.043	0.001	0.018	0.017	52	0.004	2.741
Paving Equipment	0.597	0.447	0.106	0.001	0.042	0.039	101	0.010	4.777
Total [11]	**14.073**	**21.871**	**3.300**	**0.045**	**0.951**	**0.875**	**4,548**	**0.298**	**109.459**

Daily Emissions (lb/day)							Annual Emissions (lb/yr)							
NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
91.938	14.750	0.189	4.242	3.903	19,286	1.331	659.859	1,103.255	176.999	2.272	50.903	46.830	231,429	15.970
21.447	2.650	0.043	0.562	0.517	4,357	0.239	107.106	257.359	31.798	0.513	6.742	6.203	52,288	2.869
14.752	4.049	0.042	1.259	1.158	4,238	0.365	496.206	442.547	121.471	1.248	37.766	34.744	127,139	10.960
0.356	0.050	0.001	0.012	0.011	43	0.005	5.268	7.129	1.004	0.013	0.246	0.226	863	0.091
10.525	1.027	0.015	0.533	0.490	1,247	0.093	225.323	315.738	30.803	0.439	15.987	14.708	37,416	2.779
12.279	1.392	0.019	0.587	0.540	1,655	0.126	219.278	245.574	27.832	0.388	11.749	10.809	33,106	2.511
22.127	6.074	0.062	1.888	1.737	6,357	0.548	744.308	663.820	182.207	1.872	56.648	52.117	190,708	16.440
21.447	2.650	0.043	0.562	0.517	4,357	0.239	267.765	643.396	79.495	1.283	16.855	15.506	130,720	7.173
10.377	1.695	0.022	0.616	0.567	1,983	0.153	140.047	124.520	20.335	0.268	7.390	6.799	23,793	1.835
6.139	0.696	0.010	0.294	0.270	828	0.063	109.639	122.787	13.916	0.194	5.874	5.404	16,553	1.256
7.376	2.025	0.021	0.629	0.579	2,119	0.183	165.402	147.516	40.490	0.416	12.589	11.581	42,380	3.653
9.209	1.044	0.015	0.441	0.405	1,241	0.094	164.459	184.181	20.874	0.291	8.812	8.107	24,829	1.883
5.188	0.847	0.011	0.308	0.283	991	0.076	70.024	62.260	10.167	0.134	3.695	3.400	11,896	0.917
4.697	0.659	0.010	0.211	0.195	898	0.059	63.751	56.370	7.909	0.121	2.537	2.334	10,773	0.714
21.447	2.650	0.043	0.562	0.517	4,357	0.239	178.510	428.931	52.997	0.855	11.236	10.338	87,147	4.782
3.891	0.635	0.008	0.231	0.212	744	0.057	271.342	241.258	39.398	0.519	14.319	13.173	46,099	3.555
2.302	0.261	0.004	0.110	0.101	310	0.024	127.456	142.740	16.177	0.226	6.829	6.283	19,243	1.460
6.454	1.771	0.018	0.551	0.507	1,854	0.160	448.652	400.136	109.830	1.128	34.146	31.415	114,955	9.910
53.616	6.625	0.107	1.405	1.292	10,893	0.598	1,383.451	3,324.214	410.724	6.629	87.082	80.116	675,388	37.059
10.723	1.325	0.021	0.281	0.258	2,179	0.120	276.690	664.843	82.145	1.326	17.416	16.023	135,078	7.412
2.370	0.315	0.005	0.085	0.078	449	0.028	48.410	113.743	15.103	0.242	4.068	3.743	21,535	1.363
2.260	0.318	0.004	0.130	0.119	375	0.029	121.974	108.497	15.248	0.211	6.222	5.724	17,986	1.376
6.139	0.696	0.010	0.294	0.270	828	0.063	263.134	294.689	33.398	0.466	14.099	12.971	39,727	3.013
21.447	2.650	0.043	0.562	0.517	4,357	0.239	428.424	1,029.434	127.192	2.053	26.967	24.810	209,152	11.476
8.027	2.184	0.023	0.863	0.794	2,053	0.197	122.120	80.268	21.840	0.231	8.631	7.941	20,526	1.971
0.418	0.059	0.001	0.015	0.013	51	0.005	3.087	4.178	0.589	0.008	0.145	0.134	506	0.053
5.212	1.088	0.011	0.546	0.502	944	0.098	62.696	52.115	10.881	0.111	5.456	5.020	9,438	0.982
3.070	0.348	0.005	0.147	0.135	414	0.031	27.410	30.697	3.479	0.049	1.469	1.351	4,138	0.314
3.577	0.850	0.009	0.339	0.312	808	0.077	47.771	35.766	8.500	0.091	3.392	3.121	8,082	0.767
190.371	**28.017**	**0.391**	**7.419**	**6.825**	**39,623**	**2.528**	**7,249.561**	**11,327.960**	**1,712.800**	**23.597**	**479.271**	**440.930**	**2,342,891**	**154.543**

Module 6-12: Excavation and Construction [10]

Number of workers: 40 Duration (weeks): 24

Equipment Type	Number (ea)	Daily Hours	Annual Days Equipment Used [3]
Scraper push/pull - CAT 657 [13]	23	10	72
Scraper elevating - CAT 623	2	10	10
Bulldozer - large - CAT D9	2	8	60
Bulldozer - large - CAT D7	2	8	60
Bulldozer - small - CAT D3	1	8	30
Compactor- CAT 825/835 [13]	1	10	72
Graders - 16G	2	8	40
Backhoe/Loader - CAT 416, 440	2	4	60
Water Truck - 4,000 gal 3 axle 58,000 gvw	3	10	72
Water Wagon - CAT 631G 10,000 gal	1	10	60
Trailer Mounted Light Plant	1	2	60
Wheel tractor - Case 535	1	8	10
Backhoe/Loader - CAT 416	1	8	20
Loader - CAT 966	1	8	20
Off road fork lift - CAT TH83	1	8	10

Chiquita Canyon Landfill EIR
Construction Emissions - Proposed Project Exhaust Emissions

Module 6: Excavation and Construction

Construction Period: 4/1/2017 to 9/30/2017

Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit
Scraper	Scrapers	1	2017	lb/hr
Scraper	Scrapers	1	2017	lb/hr
Bulldozer	Rubber Tired Dozers	1	2017	lb/hr
Bulldozer	Rubber Tired Dozers	1	2017	lb/hr
Bulldozer	Rubber Tired Dozers	1	2017	lb/hr
Compactor	Plate Compactors	1	2017	lb/hr
Graders	Graders	1	2017	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2017	lb/hr
Water Truck	Off-Highway Trucks	1	2017	lb/hr
Water Truck	Off-Highway Trucks	1	2017	lb/hr
Trailer Mounted Light Plant	Generator Sets	1	2017	lb/hr
Tractor	Tractors/Loaders/Backhoes	1	2017	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2017	lb/hr
Loader	Tractors/Loaders/Backhoes	1	2017	lb/hr
Forklifts	Forklifts	1	2017	lb/hr

Module 7: Excavation and Construction

Construction Period: 4/1/2021 to 9/30/2021

Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit
Scraper	Scrapers	1	2021	lb/hr
Scraper	Scrapers	1	2021	lb/hr
Bulldozer	Rubber Tired Dozers	1	2021	lb/hr
Bulldozer	Rubber Tired Dozers	1	2021	lb/hr
Bulldozer	Rubber Tired Dozers	1	2021	lb/hr
Compactor	Plate Compactors	1	2021	lb/hr
Graders	Graders	1	2021	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2021	lb/hr
Water Truck	Off-Highway Trucks	1	2021	lb/hr
Water Truck	Off-Highway Trucks	1	2021	lb/hr
Trailer Mounted Light Plant	Generator Sets	1	2021	lb/hr
Tractor	Tractors/Loaders/Backhoes	1	2021	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2021	lb/hr
Loader	Tractors/Loaders/Backhoes	1	2021	lb/hr
Forklifts	Forklifts	1	2021	lb/hr

Module 8: Excavation and Construction

Construction Period: 4/1/2025 to 9/30/2025

Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit
Scraper	Scrapers	1	2025	lb/hr
Scraper	Scrapers	1	2025	lb/hr

CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
9.60E-01	1.72E+00	2.59E-01	3.15E-03	7.77E-02	7.15E-02	3.21E+02	2.34E-02
9.60E-01	1.72E+00	2.59E-01	3.15E-03	7.77E-02	7.15E-02	3.21E+02	2.34E-02
1.10E+00	1.06E+00	2.66E-01	2.60E-03	8.49E-02	7.81E-02	2.65E+02	2.40E-02
1.10E+00	1.06E+00	2.66E-01	2.60E-03	8.49E-02	7.81E-02	2.65E+02	2.40E-02
1.10E+00	1.06E+00	2.66E-01	2.60E-03	8.49E-02	7.81E-02	2.65E+02	2.40E-02
2.63E-02	3.79E-02	5.02E-03	6.71E-05	1.23E-03	1.13E-03	4.31E+00	4.53E-04
7.30E-01	7.43E-01	1.14E-01	1.39E-03	4.29E-02	3.95E-02	1.24E+02	1.02E-02
3.44E-01	4.40E-01	4.77E-02	6.07E-04	2.17E-02	1.99E-02	5.17E+01	4.30E-03
5.68E-01	1.51E+00	1.75E-01	2.67E-03	3.97E-02	3.65E-02	2.72E+02	1.58E-02
5.68E-01	1.51E+00	1.75E-01	2.67E-03	3.97E-02	3.65E-02	2.72E+02	1.58E-02
4.73E-01	7.54E-01	7.25E-02	9.14E-04	3.81E-02	3.50E-02	7.79E+01	6.54E-03
3.44E-01	4.40E-01	4.77E-02	6.07E-04	2.17E-02	1.99E-02	5.17E+01	4.30E-03
3.44E-01	4.40E-01	4.77E-02	6.07E-04	2.17E-02	1.99E-02	5.17E+01	4.30E-03
3.44E-01	4.40E-01	4.77E-02	6.07E-04	2.17E-02	1.99E-02	5.17E+01	4.30E-03
2.13E-01	2.16E-01	2.87E-02	3.66E-04	1.28E-02	1.17E-02	3.12E+01	2.59E-03

Module 6: Excavation and Construction

	Hourly Emissions (lb/hr)								
Equipment Type	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO
Scraper	22.085	39.648	5.967	0.073	1.787	1.644	7,393	0.538	220.854
Scraper	1.920	3.448	0.519	0.006	0.155	0.143	643	0.047	19.205
Bulldozer	2.194	2.114	0.532	0.005	0.170	0.156	530	0.048	17.556
Bulldozer	2.194	2.114	0.532	0.005	0.170	0.156	530	0.048	17.556
Bulldozer	1.097	1.057	0.266	0.003	0.085	0.078	265	0.024	8.778
Compactor	0.026	0.038	0.005	0.000	0.001	0.001	4	0.000	0.263
Graders	1.460	1.487	0.227	0.003	0.086	0.079	248	0.020	11.682
Backhoe/Loader	0.688	0.879	0.095	0.001	0.043	0.040	103	0.009	2.753
Water Truck	1.703	4.524	0.526	0.008	0.119	0.110	817	0.047	17.029
Water Wagon	0.568	1.508	0.175	0.003	0.040	0.037	272	0.016	5.676
Trailer Mounted Light Plant	0.473	0.754	0.072	0.001	0.038	0.035	78	0.007	0.946
Tractor	0.344	0.440	0.048	0.001	0.022	0.020	52	0.004	2.753
Backhoe/Loader	0.344	0.440	0.048	0.001	0.022	0.020	52	0.004	2.753
Loader	0.344	0.440	0.048	0.001	0.022	0.020	52	0.004	2.753
Forklift	0.213	0.216	0.029	0.000	0.013	0.012	31	0.003	1.700
Total [12]	**35.655**	**59.105**	**9.089**	**0.110**	**2.771**	**2.550**	**11,069**	**0.820**	**332.258**

CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.90E-02
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.90E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.97E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.97E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.97E-02
3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
3.48E-01	4.11E-02	9.49E-03	1.39E-03	1.27E-03	1.27E-03	1.24E+02	7.70E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	3.07E-03
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.28E-02
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.28E-02
5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	4.11E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	3.07E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	3.07E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	3.07E-03
1.45E-01	1.02E-02	2.35E-03	3.66E-04	3.14E-04	3.14E-04	3.12E+01	1.87E-03

Module 7: Excavation and Construction

	Hourly Emissions (lb/hr)								
Equipment Type	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO
Scraper	19.384	2.291	0.529	0.073	0.070	0.070	7,393	0.436	193.836
Scraper	1.686	0.199	0.046	0.006	0.006	0.006	643	0.038	16.855
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.039	7.915
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.039	7.915
Bulldozer	0.495	0.058	0.013	0.003	0.002	0.002	265	0.020	3.958
Compactor	0.031	0.021	0.001	0.000	0.000	0.000	4	0.000	0.311
Graders	0.696	0.082	0.019	0.003	0.003	0.003	248	0.015	5.568
Backhoe/Loader	0.592	0.042	0.010	0.001	0.001	0.001	103	0.006	2.366
Water Truck	2.212	0.261	0.060	0.008	0.008	0.008	817	0.038	22.117
Water Wagon	0.737	0.087	0.020	0.003	0.003	0.003	272	0.013	7.372
Trailer Mounted Light Plant	0.507	0.036	0.008	0.001	0.001	0.001	78	0.004	1.014
Tractor	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Backhoe/Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Forklift	0.145	0.010	0.002	0.000	0.000	0.000	31	0.002	1.162
Total [12]	**29.350**	**3.384**	**0.777**	**0.110**	**0.104**	**0.104**	**11,069**	**0.661**	**277.489**

CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02

Module 8: Excavation and Construction

	Hourly Emissions (lb/hr)								
Equipment Type	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO
Scraper	19.384	2.291	0.529	0.073	0.070	0.070	7,393	0.364	193.836
Scraper	1.686	0.199	0.046	0.006	0.006	0.006	643	0.032	16.855

Daily Emissions (lb/day)							Annual Emissions (lb/yr)							
NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
396.482	59.672	0.726	17.865	16.436	73,929	5.384	15,901.456	28,546.732	4,296.409	52.246	1,286.282	1,183.379	5,322,856	387.658
34.477	5.189	0.063	1.553	1.429	6,429	0.468	192.047	344.767	51.889	0.631	15.535	14.292	64,286	4.682
16.910	4.256	0.042	1.359	1.250	4,238	0.384	1,053.345	1,014.619	255.371	2.496	81.513	74.992	254,278	23.042
16.910	4.256	0.042	1.359	1.250	4,238	0.384	1,053.345	1,014.619	255.371	2.496	81.513	74.992	254,278	23.042
8.455	2.128	0.021	0.679	0.625	2,119	0.192	263.336	253.655	63.843	0.624	20.378	18.748	63,569	5.760
0.379	0.050	0.001	0.012	0.011	43	0.005	18.965	27.302	3.615	0.048	0.884	0.814	3,106	0.326
11.895	1.817	0.022	0.687	0.632	1,983	0.164	467.288	475.810	72.666	0.892	27.480	25.282	79,310	6.557
3.517	0.382	0.005	0.173	0.159	414	0.034	165.204	211.040	22.902	0.291	10.396	9.564	24,829	2.066
45.239	5.260	0.080	1.191	1.096	8,170	0.475	1,226.070	3,257.194	378.690	5.774	85.754	78.894	588,241	34.169
15.080	1.753	0.027	0.397	0.365	2,723	0.158	340.575	904.776	105.192	1.604	23.821	21.915	163,400	9.491
1.507	0.145	0.002	0.076	0.070	156	0.013	56.740	90.446	8.697	0.110	4.572	4.206	9,354	0.785
3.517	0.382	0.005	0.173	0.159	414	0.034	27.534	35.173	3.817	0.049	1.733	1.594	4,138	0.344
3.517	0.382	0.005	0.173	0.159	414	0.034	55.068	70.347	7.634	0.097	3.465	3.188	8,276	0.689
3.517	0.382	0.005	0.173	0.159	414	0.034	55.068	70.347	7.634	0.097	3.465	3.188	8,276	0.689
1.727	0.230	0.003	0.102	0.094	250	0.021	17.003	17.267	2.299	0.029	1.021	0.940	2,498	0.207
563.131	**86.283**	**1.047**	**25.974**	**23.896**	**105,932**	**7.785**	**20,893.043**	**36,334.094**	**5,536.029**	**67.483**	**1,647.813**	**1,515.988**	**6,850,696**	**499.507**

Daily Emissions (lb/day)							Annual Emissions (lb/yr)							
NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
22.908	5.286	0.726	0.705	0.705	73,929	4.362	13,956.208	1,649.370	380.624	52.246	50.750	50.750	5,322,857	314.052
1.992	0.460	0.063	0.061	0.061	6,429	0.379	168.553	19.920	4.597	0.631	0.613	0.613	64,286	3.793
0.935	0.216	0.042	0.029	0.029	4,238	0.315	474.929	56.128	12.953	2.496	1.727	1.727	254,278	18.903
0.935	0.216	0.042	0.029	0.029	4,238	0.315	474.929	56.128	12.953	2.496	1.727	1.727	254,278	18.903
0.468	0.108	0.021	0.014	0.014	2,119	0.158	118.732	14.032	3.238	0.624	0.432	0.432	63,569	4.726
0.209	0.009	0.001	0.001	0.001	43	0.005	22.388	15.016	0.655	0.048	0.044	0.044	3,106	0.326
0.658	0.152	0.022	0.020	0.020	1,983	0.123	222.720	26.321	6.074	0.892	0.810	0.810	79,310	4.930
0.166	0.038	0.005	0.005	0.005	414	0.025	141.973	9.976	2.302	0.291	0.307	0.307	24,829	1.473
2.614	0.603	0.080	0.080	0.080	8,170	0.383	1,592.409	188.194	43.429	5.774	5.791	5.791	588,241	27.578
0.871	0.201	0.027	0.027	0.027	2,723	0.128	442.336	52.276	12.064	1.604	1.608	1.608	163,400	7.661
0.071	0.016	0.002	0.002	0.002	156	0.008	60.846	4.276	0.987	0.110	0.132	0.132	9,354	0.493
0.166	0.038	0.005	0.005	0.005	414	0.025	23.662	1.663	0.384	0.049	0.051	0.051	4,138	0.246
0.166	0.038	0.005	0.005	0.005	414	0.025	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.491
0.166	0.038	0.005	0.005	0.005	414	0.025	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.491
0.082	0.019	0.003	0.003	0.003	250	0.015	11.616	0.816	0.188	0.029	0.025	0.025	2,498	0.150
32.408	**7.440**	**1.047**	**0.991**	**0.991**	**105,932**	**6.289**	**17,805.949**	**2,100.767**	**481.982**	**67.483**	**64.221**	**64.221**	**6,850,697**	**404.215**

Daily Emissions (lb/day)							Annual Emissions (lb/yr)							
NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
22.908	5.286	0.726	0.705	0.705	73,929	3.643	13,956.208	1,649.370	380.624	52.246	50.750	50.750	5,322,854	262.279
1.992	0.460	0.063	0.061	0.061	6,429	0.317	168.553	19.920	4.597	0.631	0.613	0.613	64,286	3.168

Chiquita Canyon Landfill EIR
Construction Emissions - Proposed Project Exhaust Emissions

Bulldozer	Rubber Tired Dozers	1	2025	lb/hr
Bulldozer	Rubber Tired Dozers	1	2025	lb/hr
Bulldozer	Rubber Tired Dozers	1	2025	lb/hr
Compactor	Plate Compactors	1	2025	lb/hr
Graders	Graders	1	2025	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2025	lb/hr
Water Truck	Off-Highway Trucks	1	2025	lb/hr
Water Truck	Off-Highway Trucks	1	2025	lb/hr
Trailer Mounted Light Plant	Generator Sets	1	2025	lb/hr
Tractor	Tractors/Loaders/Backhoes	1	2025	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2025	lb/hr
Loader	Tractors/Loaders/Backhoes	1	2025	lb/hr
Forklifts	Forklifts	1	2025	lb/hr

Module 9: Excavation and Construction

Construction Period: 4/1/2029 to 9/30/2029

Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit
Scraper	Scrapers	1	2029	lb/hr
Scraper	Scrapers	1	2029	lb/hr
Bulldozer	Rubber Tired Dozers	1	2029	lb/hr
Bulldozer	Rubber Tired Dozers	1	2029	lb/hr
Bulldozer	Rubber Tired Dozers	1	2029	lb/hr
Compactor	Plate Compactors	1	2029	lb/hr
Graders	Graders	1	2029	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2029	lb/hr
Water Truck	Off-Highway Trucks	1	2029	lb/hr
Water Truck	Off-Highway Trucks	1	2029	lb/hr
Trailer Mounted Light Plant	Generator Sets	1	2029	lb/hr
Tractor	Tractors/Loaders/Backhoes	1	2029	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2029	lb/hr
Loader	Tractors/Loaders/Backhoes	1	2029	lb/hr
Forklifts	Forklifts	1	2029	lb/hr

Module 10: Excavation and Construction

Construction Period: 4/1/2033 to 9/30/2033

Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit
Scraper	Scrapers	1	2033	lb/hr
Scraper	Scrapers	1	2033	lb/hr
Bulldozer	Rubber Tired Dozers	1	2033	lb/hr
Bulldozer	Rubber Tired Dozers	1	2033	lb/hr
Bulldozer	Rubber Tired Dozers	1	2033	lb/hr
Compactor	Plate Compactors	1	2033	lb/hr
Graders	Graders	1	2033	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2033	lb/hr
Water Truck	Off-Highway Trucks	1	2033	lb/hr
Water Truck	Off-Highway Trucks	1	2033	lb/hr

4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
3.48E-01	4.11E-02	9.49E-03	1.39E-03	1.27E-03	1.27E-03	1.24E+02	5.88E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.06E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
1.45E-01	1.02E-02	2.35E-03	3.66E-04	3.14E-04	3.14E-04	3.12E+01	1.52E-03

Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.495	0.058	0.013	0.003	0.002	0.002	265	0.016	3.958
Compactor	0.031	0.021	0.001	0.000	0.000	0.000	4	0.000	0.311
Graders	0.696	0.082	0.019	0.003	0.003	0.003	248	0.012	5.568
Backhoe/Loader	0.592	0.042	0.010	0.001	0.001	0.001	103	0.005	2.366
Water Truck	2.212	0.261	0.060	0.008	0.008	0.008	817	0.032	22.117
Water Wagon	0.737	0.087	0.020	0.003	0.003	0.003	272	0.011	7.372
Trailer Mounted Light Plant	0.507	0.036	0.008	0.001	0.001	0.001	78	0.003	1.014
Tractor	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Backhoe/Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Forklifts	0.145	0.010	0.002	0.000	0.000	0.000	31	0.002	1.162
Total [12]	**29.350**	**3.384**	**0.777**	**0.110**	**0.104**	**0.104**	**11,069**	**0.550**	**277.489**

Module 9: Excavation and Construction

CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
3.48E-01	4.11E-02	9.49E-03	1.39E-03	1.27E-03	1.27E-03	1.24E+02	5.88E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.06E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
1.45E-01	1.02E-02	2.35E-03	3.66E-04	3.14E-04	3.14E-04	3.12E+01	1.52E-03

	Hourly Emissions (lb/hr)								
Equipment Type	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO
Scraper	19.384	2.291	0.529	0.073	0.070	0.070	7,393	0.364	193.836
Scraper	1.686	0.199	0.046	0.006	0.006	0.006	643	0.032	16.855
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.495	0.058	0.013	0.003	0.002	0.002	265	0.016	3.958
Compactor	0.031	0.021	0.001	0.000	0.000	0.000	4	0.000	0.311
Graders	0.696	0.082	0.019	0.003	0.003	0.003	248	0.012	5.568
Backhoe/Loader	0.592	0.042	0.010	0.001	0.001	0.001	103	0.005	2.366
Water Truck	2.212	0.261	0.060	0.008	0.008	0.008	817	0.032	22.117
Water Wagon	0.737	0.087	0.020	0.003	0.003	0.003	272	0.011	7.372
Trailer Mounted Light Plant	0.507	0.036	0.008	0.001	0.001	0.001	78	0.003	1.014
Tractor	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Backhoe/Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Forklift	0.145	0.010	0.002	0.000	0.000	0.000	31	0.002	1.162
Total [12]	**29.350**	**3.384**	**0.777**	**0.110**	**0.104**	**0.104**	**11,069**	**0.550**	**277.489**

Module 10: Excavation and Construction

CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
3.48E-01	4.11E-02	9.49E-03	1.39E-03	1.27E-03	1.27E-03	1.24E+02	5.88E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02

	Hourly Emissions (lb/hr)								
Equipment Type	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO
Scraper	19.384	2.291	0.529	0.073	0.070	0.070	7,393	0.364	193.836
Scraper	1.686	0.199	0.046	0.006	0.006	0.006	643	0.032	16.855
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.495	0.058	0.013	0.003	0.002	0.002	265	0.016	3.958
Compactor	0.031	0.021	0.001	0.000	0.000	0.000	4	0.000	0.311
Graders	0.696	0.082	0.019	0.003	0.003	0.003	248	0.012	5.568
Backhoe/Loader	0.592	0.042	0.010	0.001	0.001	0.001	103	0.005	2.366
Water Truck	2.212	0.261	0.060	0.008	0.008	0.008	817	0.032	22.117
Water Wagon	0.737	0.087	0.020	0.003	0.003	0.003	272	0.011	7.372

0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.468	0.108	0.021	0.014	0.014	2,119	0.131	118.732	14.032	3.238	0.624	0.432	0.432	63,569	3.936
0.209	0.009	0.001	0.001	0.001	43	0.005	22.388	15.016	0.655	0.048	0.044	0.044	3,106	0.326
0.658	0.152	0.022	0.020	0.020	1,983	0.094	222.720	26.321	6.074	0.892	0.810	0.810	79,310	3.763
0.166	0.038	0.005	0.005	0.005	414	0.020	141.973	9.976	2.302	0.291	0.307	0.307	24,829	1.216
2.614	0.603	0.080	0.080	0.080	8,170	0.320	1,592.409	188.194	43.429	5.774	5.791	5.791	588,241	23.060
0.871	0.201	0.027	0.027	0.027	2,723	0.107	442.336	52.276	12.064	1.604	1.608	1.608	163,400	6.406
0.071	0.016	0.002	0.002	0.002	156	0.006	60.846	4.276	0.987	0.110	0.132	0.132	9,354	0.368
0.166	0.038	0.005	0.005	0.005	414	0.020	23.662	1.663	0.384	0.049	0.051	0.051	4,138	0.203
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.082	0.019	0.003	0.003	0.003	250	0.012	11.616	0.816	0.188	0.029	0.025	0.025	2,498	0.122
32.408	**7.440**	**1.047**	**0.991**	**0.991**	**105,932**	**5.240**	**17,805.949**	**2,100.767**	**481.982**	**67.483**	**64.221**	**64.221**	**6,850,694**	**337.142**

Daily Emissions (lb/day)							Annual Emissions (lb/yr)							
NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
22.908	5.286	0.726	0.705	0.705	73,929	3.643	13,956.208	1,649.370	380.624	52.246	50.750	50.750	5,322,854	262.279
1.992	0.460	0.063	0.061	0.061	6,429	0.317	168.553	19.920	4.597	0.631	0.613	0.613	64,286	3.168
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.468	0.108	0.021	0.014	0.014	2,119	0.131	118.732	14.032	3.238	0.624	0.432	0.432	63,569	3.936
0.209	0.009	0.001	0.001	0.001	43	0.005	22.388	15.016	0.655	0.048	0.044	0.044	3,106	0.326
0.658	0.152	0.022	0.020	0.020	1,983	0.094	222.720	26.321	6.074	0.892	0.810	0.810	79,310	3.763
0.166	0.038	0.005	0.005	0.005	414	0.020	141.973	9.976	2.302	0.291	0.307	0.307	24,829	1.216
2.614	0.603	0.080	0.080	0.080	8,170	0.320	1,592.409	188.194	43.429	5.774	5.791	5.791	588,241	23.060
0.871	0.201	0.027	0.027	0.027	2,723	0.107	442.336	52.276	12.064	1.604	1.608	1.608	163,400	6.406
0.071	0.016	0.002	0.002	0.002	156	0.006	60.846	4.276	0.987	0.110	0.132	0.132	9,354	0.368
0.166	0.038	0.005	0.005	0.005	414	0.020	23.662	1.663	0.384	0.049	0.051	0.051	4,138	0.203
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.082	0.019	0.003	0.003	0.003	250	0.012	11.616	0.816	0.188	0.029	0.025	0.025	2,498	0.122
32.408	**7.440**	**1.047**	**0.991**	**0.991**	**105,932**	**5.240**	**17,805.949**	**2,100.767**	**481.982**	**67.483**	**64.221**	**64.221**	**6,850,694**	**337.142**

Daily Emissions (lb/day)							Annual Emissions (lb/yr)							
NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
22.908	5.286	0.726	0.705	0.705	73,929	3.643	13,956.208	1,649.370	380.624	52.246	50.750	50.750	5,322,854	262.279
1.992	0.460	0.063	0.061	0.061	6,429	0.317	168.553	19.920	4.597	0.631	0.613	0.613	64,286	3.168
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.468	0.108	0.021	0.014	0.014	2,119	0.131	118.732	14.032	3.238	0.624	0.432	0.432	63,569	3.936
0.209	0.009	0.001	0.001	0.001	43	0.005	22.388	15.016	0.655	0.048	0.044	0.044	3,106	0.326
0.658	0.152	0.022	0.020	0.020	1,983	0.094	222.720	26.321	6.074	0.892	0.810	0.810	79,310	3.763
0.166	0.038	0.005	0.005	0.005	414	0.020	141.973	9.976	2.302	0.291	0.307	0.307	24,829	1.216
2.614	0.603	0.080	0.080	0.080	8,170	0.320	1,592.409	188.194	43.429	5.774	5.791	5.791	588,241	23.060
0.871	0.201	0.027	0.027	0.027	2,723	0.107	442.336	52.276	12.064	1.604	1.608	1.608	163,400	6.406

Chiquita Canyon Landfill EIR
Construction Emissions - Proposed Project Exhaust Emissions

Trailer Mounted Light Plant	Generator Sets	1	2033	lb/hr
Tractor	Tractors/Loaders/Backhoes	1	2033	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2033	lb/hr
Loader	Tractors/Loaders/Backhoes	1	2033	lb/hr
Forklifts	Forklifts	1	2033	lb/hr

Module 11: Excavation and Construction

Construction Period: 4/1/2037 to 9/30/2037

Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit
Scraper	Scrapers	1	2037	lb/hr
Scraper	Scrapers	1	2037	lb/hr
Bulldozer	Rubber Tired Dozers	1	2037	lb/hr
Bulldozer	Rubber Tired Dozers	1	2037	lb/hr
Bulldozer	Rubber Tired Dozers	1	2037	lb/hr
Compactor	Plate Compactors	1	2037	lb/hr
Graders	Graders	1	2037	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2037	lb/hr
Water Truck	Off-Highway Trucks	1	2037	lb/hr
Water Truck	Off-Highway Trucks	1	2037	lb/hr
Trailer Mounted Light Plant	Generator Sets	1	2037	lb/hr
Tractor	Tractors/Loaders/Backhoes	1	2037	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2037	lb/hr
Loader	Tractors/Loaders/Backhoes	1	2037	lb/hr
Forklifts	Forklifts	1	2037	lb/hr

Module 12: Excavation and Construction

Construction Period: 4/1/2041 to 9/30/2041

Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit
Scraper	Scrapers	1	2041	lb/hr
Scraper	Scrapers	1	2041	lb/hr
Bulldozer	Rubber Tired Dozers	1	2041	lb/hr
Bulldozer	Rubber Tired Dozers	1	2041	lb/hr
Bulldozer	Rubber Tired Dozers	1	2041	lb/hr
Compactor	Plate Compactors	1	2041	lb/hr
Graders	Graders	1	2041	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2041	lb/hr
Water Truck	Off-Highway Trucks	1	2041	lb/hr
Water Truck	Off-Highway Trucks	1	2041	lb/hr
Trailer Mounted Light Plant	Generator Sets	1	2041	lb/hr
Tractor	Tractors/Loaders/Backhoes	1	2041	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2041	lb/hr
Loader	Tractors/Loaders/Backhoes	1	2041	lb/hr
Forklifts	Forklifts	1	2041	lb/hr

5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.06E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
1.45E-01	1.02E-02	2.35E-03	3.66E-04	3.14E-04	3.14E-04	3.12E+01	1.52E-03

Trailer Mounted Light Plant	0.507	0.036	0.008	0.001	0.001	0.001	78	0.003	1.014
Tractor	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Backhoe/Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Forklift	0.145	0.010	0.002	0.000	0.000	0.000	31	0.002	1.162
Total [12]	**29.350**	**3.384**	**0.777**	**0.110**	**0.104**	**0.104**	**11,069**	**0.550**	**277.489**

Module 11: Excavation and Construction

CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
3.48E-01	4.11E-02	9.49E-03	1.39E-03	1.27E-03	1.27E-03	1.24E+02	5.88E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.06E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
1.45E-01	1.02E-02	2.35E-03	3.66E-04	3.14E-04	3.14E-04	3.12E+01	1.52E-03

	Hourly Emissions (lb/hr)								
Equipment Type	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO
Scraper	19.384	2.291	0.529	0.073	0.070	0.070	7,393	0.364	193.836
Scraper	1.686	0.199	0.046	0.006	0.006	0.006	643	0.032	16.855
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.495	0.058	0.013	0.003	0.002	0.002	265	0.016	3.958
Compactor	0.031	0.021	0.001	0.000	0.000	0.000	4	0.000	0.311
Graders	0.696	0.082	0.019	0.003	0.003	0.003	248	0.012	5.568
Backhoe/Loader	0.592	0.042	0.010	0.001	0.001	0.001	103	0.005	2.366
Water Truck	2.212	0.261	0.060	0.008	0.008	0.008	817	0.032	22.117
Water Wagon	0.737	0.087	0.020	0.003	0.003	0.003	272	0.011	7.372
Trailer Mounted Light Plant	0.507	0.036	0.008	0.001	0.001	0.001	78	0.003	1.014
Tractor	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Backhoe/Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Forklift	0.145	0.010	0.002	0.000	0.000	0.000	31	0.002	1.162
Total [12]	**29.350**	**3.384**	**0.777**	**0.110**	**0.104**	**0.104**	**11,069**	**0.550**	**277.489**

CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
3.48E-01	4.11E-02	9.49E-03	1.39E-03	1.27E-03	1.27E-03	1.24E+02	5.88E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.06E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
1.45E-01	1.02E-02	2.35E-03	3.66E-04	3.14E-04	3.14E-04	3.12E+01	1.52E-03

	Hourly Emissions (lb/hr)								
Equipment Type	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO
Scraper	19.384	2.291	0.529	0.073	0.070	0.070	7,393	0.364	193.836
Scraper	1.686	0.199	0.046	0.006	0.006	0.006	643	0.032	16.855
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.495	0.058	0.013	0.003	0.002	0.002	265	0.016	3.958
Compactor	0.031	0.021	0.001	0.000	0.000	0.000	4	0.000	0.311
Graders	0.696	0.082	0.019	0.003	0.003	0.003	248	0.012	5.568
Backhoe/Loader	0.592	0.042	0.010	0.001	0.001	0.001	103	0.005	2.366
Water Truck	2.212	0.261	0.060	0.008	0.008	0.008	817	0.032	22.117
Water Wagon	0.737	0.087	0.020	0.003	0.003	0.003	272	0.011	7.372
Trailer Mounted Light Plant	0.507	0.036	0.008	0.001	0.001	0.001	78	0.003	1.014
Tractor	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Backhoe/Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Forklift	0.145	0.010	0.002	0.000	0.000	0.000	31	0.002	1.162
Total [12]	**29.350**	**3.384**	**0.777**	**0.110**	**0.104**	**0.104**	**11,069**	**0.550**	**277.489**

0.071	0.016	0.002	0.002	0.002	156	0.006	60.846	4.276	0.987	0.110	0.132	0.132	9,354	0.368
0.166	0.038	0.005	0.005	0.005	414	0.020	23.662	1.663	0.384	0.049	0.051	0.051	4,138	0.203
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.082	0.019	0.003	0.003	0.003	250	0.012	11.616	0.816	0.188	0.029	0.025	0.025	2,498	0.122
32.408	**7.440**	**1.047**	**0.991**	**0.991**	**105,932**	**5.240**	**17,805.949**	**2,100.767**	**481.982**	**67.483**	**64.221**	**64.221**	**6,850,694**	**337.142**

Daily Emissions (lb/day)							Annual Emissions (lb/yr)							
NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
22.908	5.286	0.726	0.705	0.705	73,929	3.643	13,956.208	1,649.370	380.624	52.246	50.750	50.750	5,322,854	262.279
1.992	0.460	0.063	0.061	0.061	6,429	0.317	168.553	19.920	4.597	0.631	0.613	0.613	64,286	3.168
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.468	0.108	0.021	0.014	0.014	2,119	0.131	118.732	14.032	3.238	0.624	0.432	0.432	63,569	3.936
0.209	0.009	0.001	0.001	0.001	43	0.005	22.388	15.016	0.655	0.048	0.044	0.044	3,106	0.326
0.658	0.152	0.022	0.020	0.020	1,983	0.094	222.720	26.321	6.074	0.892	0.810	0.810	79,310	3.763
0.166	0.038	0.005	0.005	0.005	414	0.020	141.973	9.976	2.302	0.291	0.307	0.307	24,829	1.216
2.614	0.603	0.080	0.080	0.080	8,170	0.320	1,592.409	188.194	43.429	5.774	5.791	5.791	588,241	23.060
0.871	0.201	0.027	0.027	0.027	2,723	0.107	442.336	52.276	12.064	1.604	1.608	1.608	163,400	6.406
0.071	0.016	0.002	0.002	0.002	156	0.006	60.846	4.276	0.987	0.110	0.132	0.132	9,354	0.368
0.166	0.038	0.005	0.005	0.005	414	0.020	23.662	1.663	0.384	0.049	0.051	0.051	4,138	0.203
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.082	0.019	0.003	0.003	0.003	250	0.012	11.616	0.816	0.188	0.029	0.025	0.025	2,498	0.122
32.408	**7.440**	**1.047**	**0.991**	**0.991**	**105,932**	**5.240**	**17,805.949**	**2,100.767**	**481.982**	**67.483**	**64.221**	**64.221**	**6,850,694**	**337.142**

Daily Emissions (lb/day)							Annual Emissions (lb/yr)							
NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
22.908	5.286	0.726	0.705	0.705	73,929	3.643	13,956.208	1,649.370	380.624	52.246	50.750	50.750	5,322,854	262.279
1.992	0.460	0.063	0.061	0.061	6,429	0.317	168.553	19.920	4.597	0.631	0.613	0.613	64,286	3.168
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.468	0.108	0.021	0.014	0.014	2,119	0.131	118.732	14.032	3.238	0.624	0.432	0.432	63,569	3.936
0.209	0.009	0.001	0.001	0.001	43	0.005	22.388	15.016	0.655	0.048	0.044	0.044	3,106	0.326
0.658	0.152	0.022	0.020	0.020	1,983	0.094	222.720	26.321	6.074	0.892	0.810	0.810	79,310	3.763
0.166	0.038	0.005	0.005	0.005	414	0.020	141.973	9.976	2.302	0.291	0.307	0.307	24,829	1.216
2.614	0.603	0.080	0.080	0.080	8,170	0.320	1,592.409	188.194	43.429	5.774	5.791	5.791	588,241	23.060
0.871	0.201	0.027	0.027	0.027	2,723	0.107	442.336	52.276	12.064	1.604	1.608	1.608	163,400	6.406
0.071	0.016	0.002	0.002	0.002	156	0.006	60.846	4.276	0.987	0.110	0.132	0.132	9,354	0.368
0.166	0.038	0.005	0.005	0.005	414	0.020	23.662	1.663	0.384	0.049	0.051	0.051	4,138	0.203
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.082	0.019	0.003	0.003	0.003	250	0.012	11.616	0.816	0.188	0.029	0.025	0.025	2,498	0.122
32.408	**7.440**	**1.047**	**0.991**	**0.991**	**105,932**	**5.240**	**17,805.949**	**2,100.767**	**481.982**	**67.483**	**64.221**	**64.221**	**6,850,694**	**337.142**

Chiquita Canyon Landfill EIR
Construction Emissions - Proposed Project Exhaust Emissions

Reference: Data (Equipment Type, Number, Hours of Operation, Daily Hours Used, Number of Workers) Provided by Mike Dean on 7-20-2011 to Brenda Eells via e-mail. Schedule information provided by CCL team via email from Brenda Eells/CH2M on 8/13/15 (CCL - construction operation schedule and information.msg).
[1] Unless otherwise noted, the total number of annual days equipment are used is based on data provided by CCL on 7/2011.
[2] The number of workers were estimated by summing the value provided by CCL for the new paved road entrance (10) and the default derived from Appendix A of the CalEEMod User's Guide, which assumes 1.25 workers per construction equipment during site preparation, grading, and paving and 0.42 worker trips per 1,000 square feet during building construction.
[3] It is assumed that a water truck is used every day of construction except for during paving activities.
[4] Equipment type, quantity, and daily hours of operation added to values provided by CCL for the construction of parking, administration building, and scale house. Values are based on default data in Table 3.2 of Appendix D of the CalEEMod User's Guide, 2011 based on the total project area (5.9 acres) and building area (0.5 acres).
[5] Site Preparation, Grading, and Paving duration is assumed equal to the CCL-provided durations for similar equipment. These durations are generally consistent with the CalEEMod defaults from Table 3.1 of Appendix D of the CalEEMod User's Guide, 2011 (scaled to fit a 6-month schedule).
[6] Berm Construction: assumed to occur simultaneously with the Demolition, Site Preparation, and Grading phases for a total of 62 days. Duration is generally consistent with the default duration in URBEMIS 2007, based on the berm area (2.7 acres). Equipment type, quantity, and daily hours of operation for the Berm Construction phase taken as the default from URBEMIS 2007, based on the berm area and a cut / fill volume of 48,811 cy.
[7] Assuming a truck haul capacity of 20 cy/truck, and the berm construction duration, 40 soil haul truck trips will need to occur each day during Berm Construction. It was assumed that 1 truck would make up to 5 trips per hour of operation to accomplish this task.
[8] Assuming activities occur sequentially, the total number of annual days equipment are used during Building Construction was assumed to be the difference between the total Entrance Construction duration and the durations of the other phases. This duration is approximately half of that derived from the CalEEMod default from Table 3.1 of Appendix D of the CalEEMod User's Guide, 2011 (scaled to fit a 6-month schedule), which is reasonable given the simple nature of these buildings.
[9] Two weeks to pave the new entrance road per CCL meeting on 3/29/12. Equipment type, quantity, and daily hours of operation for the Paving phase taken from Table 3.2 of Appendix D of the CalEEMod User's Guide, 2011 based on the parking area of 116,875 square feet (2.7 acres), which was estimated from Figure 2-1 as the unused land surrounding the Administration Building, plus 1 paver used for the construction entrance as per CCL.
[10] Typical cell construction based on Module 9; 2,965,000 cy total excavation per module.
[11] Entrance Construction total daily emissions and total hourly emissions are the maximum emissions given the assumed schedule (i.e., that all phases occur sequentially except for Berm Construction, which occurs simultaneously with Demolition, Site Preparation, and Grading). The total annual emissions represent the sum of all construction activities occurring within the year.
[12] Module Construction Total Emissions: To provide flexibility, the total hourly, total daily, and total annual emissions are calculated assuming all equipment can be used at the same time.
[13] Cell construction limited from 12 hours per day to 10 hours per day. Days of equipment use increased to keep total hours of equipment use consistent with estimate provided.

Chiquita Canyon Landfill EIR
Operation Emissions - Proposed Project Exhaust Emissions

Assumptions:

Equipment for Operation During:	2017 - 2046	
Operation Schedule:	52	weeks/yr
	6	days/week
	10	hrs/day

All off-road diesel equipment used for operation will meet Tier 4 Final emission standards unless otherwise indicated.

Off-Road Equipment	2024-2046		2017 [1]		2018 [1]		2019 [1]		2020 [1]		2021 [1]		2022 [1]		2023 [1]	
	Number (ea)	Hrs of Operation (day)	Number (ea)	Hrs of Operation (day)	Number (ea)	Hrs of Operation (day)	Number (ea)	Hrs of Operation (day)	Number (ea)	Hrs of Operation (day)	Number (ea)	Hrs of Operation (day)	Number (ea)	Hrs of Operation (day)	Number (ea)	Hrs of Operation (day)
Scraper -CAT 636G	2	5.5	2	0.8	2	1.6	2	2.4	2	3.1	2	3.9	2	4.7	2	5.5
Bulldozer - CAT D8 [5], D6 [1]	3	9.5	3	1.4	3	2.7	3	4.1	3	5.4	3	6.8	3	8.1	3	9.5
Compactor - CAT 836G	3	10	3	1.4	3	2.9	3	4.3	3	5.7	3	7.1	3	8.6	3	10
Water Truck - 4,000 gal, 3 axle, 58,000 gvw [2]	1	8	1	1.1	1	2.3	1	3.4	1	4.6	1	5.7	1	6.9	1	8
Water Wagon - CAT 633G 10,000 gal [3]	1	7	1	1.0	1	2.0	1	3.0	1	4.0	1	5.0	1	6.0	1	7
Trailer Mounted Light Plant	3	5	3	0.7	3	1.4	3	2.1	3	2.9	3	3.6	3	4.3	3	5
Tipper	2	12	2	1.7	2	3.4	2	5.1	2	6.9	2	8.6	2	10.3	2	12

Emission Calculations
Operation Year: 2017
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2017	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	2.34E-02
Bulldozer	Rubber Tired Dozers	1	2017	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	2.40E-02
Compactor	Plate Compactors	1	2017	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2017	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.58E-02
Water Truck	Off-Highway Trucks	1	2017	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.58E-02
Trailer Mounted Light Plant	Generator Sets	1	2017	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	6.54E-03
Tipper	Dumpers/Tenders	1	2017	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.31E-04

Emission Calculations
Operation Year: 2018
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2018	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	2.22E-02
Bulldozer	Rubber Tired Dozers	1	2018	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	2.28E-02
Compactor	Plate Compactors	1	2018	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2018	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.49E-02
Water Truck	Off-Highway Trucks	1	2018	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.49E-02
Trailer Mounted Light Plant	Generator Sets	1	2018	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	5.79E-03
Tipper	Dumpers/Tenders	1	2018	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.31E-04

Emission Calculations
Operation Year: 2019
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2019	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	2.10E-02
Bulldozer	Rubber Tired Dozers	1	2019	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	2.16E-02
Compactor	Plate Compactors	1	2019	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2019	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.42E-02
Water Truck	Off-Highway Trucks	1	2019	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.42E-02
Trailer Mounted Light Plant	Generator Sets	1	2019	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	5.09E-03
Tipper	Dumpers/Tenders	1	2019	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.31E-04

Emission Calculations
Operation Year: 2020
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2020	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	2.00E-02
Bulldozer	Rubber Tired Dozers	1	2020	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	2.07E-02
Compactor	Plate Compactors	1	2020	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2020	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.34E-02
Water Truck	Off-Highway Trucks	1	2020	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.34E-02
Trailer Mounted Light Plant	Generator Sets	1	2020	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	4.57E-03
Tipper	Dumpers/Tenders	1	2020	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.30E-04

Emission Calculations
Operation Year: 2021
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2021	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.90E-02
Bulldozer	Rubber Tired Dozers	1	2021	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.97E-02
Compactor	Plate Compactors	1	2021	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2021	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.28E-02
Water Truck	Off-Highway Trucks	1	2021	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.28E-02
Trailer Mounted Light Plant	Generator Sets	1	2021	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	4.11E-03
Tipper	Dumpers/Tenders	1	2021	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.30E-04

Emission Calculations
Operation Year: 2022
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2022	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.81E-02
Bulldozer	Rubber Tired Dozers	1	2022	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.88E-02
Compactor	Plate Compactors	1	2022	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2022	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.22E-02
Water Truck	Off-Highway Trucks	1	2022	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.22E-02
Trailer Mounted Light Plant	Generator Sets	1	2022	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.89E-03
Tipper	Dumpers/Tenders	1	2022	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.30E-04

Emission Calculations
Operation Year: 2023
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2023	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.73E-02
Bulldozer	Rubber Tired Dozers	1	2023	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.79E-02
Compactor	Plate Compactors	1	2023	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2023	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.16E-02
Water Truck	Off-Highway Trucks	1	2023	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.16E-02
Trailer Mounted Light Plant	Generator Sets	1	2023	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.52E-03
Tipper	Dumpers/Tenders	1	2023	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.30E-04

Emission Calculations
Operation Year: 2024
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2024	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.65E-02
Bulldozer	Rubber Tired Dozers	1	2024	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.71E-02
Compactor	Plate Compactors	1	2024	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2024	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.11E-02
Water Truck	Off-Highway Trucks	1	2024	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.11E-02
Trailer Mounted Light Plant	Generator Sets	1	2024	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.28E-03
Tipper	Dumpers/Tenders	1	2024	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.30E-04

Emission Calculations
Operation Year: 2025 through 2046
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2025	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
Bulldozer	Rubber Tired Dozers	1	2025	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
Compactor	Plate Compactors	1	2025	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2025	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
Water Truck	Off-Highway Trucks	1	2025	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
Trailer Mounted Light Plant	Generator Sets	1	2025	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.09E-03
Tipper	Dumpers/Tenders	1	2025	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.30E-04

Chiquita Canyon Landfill EIR
Operation Emissions - Proposed Project Exhaust

Onsite Emissions

	Daily Emissions (lb/day)							Hourly Emissions (lb/hr)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	1.324	0.157	0.036	0.005	0.005	0.005	505.102	0.037	1.686	0.199	0.046	0.006	0.006	0.006	642.857	0.047	413.196	48.832	11.269	1.547	1.503	1.503	157591.801	11.477
Bulldozer	2.014	0.238	0.055	0.011	0.007	0.007	1078.409	0.098	1.484	0.175	0.040	0.008	0.005	0.005	794.618	0.072	628.433	74.269	17.139	3.303	2.285	2.285	336463.761	30.489
Compactor	0.133	0.089	0.004	0.000	0.000	0.000	18.488	0.002	0.093	0.063	0.003	0.000	0.000	0.000	12.941	0.001	41.577	27.887	1.217	0.090	0.081	0.081	5768.172	0.606
Water Truck	0.843	0.100	0.023	0.003	0.003	0.003	311.239	0.018	0.737	0.087	0.020	0.003	0.003	0.003	272.334	0.016	262.874	31.067	7.169	0.953	0.956	0.956	97108.489	5.641
Water Truck	0.737	0.087	0.020	0.003	0.003	0.003	272.334	0.016	0.737	0.087	0.020	0.003	0.003	0.003	272.334	0.016	230.015	27.156	6.273	0.834	0.836	0.836	84968.178	4.936
Trailer Mounted Light Plant	1.087	0.076	0.018	0.002	0.002	0.002	167.034	0.014	1.521	0.107	0.025	0.003	0.003	0.003	233.848	0.020	338.996	23.821	5.497	0.611	0.733	0.733	52114.760	4.372
Tipper	0.188	0.126	0.006	0.000	0.000	0.000	26.141	0.003	0.110	0.074	0.003	0.000	0.000	0.000	15.249	0.002	58.708	39.431	1.721	0.103	0.115	0.115	8155.926	0.931
Total	6.327	0.873	0.161	0.024	0.021	0.021	2378.747	0.187	6.368	0.792	0.157	0.023	0.021	0.021	2244.181	0.173	1973.879	272.492	50.285	7.441	6.509	6.509	742169.066	58.411

Onsite Emissions

	Daily Emissions (lb/day)							Hourly Emissions (lb/hr)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	2.645	0.313	0.072	0.010	0.010	0.010	1010.204	0.075	1.686	0.199	0.046	0.006	0.006	0.006	642.857	0.048	827.392	97.665	22.538	3.094	3.005	3.005	315183.585	21.786
Bulldozer	4.029	0.476	0.110	0.021	0.015	0.015	2156.819	0.186	1.484	0.175	0.040	0.008	0.005	0.005	794.618	0.069	1258.866	148.539	34.278	6.605	4.570	4.570	672927.607	58.011
Compactor	0.267	0.179	0.008	0.001	0.001	0.001	36.975	0.004	0.093	0.063	0.003	0.000	0.000	0.000	12.941	0.001	83.154	55.774	2.434	0.180	0.162	0.162	11536.344	1.212
Water Truck	1.685	0.199	0.045	0.006	0.006	0.006	622.477	0.034	0.737	0.087	0.020	0.003	0.003	0.003	272.334	0.015	525.748	62.134	14.339	1.906	1.912	1.912	194212.845	10.657
Water Truck	1.474	0.174	0.040	0.005	0.005	0.005	544.668	0.030	0.737	0.087	0.020	0.003	0.003	0.003	272.334	0.015	460.029	54.367	12.546	1.668	1.673	1.673	169935.327	9.325
Trailer Mounted Light Plant	2.173	0.153	0.035	0.004	0.005	0.005	334.069	0.027	1.521	0.107	0.025	0.003	0.003	0.003	233.848	0.019	677.991	47.643	10.994	1.223	1.466	1.466	104229.508	7.742
Tipper	0.377	0.253	0.011	0.001	0.001	0.001	52.282	0.006	0.110	0.074	0.003	0.000	0.000	0.000	15.249	0.002	117.576	78.862	3.441	0.207	0.229	0.229	16311.854	1.779
Total	12.653	1.747	0.322	0.048	0.042	0.042	4757.494	0.354	6.368	0.792	0.157	0.023	0.021	0.021	2244.181	0.163	3947.759	544.983	100.570	14.882	13.018	13.018	1484338.176	110.475

Onsite Emissions

	Daily Emissions (lb/day)							Hourly Emissions (lb/hr)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	3.973	0.470	0.108	0.015	0.014	0.014	1515.305	0.099	1.686	0.199	0.046	0.006	0.006	0.006	642.857	0.042	1239.589	146.497	33.807	4.640	4.508	4.508	472775.310	30.926
Bulldozer	6.043	0.714	0.165	0.032	0.022	0.022	3229.219	0.265	1.484	0.175	0.040	0.008	0.005	0.005	794.618	0.069	1885.299	222.808	51.417	9.908	6.856	6.856	1009391.427	82.766
Compactor	0.400	0.268	0.012	0.001	0.001	0.001	55.463	0.006	0.093	0.063	0.003	0.000	0.000	0.000	12.941	0.001	124.731	83.661	3.651	0.269	0.243	0.243	17304.516	1.818
Water Truck	2.528	0.299	0.069	0.009	0.009	0.009	933.718	0.049	0.737	0.087	0.020	0.003	0.003	0.003	272.334	0.014	788.622	93.201	21.508	2.859	2.868	2.868	291313.338	15.137
Water Truck	2.212	0.261	0.060	0.008	0.008	0.008	817.001	0.042	0.737	0.087	0.020	0.003	0.003	0.003	272.334	0.014	690.044	81.551	18.819	2.502	2.509	2.509	254904.445	13.244
Trailer Mounted Light Plant	3.260	0.229	0.053	0.006	0.007	0.007	501.104	0.040	1.521	0.107	0.025	0.003	0.003	0.003	233.848	0.020	1016.986	71.464	16.492	1.834	2.199	2.199	156334.269	12.503
Tipper	0.565	0.379	0.017	0.001	0.001	0.001	78.422	0.059	0.110	0.074	0.003	0.000	0.000	0.000	15.249	0.002	176.364	118.293	5.162	0.310	0.344	0.344	24467.795	2.668
Total	18.980	2.620	0.484	0.072	0.063	0.063	7136.241	0.502	6.368	0.792	0.157	0.023	0.021	0.021	2244.181	0.154	5921.638	817.475	150.856	22.323	19.527	19.527	2226507.190	156.771

Onsite Emissions

	Daily Emissions (lb/day)							Hourly Emissions (lb/hr)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	5.30E+00	6.26E-01	1.44E-01	1.98E-02	1.93E-02	1.93E-02	1.93E-02	1.93E-02	1.686	0.199	0.046	0.006	0.006	0.006	0.006	0.006	1652.785	195.329	45.076	6.187	6.010	6.010	6.010	6.010
Bulldozer	8.06E+00	9.52E-01	2.20E-01	4.23E-02	2.93E-02	2.93E-02	2.93E-02	2.93E-02	1.484	0.175	0.040	0.008	0.005	0.005	0.005	0.005	2513.731	297.077	68.556	13.210	9.141	9.141	9.141	9.141
Compactor	5.33E-01	3.58E-01	1.50E-02	1.15E-03	1.04E-03	1.04E-03	1.04E-03	1.04E-03	0.093	0.063	0.003	0.000	0.000	0.000	0.000	0.000	166.309	111.548	4.868	0.359	0.325	0.325	0.325	0.325
Water Truck	3.37E+00	3.98E-01	9.19E-02	1.22E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	0.737	0.087	0.020	0.003	0.003	0.003	0.003	0.003	1051.495	124.268	28.677	3.813	3.824	3.824	3.824	3.824
Water Truck	2.95E+00	3.48E-01	8.04E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	0.737	0.087	0.020	0.003	0.003	0.003	0.003	0.003	920.059	108.734	25.093	3.336	3.346	3.346	3.346	3.346
Trailer Mounted Light Plant	4.35E+00	3.05E-01	7.05E-02	7.84E-03	9.40E-03	9.40E-03	9.40E-03	9.40E-03	1.521	0.107	0.025	0.003	0.003	0.003	0.003	0.003	1355.986	95.285	21.989	2.445	2.932	2.932	2.932	2.932
Tipper	7.54E-01	5.06E-01	2.21E-02	1.33E-03	1.47E-03	1.47E-03	1.47E-03	1.47E-03	0.110	0.074	0.003	0.000	0.000	0.000	0.000	0.000	235.153	157.724	6.883	0.414	0.459	0.459	0.459	0.459
Total	25.306	3.493	0.645	0.095	0.083	0.083	0.083	0.083	6.368	0.792	0.157	0.023	0.021	0.021	0.021	0.021	7895.517	1089.967	201.141	29.764	26.035	26.035	26.035	26.035

Onsite Emissions

	Daily Emissions (lb/day)							Hourly Emissions (lb/hr)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	6.622	0.783	0.181	0.025	0.024	0.024	2525.510	0.149	1.686	0.199	0.046

Chiquita Canyon Landfill EIR

Operation Emissions - Proposed Project Flare Emissions

Assumptions:

The operating schedule is based Golder Associates 9/2016 LFG report.
The project does not include the operation of the existing two flares.
Flare emissions are based on existing source test data (CCL meeting, 3/29/12)[1]

Operating scenario:	24	hrs/ day
	365	days / yr
LFG Recovery [2]:	85%	
Existing Flare Capacity (SCFM):	8000	

Operations Year	Landfill Gas Captured (scfm):	New Flares (scfm) [3]
2017	5310.8	N/A
2018	5549.65	N/A
2019	5829.3	N/A
2020	6149.75	N/A
2021	6509.3	N/A
2022	6907.95	N/A
2023	7344.85	N/A
2024	7818.3	N/A
2025	8306.2	306.2
2026	8780.5	780.5
2027	9248	1248
2028	9707	1707
2029	10157.5	2157.5
2030	10599.5	2599.5
2031	11033	3033
2032	11458	3458
2033	11874.5	3874.5
2034	12282.5	4282.5
2035	12682	4682
2036	13073	5073
2037	13455.5	5455.5
2038	13829.5	5829.5
2039	14195	6195
2040	14152.5	6152.5
2041	13872	5872
2042	13600	5600
2043	13328	5328
2044	13064.5	5064.5
2045	12809.5	4809.5
2046	12554.5	4554.5

	Emission Rates (lb/hr)						
Pollutant	**CO [4]**	**NO_x**	**ROG (as CH4)**	**SO_2**	**PM_{10}**	**CO2 (kg/scf) [5]**	**Source Test Inlet Gas Flow Rate (dscfm) [6]**
Source Test of Flare 2 [1]	1.38	1.38	0.278	1.81	0.14	0.025252	2,166
Permitted Limit Flare 1	5.6	3.9	0.92	2.5	1.4	-	4,000
Permitted Limit Flare 2	7.2	2.4	1.33	2.5	1.4	-	4,000

	Emission Rates (lb/dscf)					
Pollutant	**CO**	**NO_x**	**ROG (as CH4)**	**SO_2**	**PM_{10}**	**CO2**
Source Test of Flare 2	0.000011	0.000011	0.000002	0.000014	0.000001	0.055671

	Hourly Emissions (lb/hr)								Daily Emissions (lb/day)								Annual Emissions (lb/year)							
Year of Operation	**CO**	**NO_x**	**ROG (as CH4) [7]**	**SO_2**	**PM_{10}**	**$PM_{2.5}$ [8]**	**CO2**	**CH4 [7]**	**CO**	**NO_x**	**ROG (as CH4) [7]**	**SO_2**	**PM_{10}**	**$PM_{2.5}$ [8]**	**CO2**	**CH4 [7]**	**CO**	**NO_x**	**ROG (as CH4) [7]**	**SO_2**	**PM_{10}**	**$PM_{2.5}$ [8]**	**CO2**	**CH4 [7]**
2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2025	0.20	0.20	0.04	0.26	0.02	0.02	1,022.79	N/A	4.68	4.68	0.94	6.14	0.47	0.47	24,547.04	N/A	1,709	1,709	344	2,241	173	173	8,959,670	N/A
2026	0.50	0.50	0.10	0.65	0.05	0.05	2,607.09	N/A	11.93	11.93	2.40	15.65	1.21	1.21	62,570.11	N/A	4,356	4,356	878	5,713	442	442	22,838,089	N/A
2027	0.80	0.80	0.16	1.04	0.08	0.08	4,168.67	N/A	19.08	19.08	3.84	25.03	1.94	1.94	100,048.04	N/A	6,965	6,965	1,403	9,136	707	707	36,517,533	N/A
2028	1.09	1.09	0.22	1.43	0.11	0.11	5,701.86	N/A	26.10	26.10	5.26	34.23	2.65	2.65	136,844.55	N/A	9,527	9,527	1,919	12,496	967	967	49,948,261	N/A
2029	1.37	1.37	0.28	1.80	0.14	0.14	7,206.65	N/A	32.99	32.99	6.65	43.27	3.35	3.35	172,959.65	N/A	12,041	12,041	2,426	15,793	1,222	1,222	63,130,271	N/A
2030	1.66	1.66	0.33	2.17	0.17	0.17	8,683.06	N/A	39.75	39.75	8.01	52.13	4.03	4.03	208,393.33	N/A	14,508	14,508	2,923	19,029	1,472	1,472	76,063,564	N/A
2031	1.93	1.93	0.39	2.53	0.20	0.20	10,131.07	N/A	46.38	46.38	9.34	60.83	4.70	4.70	243,145.59	N/A	16,928	16,928	3,410	22,202	1,717	1,717	88,748,140	N/A
2032	2.20	2.20	0.44	2.89	0.22	0.22	11,550.68	N/A	52.88	52.88	10.65	69.35	5.36	5.36	277,216.44	N/A	19,300	19,300	3,888	25,313	1,958	1,958	101,183,999	N/A
2033	2.47	2.47	0.50	3.24	0.25	0.25	12,941.91	N/A	59.24	59.24	11.93	77.70	6.01	6.01	310,605.86	N/A	21,624	21,624	4,356	28,362	2,194	2,194	113,371,140	N/A
2034	2.73	2.73	0.55	3.58	0.28	0.28	14,304.74	N/A	65.48	65.48	13.19	85.89	6.64	6.64	343,313.88	N/A	23,901	23,901	4,815	31,349	2,425	2,425	125,309,565	N/A
2035	2.98	2.98	0.60	3.91	0.30	0.30	15,639.19	N/A	71.59	71.59	14.42	93.90	7.26	7.26	375,340.47	N/A	26,131	26,131	5,264	34,273	2,651	2,651	136,999,272	N/A
2036	3.23	3.23	0.65	4.24	0.33	0.33	16,945.24	N/A	77.57	77.57	15.63	101.74	7.87	7.87	406,685.65	N/A	28,313	28,313	5,704	37,135	2,872	2,872	148,440,262	N/A
2037	3.48	3.48	0.70	4.56	0.35	0.35	18,222.89	N/A	83.42	83.42	16.80	109.41	8.46	8.46	437,349.41	N/A	30,448	30,448	6,134	39,935	3,089	3,089	159,632,535	N/A
2038	3.71	3.71	0.75	4.87	0.38	0.38	19,472.16	N/A	89.14	89.14	17.96	116.91	9.04	9.04	467,331.76	N/A	32,535	32,535	6,554	42,673	3,301	3,301	170,576,091	N/A
2039	3.95	3.95	0.80	5.18	0.40	0.40	20,693.03	N/A	94.73	94.73	19.08	124.24	9.61	9.61	496,632.68	N/A	34,575	34,575	6,965	45,349	3,508	3,508	181,270,929	N/A
2040	3.92	3.92	0.79	5.14	0.40	0.40	20,551.07	N/A	94.08	94.08	18.95	123.39	9.54	9.54	493,225.60	N/A	34,338	34,338	6,917	45,038	3,484	3,484	180,027,343	N/A
2041	3.74	3.74	0.75	4.91	0.38	0.38	19,614.12	N/A	89.79	89.79	18.09	117.77	9.11	9.11	470,738.84	N/A	32,773	32,773	6,602	42,984	3,325	3,325	171,819,676	N/A
2042	3.57	3.57	0.72	4.68	0.36	0.36	18,705.56	N/A	85.63	85.63	17.25	112.31	8.69	8.69	448,933.50	N/A	31,255	31,255	6,296	40,993	3,171	3,171	163,860,727	N/A
2043	3.39	3.39	0.68	4.45	0.34	0.34	17,797.01	N/A	81.47	81.47	16.41	106.86	8.27	8.27	427,128.16	N/A	29,736	29,736	5,990	39,002	3,017	3,017	155,901,777	N/A
2044	3.23	3.23	0.65	4.23	0.33	0.33	16,916.84	N/A	77.44	77.44	15.60	101.57	7.86	7.86	406,004.23	N/A	28,266	28,266	5,694	37,073	2,868	2,868	148,191,545	N/A
2045	3.06	3.06	0.62	4.02	0.31	0.31	16,065.07	N/A	73.54	73.54	14.81	96.46	7.46	7.46	385,561.73	N/A	26,843	26,843	5,407	35,207	2,723	2,723	140,730,030	N/A
2046	2.90	2.90	0.58	3.81	0.29	0.29	15,213.30	N/A	69.64	69.64	14.03	91.34	7.07	7.07	365,119.22	N/A	25,419	25,419	5,121	33,340	2,579	2,579	133,268,514	N/A
Total	56.11	56.11	11.30	73.59	5.69	5.69	294,153.99	N/A	1,346.55	1,346.55	271.26	1,766.13	136.61	136.61	7,059,695.71	N/A	491,492.32	491,492.32	99,010.77	644,638.48	49,861.54	49,861.54	2,576,788,934.76	N/A

Conversion:

lb/kg conversion:	2.20
min/yr:	525600
cu.ft./lb-mol (@ 14.696 psia and 60 oF)	379.49
MW CO2 (lb/lb-mol)	44
MW CH4 (lb/lb-mol)	16

[1] Reference: Source test report Horizon Air Measurement Services, INC Test # C33-013-FR, Report February 16, 2012. CCL Compliance Test on Landfill Gas Flare #2. Prepared for the SCAQMD. Initial test 1/5/2012, re-test for PM only on 2/2/12. The final values are included as representative.

[2] LFG recovery would be 85% with BMPs, as described in the SCS Memorandum dated November 2016 (SCS, 2016a).

[3] Years with N/A yield less landfill gas to the flares than is already permitted, therefore, no new flare is needed.

[4] CO emissions were measured as 0.6 lb/hr. However this is less than 20% of the full scale of the analyzer. A low scale calibration gas (10% or 1.38 lb/hr) of range was used to verify the low level emissions. Therefore, the 1.38 lb/hr is used since the measured value was below the analyzer minimum acceptable range.

[5] CO_2 Flare emissions based on The Climate Registry General Reporting Protocol: 2015 Climate Registry Default Emission Factors, April 2015 (EF=0.025252 kg/scf) and Golder Associates 11/15 LFG report (LFG flow rate)

[6] Source Test Inlet Gas Flow Rate was reported as 2,167 dscfm in Table 2-1 of the source test report but as 2,166 dscfm in Table 5-1 of the source test report. Value listed as 2,166 dscfm here to be consistent with values used to estimate toxic emissions.

[7] Total Non-Methane Hydrocarbons (ROG) measured as methane equivalent per source test report: Horizon Air Measurement Services, INC Test # C33-013-FR, Report February 16, 2012. No methane emitted in flare exhaust gas.

[8] $PM_{2.5}$ equals 100% of PM_{10} for flares burning gaseous fuel per Appendix A, Table A of the SCAQMD Final –Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, October 2006.

Chiquita Canyon Landfill EIR

Construction Emissions - Proposed Project Fugitive Emissions From Activities

Project Data [1]

Expansion Landfill Footprint	142.7	acres
Average Module Footprint	20	acres
New Entrance and Road	30	acres
Construction Activity	*Per Module*	*For Entrance*
Total Excavation [2] (cy)	2,965,000	360,000
Excavation Schedule (days)	60	30
Grading Schedule (days)	72	12
Paving [3] (acres)	0	11
Paving Schedule (days)	NA	10
Berm - Onsite Cut / Fill (ft^3) [4]	NA	1,317,911
Berm Schedule [5] (days)	NA	62

General Assumptions

Construction Schedule	Operational Schedule	
10	10	hrs / day
5	6	days / week
4	(52 weeks / yr)	weeks / month

Emission Factors

Activity	Fugitive PM_{10} EF	Fugitive $PM_{2.5}$ EF [6]	Unit
Excavation [7]	0.00042	0.00009	lb/ft^3/day
Grading [7]	26.4	5.5	lb/acre/day
Onsite Cut / Fill [8]	0.059	0.012	ton/1,000 cy
	ROG EF	**Unit**	
Paving [9]	2.62	lb ROG / acre	

Conversion: ft^3/cy 27

Control Measures

Measure	Control Efficiency	Applicable Source	Reference
Apply water every 3 hours to distrubed areas within construction site.	75.00%	Excavation / Grading	Sacramento Metropolitan Air Quality Management District (SMAQMD). 2015. CEQA Guide. June.
Total Control Efficiency	75.00%	Excavation / Grading	

Entrance Construction [10]

Construction Period (months)	Duration (days)	YR
6	120	2018

		Fugitive Particulate Emissions (lb/day)		Fugitive Particulate Emissions (lb/hr)		Fugitive Particulate Emissions (lb/yr) [11]		ROG Emissions (lb/day)	ROG Emissions (lb/hr)	ROG Emissions (lb/yr) [11]
Activity	**Max. Activity per day**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**ROG**	**ROG**	**ROG**
Grading (acres/day) [12]	7.5	198.00	41.18	19.80	4.12	2,161.18	449.53	NA	NA	NA
Excavation (cy/day)	12,000	136.08	28.30	13.61	2.83	3,713.31	772.37	NA	NA	NA
Paving [7] (acres/day)	1.1	NA	NA	NA	NA	NA	NA	2.88	0.29	26.21
Berm - Onsite Cut / Fill (ft^3/day)	21,257	92.90	19.32	9.29	1.93	5,239.01	1,089.71	NA	NA	NA
Total [13]		**290.90**	**60.51**	**29.09**	**6.05**	**11,113.50**	**2,311.61**	**2.88**	**0.29**	**26.21**

Controlled Emissions: Fugitive Particulate Emissions (lb/day)		Fugitive Particulate Emissions (lb/hr)		Fugitive Particulate Emissions (lb/yr) [11]		ROG Emissions (lb/day)	ROG Emissions (lb/hr)	ROG Emissions (lb/yr)
PM_{10}	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**ROG**	**ROG**	**ROG**
49.50	10.30	4.95	1.03	540.30	112.38	NA	NA	NA
34.02	7.08	3.40	0.71	928.33	193.09	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA
23.22	4.83	2.32	0.48	1,309.75	272.43	NA	NA	NA
72.72	**15.13**	**7.27**	**1.51**	**2,778.38**	**577.90**	**N/A**	**N/A**	**N/A**

Module Construction [10]

Construction Period (months)	Duration (days)	YR	
6	120	2017-2041	Emissions are the same for each yr of module construction.

		Fugitive Particulate Emissions (lb/day)		Fugitive Particulate Emissions (lb/hr)		Fugitive Particulate Emissions (lb/yr) [11]		Controlled Emissions: Fugitive Particulate Emissions (lb/day)		Fugitive Particulate Emissions (lb/hr)		Fugitive Particulate Emissions (lb/yr) [11]	
Activity	**Max. Activity per day**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**
Grading (acres/day) [12]	5	132.00	27.46	13.20	2.75	8,644.73	1,798.10	33.00	6.86	3.30	0.69	2,161.18	449.53
Excavation (cy/day)	50,000	567.00	117.94	56.70	11.79	30,944.22	6,436.40	141.75	29.48	14.18	2.95	7,736.05	1,609.10
Total [14, 15]		**699.00**	**145.39**	**69.90**	**14.54**	**39,588.95**	**8,234.50**	**174.75**	**36.35**	**17.48**	**3.63**	**9,897.24**	**2,058.63**

Module Operation [10]

YR	Annual Duration (days)	
2018-2046	312	Emissions are the same for each yr of operation and are for all modules.

		Fugitive Particulate Emissions (lb/day)		Fugitive Particulate Emissions (lb/hr)		Fugitive Particulate Emissions (lb/yr) [11]		Controlled Emissions: Fugitive Particulate Emissions (lb/day)		Fugitive Particulate Emissions (lb/hr)		Fugitive Particulate Emissions (lb/yr) [11]	
Activity	**Assumed Max. Activity**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**
Grading (acres/day)	2.3	60.72	12.63	6.07	1.26	17,231.84	3,584.22	15.18	3.16	1.52	0.32	4,307.96	896.06
Excavation (cy/day)	730	8.28	1.72	0.83	0.17	2,349.29	488.65	2.07	0.43	0.21	0.04	587.32	122.16
Total		**69.00**	**14.35**	**6.90**	**1.44**	**19,581.12**	**4,072.87**	**17.25**	**3.59**	**1.72**	**0.36**	**4,895.28**	**1,018.22**

[1] Unless otherwise noted data provided in the Assumptions tab and are based on project specific inputs.

[2] Typical module size based on Module 9 as per data provided by CCL July 2011. Data provided for entrance construction is 12,000 cy/day.

[3] Total area to be paved includes approximately 8 acres for road and 3 acres for new parking area as per assumptions sheet.

[4] Volume of cut / fill for the Berm Construction taken from design drawings (ccl_berm-calcs-r01.pdf).

[5] The Berm schedule was taken as described on the Construction PP - Exhaust tab.

[6] Source: SCAQMD Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology, October 2006. For construction fugitive dust sources, it is assumed that 20.8% of the PM_{10} would be $PM_{2.5}$. For paved and unpaved road fugitive dust sources, it is assumed that 16.9% and 21.2% of the PM_{10} would be $PM_{2.5}$, respectively.

[7] Source: SCAQMD CEQA Air Quality Handbook, November 1993. Table 9-9, assumed soil density of 1.8 ton/yd^3.

[8] Source: Table 3-2 of the WRAP Fugitive Dust Handbook (Countess Environmental, 2006), which is consistent with the approach used by URBEMIS2007, the previously ARB-approved emission calculation estimator.

[9] Source: Section 4.8 of Appendix A of the CalEEMod User's Guide, 2011.

[10] Fugitive Emissions are based on maximum amount of earth disturbed. Emission factors are independent of operating year. Maximum daily activity data provided by CCL, July 2011.

[11] Fugitive dust emissions assumed not to occur on days in which precipitation would be >0.1 inches. Average Los Angeles - South Coast precipitation conditions (33 days/year) were taken from CalEEMod Appendix D, Table 1.1.

[12] Using the assumptions in Appendix A of the Software User's Guide: URBEMIS2007 for Windows (JSA, 2007), up to 25% of the total graded area could be disturbed on the worst-case day.

[13] The Total Daily and Total Hourly emissions are the maximum emissions given the assumed schedule (i.e., that Grading and Excavation activities do not occur simultaneously and that Berm activities may overlap with Grading and/or Excavation activities). The Total Annual emissions represent the sum of all construction activities occurring within the year.

[14] It is assumed that the construction phases excavation and grading could occur simultaneously for the module construction as consistent with the exhaust construction tab.

[15] Totals for Module Construction represent total emissions from construction of one Module since one module is constructed per year.

Chiquita Canyon Landfill EIR
Operation Emissions - Proposed Project Flare and LFG Toxic Emissions

Assumptions:
Flare and LFG emissions are based on existing source test data from 1/5/12 (CCL meeting, 3/29/12)
Gas flow rate data provided by Golder Associates (9/2016) using EPA's LandGEM Model version 3.02 (Attachment 1 Results table).
Annual LFG recovery rate would be 85% with BMPs, as described in the SCS Memorandum dated November 2016 (SCS, 2016a).
Emissions for the new flares would be the same as the existing flares.

Year	Landfill Gas Generation (scfm)	Landfill Gas Captured (scfm)	New Flares (scfm)	Total Fugitive Landfill Gas (scfm)
2029	11950	10157.5	2157.5	1792.5
2030	12470	10599.5	2599.5	1870.5
2031	12980	11033	3033	1947
2032	13480	11458	3458	2022
2033	13970	11874.5	3874.5	2095.5
2034	14450	12282.5	4282.5	2167.5
2035	14920	12682	4682	2238
2036	15380	13073	5073	2307
2037	15830	13455.5	5455.5	2374.5
2038	16270	13829.5	5829.5	2440.5
2039	16700	14195	6195	2505
2040	16650	14152.5	6152.5	2497.5
2041	16320	13872	5872	2448
2042	16000	13600	5600	2400
2043	15680	13328	5328	2352
2044	15370	13064.5	5064.5	2305.5
2045	15070	12809.5	4809.5	2260.5
2046	14770	12554.5	4554.5	2215.5
2047	14480	12308	4308	2172
2048	14190	12061.5	4061.5	2128.5
2049	13910	11823.5	3823.5	2086.5
2050	13630	11585.5	3585.5	2044.5
2051	13360	11356	3356	2004
2052	13100	11135	3135	1965
2053	12840	10914	2914	1926
2054	12590	10701.5	2701.5	1888.5
2055	12340	10489	2489	1851
2056	12090	10276.5	2276.5	1813.5
2057	11850	10072.5	2072.5	1777.5
2058	11620	9877	1877	1743

Existing Flare Capacity (SCFM): 8000

LFG Recovery Rate 85%

Fugitive LFG Emission Rate 15%

	Source Test Data[1]						Average Flare	Average Landfill	MW
	Run 1		Run 2		Run 3				
	LFG-inlet	Flare outlet	LFG-inlet	Flare outlet	LFG-inlet	Flare outlet			
	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	g/g-mole
Hydrogen sulfide[2]	64400	100	64400	100	64400	100	100	64400	34.08
Benzene[2]	3250	0.4	3250	0.4	3250	0.4	0.4	3250	78.11
Benzylchloride[2]	190	0.75	190	0.75	190	0.75	0.75	190	126.58
Chlorobenzene[2]	160	0.5	160	0.5	160	0.5	0.5	160	112.56
Dichlorobenzene[2]	604	1	604	1	604	1	1	604	147
31,1-Dichloroethane[2]	160	0.5	160	0.5	160	0.5	0.5	160	98.97
1,2-Dichloroethane[2]	402	0.5	402	0.5	402	0.5	0.5	402	98.96
1,1-Dichloroethylene[2]	160	0.5	160	0.5	160	0.5	0.5	160	96.94
Dichloromethane[2]	648	0.5	648	1.2	648	1.5	1.1	648	84.94
1,2-dibromoethane[2]	160	0.5	160	0.5	160	0.5	0.5	160	187.86
Perchloroethene[2]	553	0.4	553	0.4	553	0.4	0.4	553	165.83
Carbon tetrachloride[2]	140	0.4	140	0.4	140	0.4	0.4	140	153.82
Toluene[2]	26200	0.5	26200	2.48	26200	2.83	1.9	26200	92.13
1,1,1-trichloroethane[2]	140	0.4	140	0.4	140	0.4	0.4	140	133.4
Trichloroethene[2]	140	0.4	140	0.4	140	0.4	0.4	140	131.4
Chloroform[2]	140	0.4	140	0.4	140	0.4	0.4	140	119.38
Vinyl chloride[2]	140	0.5	140	0.5	140	0.5	0.5	140	62.5
m-Xylene[2]	12600	0.5	12600	0.5	12600	0.5	0.5	12600	106.16
o+p-Xylene[2]	3630	0.5	3630	0.5	3630	0.5	0.5	3630	106.16
Total Non-methane HC[3]	7926000	3524	7926000	3524	7926000	3524	3524	7926000	16.04

2029		2030		2031		2032		2033		2034	
Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG
2.77E-05	7.59E-02	3.34E-05	7.92E-02	3.90E-05	8.25E-02	4.44E-05	8.56E-02	4.98E-05	8.88E-02	5.50E-05	9.18E-02
2.54E-07	8.78E-03	3.06E-07	9.16E-03	3.57E-07	9.54E-03	4.07E-07	9.91E-03	4.56E-07	1.03E-02	5.04E-07	1.06E-02
7.72E-07	8.32E-04	9.30E-07	8.68E-04	1.09E-06	9.04E-04	1.24E-06	9.39E-04	1.39E-06	9.73E-04	1.53E-06	1.01E-03
4.58E-07	6.23E-04	5.52E-07	6.50E-04	6.44E-07	6.77E-04	7.34E-07	7.03E-04	8.22E-07	7.28E-04	9.09E-07	7.53E-04
1.20E-06	3.07E-03	1.44E-06	3.21E-03	1.68E-06	3.34E-03	1.92E-06	3.46E-03	2.15E-06	3.59E-03	2.37E-06	3.71E-03
4.02E-07	5.48E-04	4.85E-07	5.72E-04	5.66E-07	5.95E-04	6.45E-07	6.18E-04	7.23E-07	6.40E-04	7.99E-07	6.62E-04
4.02E-07	1.38E-03	4.85E-07	1.44E-03	5.66E-07	1.49E-03	6.45E-07	1.55E-03	7.23E-07	1.61E-03	7.99E-07	1.66E-03
3.94E-07	5.37E-04	4.75E-07	5.60E-04	5.54E-07	5.83E-04	6.32E-07	6.05E-04	7.08E-07	6.27E-04	7.83E-07	6.49E-04
7.37E-07	1.90E-03	8.88E-07	1.99E-03	1.04E-06	2.07E-03	1.18E-06	2.15E-03	1.32E-06	2.23E-03	1.46E-06	2.30E-03
7.64E-07	1.04E-03	9.20E-07	1.09E-03	1.07E-06	1.13E-03	1.22E-06	1.17E-03	1.37E-06	1.22E-03	1.52E-06	1.26E-03
5.40E-07	3.17E-03	6.50E-07	3.31E-03	7.58E-07	3.45E-03	8.65E-07	3.58E-03	9.69E-07	3.71E-03	1.07E-06	3.84E-03
5.00E-07	7.45E-04	6.03E-07	7.77E-04	7.04E-07	8.09E-04	8.02E-07	8.40E-04	8.99E-07	8.71E-04	9.93E-07	9.01E-04
1.45E-06	8.35E-02	1.75E-06	8.71E-02	2.04E-06	9.07E-02	2.33E-06	9.42E-02	2.61E-06	9.76E-02	2.88E-06	1.01E-01
4.34E-07	6.46E-04	5.23E-07	6.74E-04	6.10E-07	7.02E-04	6.96E-07	7.29E-04	7.79E-07	7.55E-04	8.61E-07	7.81E-04
4.27E-07	6.36E-04	5.15E-07	6.64E-04	6.01E-07	6.91E-04	6.85E-07	7.18E-04	7.68E-07	7.44E-04	8.49E-07	7.70E-04
3.88E-07	5.78E-04	4.68E-07	6.03E-04	5.46E-07	6.28E-04	6.23E-07	6.52E-04	6.97E-07	6.76E-04	7.71E-07	6.99E-04
2.54E-07	3.03E-04	3.06E-07	3.16E-04	3.57E-07	3.29E-04	4.07E-07	3.41E-04	4.56E-07	3.54E-04	5.05E-07	3.66E-04
4.32E-07	4.63E-02	5.20E-07	4.83E-02	6.07E-07	5.03E-02	6.92E-07	5.22E-02	7.75E-07	5.41E-02	8.57E-07	5.60E-02
4.32E-07	1.33E-02	5.20E-07	1.39E-02	6.07E-07	1.45E-02	6.92E-07	1.50E-02	7.75E-07	1.56E-02	8.57E-07	1.61E-02
4.60E-04	4.40E+00	5.54E-04	4.59E+00	6.46E-04	4.78E+00	7.37E-04	4.96E+00	8.26E-04	5.14E+00	9.13E-04	5.32E+00

Chiquita Canyon Landfill EIR

Operation Emissions - Proposed Project Flare and LFG Toxic Emissions

Flare exhaust gas (dscfm)		31,185		31,185		31,185	
LFG Flow rate (dscfm)	2166		2166		2166		
Temperature (°F)		1500		1500		1500	1500
Flare Stack Informatior							

D (feet)	12
H (feet)	50

Stack height and diameter are confirmed based on source test report.

[1] Reference: Source test report Horizon Air Measurement Services, INC Test # C33-013-FR, Report February 16, 2012. CCL Compliance Test on Landfill Gas Flare #2. Prepared for the SCAQMD. Initial test 1/5/2012, re-test for PM only on 2/2/12.

[2] Note: All pollutant concentrations noted in the source test report as below the detection limit were assumed to equal 50% of the detection limit concentra 50%

[3] Total Non-Methane Hydrocarbons (ROG) measured as methane equivalent per source test report, so MW of methane used to represent MW of TNMHC.

Calculation:

ppmv = µl/L

MV/24.45 (L/mol)*ppb/1000 = µg

V2 = V1P1/P2*T2/T1

1 µL = 35.32 ft^3

g/s = ppb/24.45*Ts/T1*MW*Q/60/35.32/1000000

Calculated Emissions

2035		2036		2037		2038		2039		2040		2041		2042		2043		2044		2045		2046		2047	
Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG
6.02E-05	9.48E-02	6.52E-05	9.77E-02	7.01E-05	1.01E-01	7.49E-05	1.03E-01	7.96E-05	1.06E-01	7.90E-05	1.06E-01	7.54E-05	1.04E-01	7.19E-05	1.02E-01	6.85E-05	9.96E-02	6.51E-05	9.77E-02	6.18E-05	9.58E-02	5.85E-05	9.38E-02	5.53E-05	9.20E-02
5.51E-07	1.10E-02	5.98E-07	1.13E-02	6.43E-07	1.16E-02	6.87E-07	1.20E-02	7.30E-07	1.23E-02	7.25E-07	1.22E-02	6.92E-07	1.20E-02	6.60E-07	1.18E-02	6.28E-07	1.15E-02	5.97E-07	1.13E-02	5.66E-07	1.11E-02	5.36E-07	1.09E-02	5.07E-07	1.06E-02
1.68E-06	1.04E-03	1.82E-06	1.07E-03	1.95E-06	1.10E-03	2.09E-06	1.13E-03	2.22E-06	1.16E-03	2.20E-06	1.16E-03	2.10E-06	1.14E-03	2.00E-06	1.11E-03	1.91E-06	1.09E-03	1.81E-06	1.07E-03	1.72E-06	1.05E-03	1.63E-06	1.03E-03	1.54E-06	1.01E-03
9.93E-07	7.78E-04	1.08E-06	8.02E-04	1.16E-06	8.25E-04	1.24E-06	8.48E-04	1.31E-06	8.71E-04	1.31E-06	8.68E-04	1.25E-06	8.51E-04	1.19E-06	8.34E-04	1.13E-06	8.18E-04	1.07E-06	8.01E-04	1.02E-06	7.86E-04	9.66E-07	7.70E-04	9.14E-07	7.55E-04
2.59E-06	3.83E-03	2.81E-06	3.95E-03	3.02E-06	4.07E-03	3.23E-06	4.18E-03	3.43E-06	4.29E-03	3.41E-06	4.28E-03	3.25E-06	4.19E-03	3.10E-06	4.11E-03	2.95E-06	4.03E-03	2.81E-06	3.95E-03	2.67E-06	3.87E-03	2.52E-06	3.80E-03	2.39E-06	3.72E-03
8.73E-07	6.84E-04	9.46E-07	7.05E-04	1.02E-06	7.26E-04	1.09E-06	7.46E-04	1.16E-06	7.66E-04	1.15E-06	7.63E-04	1.10E-06	7.48E-04	1.04E-06	7.33E-04	9.94E-07	7.19E-04	9.45E-07	7.05E-04	8.97E-07	6.91E-04	8.50E-07	6.77E-04	8.04E-07	6.64E-04
8.73E-07	1.72E-03	9.46E-07	1.77E-03	1.02E-06	1.82E-03	1.09E-06	1.87E-03	1.16E-06	1.92E-03	1.15E-06	1.92E-03	1.10E-06	1.88E-03	1.04E-06	1.84E-03	9.94E-07	1.81E-03	9.45E-07	1.77E-03	8.97E-07	1.74E-03	8.50E-07	1.70E-03	8.04E-07	1.67E-03
8.56E-07	6.70E-04	9.27E-07	6.91E-04	9.97E-07	7.11E-04	1.07E-06	7.31E-04	1.13E-06	7.50E-04	1.12E-06	7.48E-04	1.07E-06	7.33E-04	1.02E-06	7.18E-04	9.74E-07	7.04E-04	9.25E-07	6.90E-04	8.79E-07	6.77E-04	8.32E-07	6.63E-04	7.87E-07	6.50E-04
1.60E-06	2.38E-03	1.73E-06	2.45E-03	1.86E-06	2.52E-03	1.99E-06	2.59E-03	2.12E-06	2.66E-03	2.10E-06	2.65E-03	2.01E-06	2.60E-03	1.91E-06	2.55E-03	1.82E-06	2.50E-03	1.73E-06	2.45E-03	1.64E-06	2.40E-03	1.56E-06	2.35E-03	1.47E-06	2.31E-03
1.66E-06	1.30E-03	1.80E-06	1.34E-03	1.93E-06	1.38E-03	2.06E-06	1.42E-03	2.19E-06	1.45E-03	2.18E-06	1.45E-03	2.08E-06	1.42E-03	1.98E-06	1.39E-03	1.89E-06	1.36E-03	1.79E-06	1.34E-03	1.70E-06	1.31E-03	1.61E-06	1.29E-03	1.53E-06	1.26E-03
1.17E-06	3.96E-03	1.27E-06	4.08E-03	1.36E-06	4.20E-03	1.46E-06	4.32E-03	1.55E-06	4.43E-03	1.54E-06	4.42E-03	1.47E-06	4.33E-03	1.40E-06	4.25E-03	1.33E-06	4.16E-03	1.27E-06	4.08E-03	1.20E-06	4.00E-03	1.14E-06	3.92E-03	1.08E-06	3.84E-03
1.09E-06	9.30E-04	1.18E-06	9.59E-04	1.27E-06	9.87E-04	1.35E-06	1.01E-03	1.44E-06	1.04E-03	1.43E-06	1.04E-03	1.36E-06	1.02E-03	1.30E-06	9.97E-04	1.24E-06	9.78E-04	1.17E-06	9.58E-04	1.12E-06	9.39E-04	1.06E-06	9.21E-04	9.99E-07	9.03E-04
3.15E-06	1.04E-01	3.41E-06	1.07E-01	3.67E-06	1.11E-01	3.92E-06	1.14E-01	4.17E-06	1.17E-01	4.14E-06	1.16E-01	3.95E-06	1.14E-01	3.77E-06	1.12E-01	3.58E-06	1.10E-01	3.41E-06	1.07E-01	3.24E-06	1.05E-01	3.06E-06	1.03E-01	2.90E-06	1.01E-01
9.42E-07	8.07E-04	1.02E-06	8.32E-04	1.10E-06	8.56E-04	1.17E-06	8.80E-04	1.25E-06	9.03E-04	1.24E-06	9.00E-04	1.18E-06	8.82E-04	1.13E-06	8.65E-04	1.07E-06	8.48E-04	1.02E-06	8.31E-04	9.67E-07	8.15E-04	9.16E-07	7.99E-04	8.67E-07	7.83E-04
9.28E-07	7.95E-04	1.01E-06	8.19E-04	1.08E-06	8.43E-04	1.16E-06	8.66E-04	1.23E-06	8.89E-04	1.22E-06	8.87E-04	1.16E-06	8.69E-04	1.11E-06	8.52E-04	1.06E-06	8.35E-04	1.00E-06	8.19E-04	9.53E-07	8.03E-04	9.02E-07	7.87E-04	8.54E-07	7.71E-04
8.43E-07	7.22E-04	9.13E-07	7.44E-04	9.82E-07	7.66E-04	1.05E-06	7.87E-04	1.12E-06	8.08E-04	1.11E-06	8.06E-04	1.06E-06	7.90E-04	1.01E-06	7.74E-04	9.59E-07	7.59E-04	9.12E-07	7.44E-04	8.66E-07	7.29E-04	8.20E-07	7.15E-04	7.76E-07	7.01E-04
5.52E-07	3.78E-04	5.98E-07	3.90E-04	6.43E-07	4.01E-04	6.87E-07	4.12E-04	7.30E-07	4.23E-04	7.25E-07	4.22E-04	6.92E-07	4.13E-04	6.60E-07	4.05E-04	6.28E-07	3.97E-04	5.97E-07	3.89E-04	5.67E-07	3.82E-04	5.37E-07	3.74E-04	5.08E-07	3.67E-04
9.37E-07	5.78E-02	1.02E-06	5.96E-02	1.09E-06	6.13E-02	1.17E-06	6.30E-02	1.24E-06	6.47E-02	1.23E-06	6.45E-02	1.18E-06	6.32E-02	1.12E-06	6.20E-02	1.07E-06	6.07E-02	1.01E-06	5.95E-02	9.62E-07	5.84E-02	9.11E-07	5.72E-02	8.62E-07	5.61E-02
9.37E-07	1.66E-02	1.02E-06	1.72E-02	1.09E-06	1.77E-02	1.17E-06	1.82E-02	1.24E-06	1.86E-02	1.23E-06	1.86E-02	1.18E-06	1.82E-02	1.12E-06	1.78E-02	1.07E-06	1.75E-02	1.01E-06	1.71E-02	9.62E-07	1.68E-02	9.11E-07	1.65E-02	8.62E-07	1.62E-02
9.98E-04	5.49E+00	1.08E-03	5.66E+00	1.16E-03	5.83E+00	1.24E-03	5.99E+00	1.32E-03	6.15E+00	1.31E-03	6.13E+00	1.25E-03	6.01E+00	1.19E-03	5.89E+00	1.14E-03	5.77E+00	1.08E-03	5.66E+00	1.02E-03	5.55E+00	9.71E-04	5.44E+00	9.18E-04	5.33E+00

2048		2049		2050		2051		2052		2053		2054		2055		2056		2057		2058		30 year Average	
Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG
5.22E-05	9.02E-02	4.91E-05	8.84E-02	4.61E-05	8.66E-02	4.31E-05	8.49E-02	4.03E-05	8.32E-02	3.74E-05	8.16E-02	3.47E-05	8.00E-02	3.20E-05	7.84E-02	2.92E-05	7.68E-02	2.66E-05	7.53E-02	2.41E-05	7.38E-02	5.17E-05	8.99E-02
4.78E-07	1.04E-02	4.50E-07	1.02E-02	4.22E-07	1.00E-02	3.95E-07	9.82E-03	3.69E-07	9.63E-03	3.43E-07	9.44E-03	3.18E-07	9.25E-03	2.93E-07	9.07E-03	2.68E-07	8.88E-03	2.44E-07	8.71E-03	2.21E-07	8.54E-03	4.74E-07	1.04E-02
1.45E-06	9.88E-04	1.37E-06	9.68E-04	1.28E-06	9.49E-04	1.20E-06	9.30E-04	1.12E-06	9.12E-04	1.04E-06	8.94E-04	9.67E-07	8.77E-04	8.91E-07	8.59E-04	8.15E-07	8.42E-04	7.42E-07	8.25E-04	6.72E-07	8.09E-04	1.44E-06	9.85E-04
8.62E-07	7.40E-04	8.11E-07	7.25E-04	7.61E-07	7.11E-04	7.12E-07	6.97E-04	6.65E-07	6.83E-04	6.18E-07	6.69E-04	5.73E-07	6.56E-04	5.28E-07	6.43E-04	4.83E-07	6.30E-04	4.40E-07	6.18E-04	3.98E-07	6.06E-04	8.53E-07	7.37E-04
2.25E-06	3.65E-03	2.12E-06	3.58E-03	1.99E-06	3.50E-03	1.86E-06	3.43E-03	1.74E-06	3.37E-03	1.61E-06	3.30E-03	1.50E-06	3.24E-03	1.38E-06	3.17E-03	1.26E-06	3.11E-03	1.15E-06	3.05E-03	1.04E-06	2.99E-03	2.23E-06	3.64E-03
7.58E-07	6.50E-04	7.13E-07	6.38E-04	6.69E-07	6.25E-04	6.26E-07	6.12E-04	5.85E-07	6.01E-04	5.44E-07	5.89E-04	5.04E-07	5.77E-04	4.64E-07	5.66E-04	4.25E-07	5.54E-04	3.87E-07	5.43E-04	3.50E-07	5.33E-04	7.50E-07	6.48E-04
7.58E-07	1.63E-03	7.13E-07	1.60E-03	6.69E-07	1.57E-03	6.26E-07	1.54E-03	5.85E-07	1.51E-03	5.44E-07	1.48E-03	5.04E-07	1.45E-03	4.64E-07	1.42E-03	4.25E-07	1.39E-03	3.87E-07	1.36E-03	3.50E-07	1.34E-03	7.50E-07	1.63E-03
7.42E-07	6.37E-04	6.99E-07	6.25E-04	6.55E-07	6.12E-04	6.13E-07	6.00E-04	5.73E-07	5.88E-04	5.32E-07	5.77E-04	4.94E-07	5.65E-04	4.55E-07	5.54E-04	4.16E-07	5.43E-04	3.79E-07	5.32E-04	3.43E-07	5.22E-04	7.35E-07	6.35E-04
1.39E-06	2.26E-03	1.31E-06	2.22E-03	1.22E-06	2.17E-03	1.15E-06	2.13E-03	1.07E-06	2.09E-03	9.95E-07	2.05E-03	9.23E-07	2.01E-03	8.50E-07	1.97E-03	7.78E-07	1.93E-03	7.08E-07	1.89E-03	6.41E-07	1.85E-03	1.37E-06	2.25E-03
1.44E-06	1.23E-03	1.35E-06	1.21E-03	1.27E-06	1.19E-03	1.19E-06	1.16E-03	1.11E-06	1.14E-03	1.03E-06	1.12E-03	9.57E-07	1.10E-03	8.81E-07	1.07E-03	8.06E-07	1.05E-03	7.34E-07	1.03E-03	6.65E-07	1.01E-03	1.42E-06	1.23E-03
1.02E-06	3.77E-03	9.56E-07	3.69E-03	8.97E-07	3.62E-03	8.39E-07	3.55E-03	7.84E-07	3.48E-03	7.29E-07	3.41E-03	6.76E-07	3.34E-03	6.22E-07	3.28E-03	5.69E-07	3.21E-03	5.18E-07	3.15E-03	4.69E-07	3.08E-03	1.01E-06	3.75E-03
9.42E-07	8.85E-04	8.87E-07	8.67E-04	8.32E-07	8.50E-04	7.78E-07	8.33E-04	7.27E-07	8.17E-04	6.76E-07	8.00E-04	6.27E-07	7.85E-04	5.77E-07	7.69E-04	5.28E-07	7.54E-04	4.81E-07	7.39E-04	4.35E-07	7.24E-04	9.33E-07	8.82E-04
2.73E-06	9.92E-02	2.57E-06	9.72E-02	2.41E-06	9.52E-02	2.26E-06	9.34E-02	2.11E-06	9.15E-02	1.96E-06	8.97E-02	1.82E-06	8.80E-02	1.67E-06	8.62E-02	1.53E-06	8.45E-02	1.39E-06	8.28E-02	1.26E-06	8.12E-02	2.70E-06	9.88E-02
8.17E-07	7.67E-04	7.69E-07	7.52E-04	7.21E-07	7.37E-04	6.75E-07	7.22E-04	6.31E-07	7.08E-04	5.86E-07	6.94E-04	5.43E-07	6.81E-04	5.01E-07	6.67E-04	4.58E-07	6.54E-04	4.17E-07	6.41E-04	3.78E-07	6.28E-04	8.09E-07	7.65E-04
8.05E-07	7.56E-04	7.58E-07	7.41E-04	7.10E-07	7.26E-04	6.65E-07	7.11E-04	6.21E-07	6.98E-04	5.77E-07	6.84E-04	5.35E-07	6.70E-04	4.93E-07	6.57E-04	4.51E-07	6.44E-04	4.11E-07	6.31E-04	3.72E-07	6.19E-04	7.97E-07	7.53E-04
7.31E-07	6.87E-04	6.88E-07	6.73E-04	6.45E-07	6.59E-04	6.04E-07	6.46E-04	5.64E-07	6.34E-04	5.25E-07	6.21E-04	4.86E-07	6.09E-04	4.48E-07	5.97E-04	4.10E-07	5.85E-04	3.73E-07	5.73E-04	3.38E-07	5.62E-04	7.24E-07	6.84E-04
4.78E-07	3.59E-04	4.50E-07	3.52E-04	4.22E-07	3.45E-04	3.95E-07	3.38E-04	3.69E-07	3.32E-04	3.43E-07	3.25E-04	3.18E-07	3.19E-04	2.93E-07	3.13E-04	2.68E-07	3.06E-04	2.44E-07	3.00E-04	2.21E-07	2.94E-04	4.74E-07	3.58E-04
8.13E-07	5.49E-02	7.65E-07	5.39E-02	7.17E-07	5.28E-02	6.72E-07	5.17E-02	6.27E-07	5.07E-02	5.83E-07	4.97E-02	5.41E-07	4.88E-02	4.98E-07	4.78E-02	4.56E-07	4.68E-02	4.15E-07	4.59E-02	3.76E-07	4.50E-02	8.05E-07	5.48E-02
8.13E-07	1.58E-02	7.65E-07	1.55E-02	7.17E-07	1.52E-02	6.72E-07	1.49E-02	6.27E-07	1.46E-02	5.83E-07	1.43E-02	5.41E-07	1.40E-02	4.98E-07	1.38E-02	4.56E-07	1.35E-02	4.15E-07	1.32E-02	3.76E-07	1.30E-02	8.05E-07	1.58E-02
8.65E-04	5.22E+00	8.15E-04	5.12E+00	7.64E-04	5.02E+00	7.15E-04	4.92E+00	6.68E-04	4.82E+00	6.21E-04	4.73E+00	5.76E-04	4.63E+00	5.30E-04	4.54E+00	4.85E-04	4.45E+00	4.42E-04	4.36E+00	4.00E-04	4.28E+00	8.57E-04	5.20E+00

Chiquita Canyon Landfill EIR

Operation Emissions - LandGEM Landfill Gas Generation

LandGEM Landfill Gas Generation Data

Year	Annual Refuse Acceptange Rate (tons)	Cumulative Refuse Acceptance (tons)	Total LFG Generation (scfm)	Total LFG Recovery (85%) (scfm)	Total Fugitive LFG
2017	1,671,429	33,646,802	6,248	5,311	937
2018	1,894,286	35,318,231	6,529	5,550	979
2019	2,117,143	37,212,516	6,858	5,829	1,029
2020	2,340,000	39,329,659	7,235	6,150	1,085
2021	2,562,857	41,669,659	7,658	6,509	1,149
2022	2,785,714	44,232,516	8,127	6,908	1,219
2023	3,008,571	47,018,231	8,641	7,345	1,296
2024	3,120,000	50,026,802	9,198	7,818	1,380
2025	3,120,000	53,146,802	9,772	8,306	1,466
2026	3,120,000	56,266,802	10,330	8,781	1,550
2027	3,120,000	59,386,802	10,880	9,248	1,632
2028	3,120,000	62,506,802	11,420	9,707	1,713
2029	3,120,000	65,626,802	11,950	10,158	1,793
2030	3,120,000	68,746,802	12,470	10,600	1,871
2031	3,120,000	71,866,802	12,980	11,033	1,947
2032	3,120,000	74,986,802	13,480	11,458	2,022
2033	3,120,000	78,106,802	13,970	11,875	2,096
2034	3,120,000	81,226,802	14,450	12,283	2,168
2035	3,120,000	84,346,802	14,920	12,682	2,238
2036	3,120,000	87,466,802	15,380	13,073	2,307
2037	3,120,000	90,586,802	15,830	13,456	2,375
2038	3,120,000	93,706,802	16,270	13,830	2,441
2039	1,158,710	96,826,802	16,700	14,195	2,505
2040	0	97,985,512	16,650	14,153	2,498
2041			16,320	13,872	2,448
2042			16,000	13,600	2,400
2043			15,680	13,328	2,352
2044			15,370	13,065	2,306
2045			15,070	12,810	2,261
2046			14,770	12,555	2,216
2047			14,480	12,308	2,172
2048			14,190	12,062	2,129
2049			13,910	11,824	2,087
2050			13,630	11,586	2,045
2051			13,360	11,356	2,004
2052			13,100	11,135	1,965
2053			12,840	10,914	1,926
2054			12,590	10,702	1,889
2055			12,340	10,489	1,851
2056			12,090	10,277	1,814
2057			11,850	10,073	1,778
2058			11,620	9,877	1,743
2059			11,390	9,682	1,709
2060			11,160	9,486	1,674
2061			10,940	9,299	1,641
2062			10,720	9,112	1,608
2063			10,510	8,934	1,577
2064			10,300	8,755	1,545
2065			10,100	8,585	1,515
2066			9,900	8,415	1,485
2067			9,704	8,248	1,456
2068			9,512	8,085	1,427
2069			9,324	7,925	1,399
2070			9,139	7,768	1,371
2071			8,958	7,614	1,344
2072			8,781	7,464	1,317
2073			8,607	7,316	1,291
2074			8,437	7,171	1,266
2075			8,269	7,029	1,240
2076			8,106	6,890	1,216
2077			7,945	6,753	1,192
2078			7,788	6,620	1,168
2079			7,634	6,489	1,145
2080			7,483	6,361	1,122
2081			7,334	6,234	1,100
2082			7,189	6,111	1,078
2083			7,047	5,990	1,057
2084			6,907	5,871	1,036
2085			6,770	5,755	1,016
2086			6,636	5,641	995
2087			6,505	5,529	976

LandGEM Landfill Gas Generation Data: Highest 30 Years

Year	Annual Refuse Acceptange Rate (tons)	Cumulative Refuse Acceptance (tons)	Total LFG Generation (scfm)	Total LFG Recovery (85%) (scfm)	Total Fugitive LFG
2029	3,120,000	65,626,802	11,950	10,158	1,793
2030	3,120,000	68,746,802	12,470	10,600	1,871
2031	3,120,000	71,866,802	12,980	11,033	1,947
2032	3,120,000	74,986,802	13,480	11,458	2,022
2033	3,120,000	78,106,802	13,970	11,875	2,096
2034	3,120,000	81,226,802	14,450	12,283	2,168
2035	3,120,000	84,346,802	14,920	12,682	2,238
2036	3,120,000	87,466,802	15,380	13,073	2,307
2037	3,120,000	90,586,802	15,830	13,456	2,375
2038	3,120,000	93,706,802	16,270	13,830	2,441
2039	1,158,710	96,826,802	16,700	14,195	2,505
2040	0	97,985,512	16,650	14,153	2,498
2041			16,320	13,872	2,448
2042			16,000	13,600	2,400
2043			15,680	13,328	2,352
2044			15,370	13,065	2,306
2045			15,070	12,810	2,261
2046			14,770	12,555	2,216
2047			14,480	12,308	2,172
2048			14,190	12,062	2,129
2049			13,910	11,824	2,087
2050			13,630	11,586	2,045
2051			13,360	11,356	2,004
2052			13,100	11,135	1,965
2053			12,840	10,914	1,926
2054			12,590	10,702	1,889
2055			12,340	10,489	1,851
2056			12,090	10,277	1,814
2057			11,850	10,073	1,778
2058			11,620	9,877	1,743

Notes: Data obtained from Golder Associates LandGem Model Summary September 2016

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2014	20143	2014Aerial Lifts	2014Aerial Lifts120	Aerial Lifts	63	0.31	0.2400	0.2799	0.0509	0.0004	0.0272	0.0251	38.1	0.0046	120	3
2014	20144	2014Air Compressors	2014Air Compressors120	Air Compressors	78	0.48	0.3216	0.5860	0.0758	0.0006	0.0416	0.0383	47.0	0.0068	120	4
2014	20146	2014Bore/Drill Rigs	2014Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.3426	1.4079	0.0737	0.0021	0.0179	0.0165	188.1	0.0066	250	6
2014	20141	2014Cement and Mortar Mixers	2014Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0386	0.0644	0.0074	0.0001	0.0020	0.0018	6.3	0.0007	15	1
2014	20144	2014Concrete/Industrial Saws	2014Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4796	0.9256	0.0978	0.0009	0.0538	0.0495	74.1	0.0088	120	4
2014	20146	2014Cranes	2014Cranes250	Cranes	226	0.29	0.2817	0.8958	0.0979	0.0013	0.0317	0.0291	112.2	0.0088	250	6
2014	20146	2014Crawler Tractors	2014Crawler Tractors250	Crawler Tractors	208	0.43	0.4797	1.2225	0.1672	0.0019	0.0562	0.0517	166.1	0.0151	250	6
2014	20144	2014Crushing/Proc. Equipment	2014Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5703	1.0378	0.1284	0.0010	0.0704	0.0648	83.1	0.0116	120	4
2014	20141	2014Dumpers/Tenders	2014Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0317	0.0777	0.0095	0.0001	0.0027	0.0025	7.6	0.0009	25	1
2014	20145	2014Excavators	2014Excavators175	Excavators	163	0.38	0.6660	0.8739	0.1134	0.0013	0.0457	0.0421	112.2	0.0102	175	5
2014	20144	2014Forklifts	2014Forklifts120	Forklifts	89	0.2	0.2158	0.2786	0.0390	0.0004	0.0206	0.0190	31.2	0.0035	120	4
2014	20144	2014Generator Sets	2014Generator Sets120	Generator Sets	84	0.74	0.4857	0.9730	0.1008	0.0009	0.0537	0.0494	77.9	0.0091	120	4
2014	20146	2014Graders	2014Graders175	Graders	175	0.41	0.7331	0.9807	0.1386	0.0014	0.0577	0.0531	123.9	0.0125	175	6
2014	20145	2014Off-Highway Tractors	2014Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.8272	0.7636	0.1960	0.0015	0.0820	0.0755	130.4	0.0177	175	5
2014	20147	2014Off-Highway Trucks	2014Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.6134	1.9771	0.2065	0.0027	0.0567	0.0522	272.3	0.0186	500	7
2014	20145	2014Other Construction Equipment	2014Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5867	1.0193	0.0868	0.0012	0.0374	0.0344	106.5	0.0078	175	5
2014	20144	2014Other General Industrial Equipmen	2014Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.4435	0.4683	0.1082	0.0007	0.0583	0.0536	62.0	0.0098	120	4
2014	20145	2014Other Material Handling Equipment	2014Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.7226	0.9425	0.1481	0.0014	0.0631	0.0581	122.1	0.0134	175	5
2014	20145	2014Pavers	2014Pavers175	Pavers	126	0.42	0.7742	0.7467	0.1695	0.0014	0.0720	0.0663	128.3	0.0153	175	5
2014	20145	2014Paving Equipment	2014Paving Equipment175	Paving Equipment	131	0.36	0.6049	0.6654	0.1323	0.0011	0.0565	0.0519	101.0	0.0119	175	5
2014	20141	2014Plate Compactors	2014Plate Compactors15	Plate Compactors	8	0.43	0.0263	0.0440	0.0050	0.0001	0.0012	0.0011	4.3	0.0005	15	1
2014	20141	2014Pressure Washers	2014Pressure Washers15	Pressure Washers	13	0.3	0.0321	0.0499	0.0068	0.0001	0.0026	0.0024	4.9	0.0006	15	1
2014	20144	2014Pumps	2014Pumps120	Pumps	84	0.74	0.4934	0.9730	0.1049	0.0009	0.0563	0.0518	77.9	0.0095	120	4
2014	20144	2014Rollers	2014Rollers120	Rollers	81	0.38	0.4030	0.4818	0.0921	0.0007	0.0494	0.0454	59.0	0.0083	120	4
2014	20145	2014Rough Terrain Forklifts	2014Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.4292	0.5644	0.0877	0.0007	0.0474	0.0436	62.4	0.0079	120	5
2014	20146	2014Rubber Tired Dozers	2014Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	1.3307	1.3942	0.3072	0.0026	0.1058	0.0973	264.9	0.0277	500	6
2014	20146	2014Rubber Tired Loaders	2014Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3553	0.9841	0.1186	0.0017	0.0375	0.0345	149.0	0.0107	250	6
2014	20147	2014Scrapers	2014Scrapers500	Scrapers	362	0.48	1.1355	2.2601	0.3033	0.0032	0.1012	0.0931	321.4	0.0274	500	7
2014	20141	2014Signal Boards	2014Signal Boards15	Signal Boards	6	0.82	0.0377	0.0629	0.0072	0.0001	0.0018	0.0016	6.2	0.0006	15	1
2014	20143	2014Skid Steer Loaders	2014Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.2727	0.3446	0.0380	0.0005	0.0205	0.0189	42.8	0.0034	120	3
2014	20146	2014Surfacing Equipment	2014Surfacing Equipment500	Surfacing Equipment	254	0.3	0.6069	1.0416	0.1433	0.0022	0.0516	0.0475	221.2	0.0129	500	6
2014	20143	2014Sweepers/Scrubbers	2014Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.5098	0.4219	0.0991	0.0009	0.0543	0.0499	75.0	0.0089	120	3
2014	20144	2014Tractors/Loaders/Backhoes	2014Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.3503	0.5676	0.0634	0.0006	0.0337	0.0310	51.7	0.0057	120	4
2014	20144	2014Trenchers	2014Trenchers120	Trenchers	81	0.5	0.4640	0.6339	0.1212	0.0008	0.0629	0.0578	64.9	0.0109	120	4
2014	20142	2014Welders	2014Welders50	Welders	46	0.45	0.2652	0.2647	0.0886	0.0003	0.0219	0.0202	26.0	0.0080	50	2
2015	20153	2015Aerial Lifts	2015Aerial Lifts120	Aerial Lifts	63	0.31	0.2377	0.2669	0.0460	0.0004	0.0246	0.0226	38.1	0.0042	120	3
2015	20154	2015Air Compressors	2015Air Compressors120	Air Compressors	78	0.48	0.3182	0.5530	0.0691	0.0006	0.0375	0.0345	47.0	0.0062	120	4
2015	20156	2015Bore/Drill Rigs	2015Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.3425	1.3170	0.0681	0.0021	0.0144	0.0132	188.1	0.0061	250	6
2015	20151	2015Cement and Mortar Mixers	2015Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0386	0.0622	0.0074	0.0001	0.0019	0.0018	6.3	0.0007	15	1
2015	20154	2015Concrete/Industrial Saws	2015Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4759	0.8734	0.0892	0.0009	0.0486	0.0448	74.1	0.0080	120	4
2015	20156	2015Cranes	2015Cranes250	Cranes	226	0.29	0.2713	0.8380	0.0925	0.0013	0.0286	0.0263	112.2	0.0083	250	6
2015	20156	2015Crawler Tractors	2015Crawler Tractors250	Crawler Tractors	208	0.43	0.4614	1.1437	0.1582	0.0019	0.0514	0.0473	166.1	0.0143	250	6
2015	20154	2015Crushing/Proc. Equipment	2015Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5646	0.9793	0.1167	0.0010	0.0629	0.0579	83.1	0.0105	120	4
2015	20151	2015Dumpers/Tenders	2015Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0315	0.0751	0.0093	0.0001	0.0025	0.0023	7.6	0.0008	25	1
2015	20155	2015Excavators	2015Excavators175	Excavators	163	0.38	0.6653	0.8193	0.1052	0.0013	0.0405	0.0372	112.2	0.0095	175	5
2015	20154	2015Forklifts	2015Forklifts120	Forklifts	89	0.2	0.2143	0.2629	0.0345	0.0004	0.0174	0.0160	31.2	0.0031	120	4
2015	20154	2015Generator Sets	2015Generator Sets120	Generator Sets	84	0.74	0.4811	0.9182	0.0910	0.0009	0.0484	0.0445	77.9	0.0082	120	4
2015	20156	2015Graders	2015Graders175	Graders	175	0.41	0.7319	0.9175	0.1299	0.0014	0.0526	0.0484	123.9	0.0117	175	6
2015	20155	2015Off-Highway Tractors	2015Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.8216	0.7159	0.1870	0.0015	0.0771	0.0709	130.4	0.0169	175	5
2015	20157	2015Off-Highway Trucks	2015Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.5949	1.8431	0.1960	0.0027	0.0505	0.0465	272.3	0.0177	500	7
2015	20155	2015Other Construction Equipment	2015Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5864	0.9556	0.0796	0.0012	0.0331	0.0305	106.5	0.0072	175	5
2015	20154	2015Other General Industrial Equipmen	2015Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.4387	0.4419	0.0987	0.0007	0.0521	0.0480	62.0	0.0089	120	4
2015	20155	2015Other Material Handling Equipment	2015Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.7201	0.8836	0.1365	0.0014	0.0567	0.0522	122.1	0.0123	175	5
2015	20155	2015Pavers	2015Pavers175	Pavers	126	0.42	0.7707	0.7000	0.1608	0.0014	0.0673	0.0619	128.3	0.0145	175	5
2015	20155	2015Paving Equipment	2015Paving Equipment175	Paving Equipment	131	0.36	0.6025	0.6238	0.1254	0.0011	0.0528	0.0486	101.0	0.0113	175	5
2015	20151	2015Plate Compactors	2015Plate Compactors15	Plate Compactors	8	0.43	0.0263	0.0425	0.0050	0.0001	0.0012	0.0011	4.3	0.0005	15	1
2015	20151	2015Pressure Washers	2015Pressure Washers15	Pressure Washers	13	0.3	0.0315	0.0481	0.0065	0.0001	0.0024	0.0022	4.9	0.0006	15	1
2015	20154	2015Pumps	2015Pumps120	Pumps	84	0.74	0.4887	0.9182	0.0949	0.0009	0.0508	0.0467	77.9	0.0086	120	4
2015	20154	2015Rollers	2015Rollers120	Rollers	81	0.38	0.4000	0.4546	0.0857	0.0007	0.0454	0.0418	59.0	0.0077	120	4
2015	20155	2015Rough Terrain Forklifts	2015Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.4260	0.5291	0.0801	0.0007	0.0420	0.0387	62.4	0.0072	120	5
2015	20156	2015Rubber Tired Dozers	2015Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	1.2456	1.3043	0.2932	0.0026	0.0985	0.0906	264.9	0.0265	500	6
2015	20156	2015Rubber Tired Loaders	2015Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3444	0.9206	0.1118	0.0017	0.0337	0.0310	149.0	0.0101	250	6
2015	20157	2015Scrapers	2015Scrapers500	Scrapers	362	0.48	1.0688	2.1069	0.2883	0.0032	0.0930	0.0855	321.4	0.0260	500	7
2015	20151	2015Signal Boards	2015Signal Boards15	Signal Boards	6	0.82	0.0377	0.0607	0.0072	0.0001	0.0018	0.0016	6.2	0.0006	15	1
2015	20153	2015Skid Steer Loaders	2015Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.2710	0.3287	0.0334	0.0005	0.0170	0.0156	42.8	0.0030	120	3
2015	20156	2015Surfacing Equipment	2015Surfacing Equipment500	Surfacing Equipment	254	0.3	0.5759	0.9744	0.1342	0.0022	0.0468	0.0431	221.2	0.0121	500	6

Chiquita Canyon Landfill EIR

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2015	20153	2015Sweepers/Scrubbers	2015Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.5056	0.4024	0.0880	0.0009	0.0466	0.0429	75.0	0.0079	120	3
2015	20154	2015Tractors/Loaders/Backhoes	2015Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.3480	0.5356	0.0577	0.0006	0.0293	0.0270	51.7	0.0052	120	4
2015	20154	2015Trenchers	2015Trenchers120	Trenchers	81	0.5	0.4600	0.5982	0.1144	0.0008	0.0590	0.0542	64.9	0.0103	120	4
2015	20152	2015Welders	2015Welders50	Welders	46	0.45	0.2564	0.2556	0.0801	0.0003	0.0200	0.0184	26.0	0.0072	50	2
2016	20163	2016Aerial Lifts	2016Aerial Lifts120	Aerial Lifts	63	0.31	0.2355	0.2497	0.0413	0.0004	0.0219	0.0201	38.1	0.0037	120	3
2016	20164	2016Air Compressors	2016Air Compressors120	Air Compressors	78	0.48	0.3150	0.5118	0.0624	0.0006	0.0333	0.0307	47.0	0.0056	120	4
2016	20166	2016Bore/Drill Rigs	2016Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.3425	1.2035	0.0628	0.0021	0.0114	0.0104	188.1	0.0057	250	6
2016	20161	2016Cement and Mortar Mixers	2016Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0386	0.0589	0.0074	0.0001	0.0019	0.0017	6.3	0.0007	15	1
2016	20164	2016Concrete/Industrial Saws	2016Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4724	0.8082	0.0809	0.0009	0.0436	0.0401	74.1	0.0073	120	4
2016	20166	2016Cranes	2016Cranes250	Cranes	226	0.29	0.2634	0.7658	0.0875	0.0013	0.0259	0.0239	112.2	0.0079	250	6
2016	20166	2016Crawler Tractors	2016Crawler Tractors250	Crawler Tractors	208	0.43	0.4452	1.0451	0.1496	0.0019	0.0468	0.0431	166.1	0.0135	250	6
2016	20164	2016Crushing/Proc. Equipment	2016Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5594	0.9062	0.1054	0.0010	0.0555	0.0510	83.1	0.0095	120	4
2016	20161	2016Dumpers/Tenders	2016Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0314	0.0710	0.0093	0.0001	0.0024	0.0022	7.6	0.0008	25	1
2016	20165	2016Excavators	2016Excavators175	Excavators	163	0.38	0.6648	0.7510	0.0972	0.0013	0.0355	0.0326	112.2	0.0088	175	5
2016	20164	2016Forklifts	2016Forklifts120	Forklifts	89	0.2	0.2133	0.2433	0.0313	0.0004	0.0149	0.0137	31.2	0.0028	120	4
2016	20164	2016Generator Sets	2016Generator Sets120	Generator Sets	84	0.74	0.4767	0.8496	0.0814	0.0009	0.0431	0.0397	77.9	0.0073	120	4
2016	20166	2016Graders	2016Graders175	Graders	175	0.41	0.7310	0.8384	0.1215	0.0014	0.0476	0.0438	123.9	0.0110	175	6
2016	20165	2016Off-Highway Tractors	2016Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.8166	0.6562	0.1782	0.0015	0.0723	0.0665	130.4	0.0161	175	5
2016	20167	2016Off-Highway Trucks	2016Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.5796	1.7090	0.1855	0.0027	0.0448	0.0412	272.3	0.0167	500	7
2016	20165	2016Other Construction Equipment	2016Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5862	0.8759	0.0729	0.0012	0.0291	0.0267	106.5	0.0066	175	5
2016	20164	2016Other General Industrial Equipmen	2016Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.4343	0.4090	0.0895	0.0007	0.0461	0.0424	62.0	0.0081	120	4
2016	20165	2016Other Material Handling Equipment	2016Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.7182	0.8100	0.1251	0.0014	0.0504	0.0463	122.1	0.0113	175	5
2016	20165	2016Pavers	2016Pavers175	Pavers	126	0.42	0.7678	0.6417	0.1524	0.0014	0.0627	0.0576	128.3	0.0138	175	5
2016	20165	2016Paving Equipment	2016Paving Equipment175	Paving Equipment	131	0.36	0.6004	0.5718	0.1188	0.0011	0.0492	0.0453	101.0	0.0107	175	5
2016	20161	2016Plate Compactors	2016Plate Compactors15	Plate Compactors	8	0.43	0.0263	0.0402	0.0050	0.0001	0.0012	0.0011	4.3	0.0005	15	1
2016	20161	2016Pressure Washers	2016Pressure Washers15	Pressure Washers	13	0.3	0.0312	0.0456	0.0062	0.0001	0.0023	0.0021	4.9	0.0006	15	1
2016	20164	2016Pumps	2016Pumps120	Pumps	84	0.74	0.4842	0.8496	0.0851	0.0009	0.0453	0.0416	77.9	0.0077	120	4
2016	20164	2016Rollers	2016Rollers120	Rollers	81	0.38	0.3971	0.4207	0.0795	0.0007	0.0416	0.0383	59.0	0.0072	120	4
2016	20165	2016Rough Terrain Forklifts	2016Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.4231	0.4850	0.0729	0.0007	0.0369	0.0339	62.4	0.0066	120	5
2016	20166	2016Rubber Tired Dozers	2016Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	1.1678	1.1918	0.2794	0.0026	0.0915	0.0842	264.9	0.0252	500	6
2016	20166	2016Rubber Tired Loaders	2016Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3357	0.8413	0.1056	0.0017	0.0302	0.0278	149.0	0.0095	250	6
2016	20167	2016Scrapers	2016Scrapers500	Scrapers	362	0.48	1.0107	1.9537	0.2736	0.0032	0.0851	0.0783	321.4	0.0247	500	7
2016	20161	2016Signal Boards	2016Signal Boards15	Signal Boards	6	0.82	0.0377	0.0575	0.0072	0.0001	0.0018	0.0016	6.2	0.0006	15	1
2016	20163	2016Skid Steer Loaders	2016Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.2695	0.3075	0.0295	0.0005	0.0138	0.0127	42.8	0.0027	120	3
2016	20166	2016Surfacing Equipment	2016Surfacing Equipment500	Surfacing Equipment	254	0.3	0.5485	0.8904	0.1260	0.0022	0.0425	0.0391	221.2	0.0114	500	6
2016	20163	2016Sweepers/Scrubbers	2016Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.5017	0.3764	0.0774	0.0009	0.0392	0.0361	75.0	0.0070	120	3
2016	20164	2016Tractors/Loaders/Backhoes	2016Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.3460	0.4956	0.0524	0.0006	0.0253	0.0233	51.7	0.0047	120	4
2016	20164	2016Trenchers	2016Trenchers120	Trenchers	81	0.5	0.4563	0.5536	0.1080	0.0008	0.0551	0.0507	64.9	0.0097	120	4
2016	20162	2016Welders	2016Welders50	Welders	46	0.45	0.2483	0.2419	0.0717	0.0003	0.0181	0.0166	26.0	0.0065	50	2
2017	20173	2017Aerial Lifts	2017Aerial Lifts120	Aerial Lifts	63	0.31	0.2336	0.2325	0.0368	0.0004	0.0194	0.0178	38.1	0.0033	120	3
2017	20174	2017Air Compressors	2017Air Compressors120	Air Compressors	78	0.48	0.3122	0.4540	0.0562	0.0006	0.0294	0.0270	47.0	0.0051	120	4
2017	20176	2017Bore/Drill Rigs	2017Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.3426	1.0673	0.0580	0.0021	0.0088	0.0081	188.1	0.0052	250	6
2017	20171	2017Cement and Mortar Mixers	2017Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0386	0.0556	0.0074	0.0001	0.0018	0.0017	6.3	0.0007	15	1
2017	20174	2017Concrete/Industrial Saws	2017Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4691	0.7170	0.0728	0.0009	0.0385	0.0354	74.1	0.0066	120	4
2017	20176	2017Cranes	2017Cranes250	Cranes	226	0.29	0.2572	0.6791	0.0830	0.0013	0.0235	0.0216	112.2	0.0075	250	6
2017	20176	2017Crawler Tractors	2017Crawler Tractors250	Crawler Tractors	208	0.43	0.4308	0.9268	0.1413	0.0019	0.0426	0.0391	166.1	0.0127	250	6
2017	20174	2017Crushing/Proc. Equipment	2017Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5547	0.8039	0.0948	0.0010	0.0484	0.0445	83.1	0.0086	120	4
2017	20171	2017Dumpers/Tenders	2017Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0314	0.0670	0.0092	0.0001	0.0023	0.0021	7.6	0.0008	25	1
2017	20175	2017Excavators	2017Excavators175	Excavators	163	0.38	0.6644	0.6691	0.0896	0.0013	0.0308	0.0283	112.2	0.0081	175	5
2017	20174	2017Forklifts	2017Forklifts120	Forklifts	89	0.2	0.2125	0.2158	0.0287	0.0004	0.0128	0.0117	31.2	0.0026	120	4
2017	20174	2017Generator Sets	2017Generator Sets120	Generator Sets	84	0.74	0.4728	0.7537	0.0725	0.0009	0.0381	0.0350	77.9	0.0065	120	4
2017	20176	2017Graders	2017Graders175	Graders	175	0.41	0.7301	0.7435	0.1135	0.0014	0.0429	0.0395	123.9	0.0102	175	6
2017	20175	2017Off-Highway Tractors	2017Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.8122	0.5846	0.1697	0.0015	0.0677	0.0623	130.4	0.0153	175	5
2017	20177	2017Off-Highway Trucks	2017Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.5676	1.5080	0.1753	0.0027	0.0397	0.0365	272.3	0.0158	500	7
2017	20175	2017Other Construction Equipment	2017Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5860	0.7804	0.0665	0.0012	0.0252	0.0232	106.5	0.0060	175	5
2017	20174	2017Other General Industrial Equipmen	2017Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.4307	0.3628	0.0811	0.0007	0.0404	0.0371	62.0	0.0073	120	4
2017	20175	2017Other Material Handling Equipment	2017Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.7173	0.7216	0.1146	0.0014	0.0445	0.0409	122.1	0.0103	175	5
2017	20175	2017Pavers	2017Pavers175	Pavers	126	0.42	0.7653	0.5717	0.1443	0.0014	0.0582	0.0536	128.3	0.0130	175	5
2017	20175	2017Paving Equipment	2017Paving Equipment175	Paving Equipment	131	0.36	0.5987	0.5095	0.1124	0.0011	0.0458	0.0421	101.0	0.0101	175	5
2017	20171	2017Plate Compactors	2017Plate Compactors15	Plate Compactors	8	0.43	0.0263	0.0379	0.0050	0.0001	0.0012	0.0011	4.3	0.0005	15	1
2017	20171	2017Pressure Washers	2017Pressure Washers15	Pressure Washers	13	0.3	0.0310	0.0430	0.0060	0.0001	0.0022	0.0020	4.9	0.0005	15	1
2017	20174	2017Pumps	2017Pumps120	Pumps	84	0.74	0.4802	0.7537	0.0760	0.0009	0.0400	0.0368	77.9	0.0069	120	4
2017	20174	2017Rollers	2017Rollers120	Rollers	81	0.38	0.3944	0.3732	0.0736	0.0007	0.0378	0.0348	59.0	0.0066	120	4
2017	20175	2017Rough Terrain Forklifts	2017Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.4203	0.4321	0.0660	0.0007	0.0319	0.0294	62.4	0.0060	120	5
2017	20176	2017Rubber Tired Dozers	2017Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	1.0972	1.0569	0.2660	0.0026	0.0849	0.0781	264.9	0.0240	500	6
2017	20176	2017Rubber Tired Loaders	2017Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3290	0.7460	0.1000	0.0017	0.0272	0.0250	149.0	0.0090	250	6

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2017	20177	2017Scrapers	2017Scrapers500	Scrapers	362	0.48	0.9602	1.7238	0.2594	0.0032	0.0777	0.0715	321.4	0.0234	500	7
2017	20171	2017Signal Boards	2017Signal Boards15	Signal Boards	6	0.82	0.0377	0.0542	0.0072	0.0001	0.0018	0.0016	6.2	0.0006	15	1
2017	20173	2017Skid Steer Loaders	2017Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.2686	0.2863	0.0268	0.0005	0.0114	0.0105	42.8	0.0024	120	3
2017	20176	2017Surfacing Equipment	2017Surfacing Equipment500	Surfacing Equipment	254	0.3	0.5248	0.7896	0.1186	0.0022	0.0385	0.0355	221.2	0.0107	500	6
2017	20173	2017Sweepers/Scrubbers	2017Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.4996	0.3505	0.0701	0.0009	0.0336	0.0309	75.0	0.0063	120	3
2017	20174	2017Tractors/Loaders/Backhoes	2017Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.3442	0.4397	0.0477	0.0006	0.0217	0.0199	51.7	0.0043	120	4
2017	20174	2017Trenchers	2017Trenchers120	Trenchers	81	0.5	0.4529	0.4911	0.1018	0.0008	0.0514	0.0473	64.9	0.0092	120	4
2017	20172	2017Welders	2017Welders50	Welders	46	0.45	0.2408	0.2282	0.0638	0.0003	0.0162	0.0149	26.0	0.0058	50	2
2018	20183	2018Aerial Lifts	2018Aerial Lifts120	Aerial Lifts	63	0.31	0.2319	0.2153	0.0327	0.0004	0.0170	0.0156	38.1	0.0029	120	3
2018	20184	2018Air Compressors	2018Air Compressors120	Air Compressors	78	0.48	0.3097	0.3962	0.0504	0.0006	0.0255	0.0235	47.0	0.0045	120	4
2018	20186	2018Bore/Drill Rigs	2018Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.3426	0.9310	0.0538	0.0021	0.0068	0.0063	188.1	0.0049	250	6
2018	20181	2018Cement and Mortar Mixers	2018Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0386	0.0522	0.0074	0.0001	0.0018	0.0017	6.3	0.0007	15	1
2018	20184	2018Concrete/Industrial Saws	2018Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4661	0.6257	0.0650	0.0009	0.0335	0.0308	74.1	0.0059	120	4
2018	20186	2018Cranes	2018Cranes250	Cranes	226	0.29	0.2521	0.5924	0.0787	0.0013	0.0212	0.0195	112.2	0.0071	250	6
2018	20186	2018Crawler Tractors	2018Crawler Tractors250	Crawler Tractors	208	0.43	0.4179	0.8084	0.1333	0.0019	0.0385	0.0355	166.1	0.0120	250	6
2018	20184	2018Crushing/Proc. Equipment	2018Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5506	0.7016	0.0849	0.0010	0.0416	0.0383	83.1	0.0077	120	4
2018	20181	2018Dumpers/Tenders	2018Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0314	0.0630	0.0092	0.0001	0.0023	0.0021	7.6	0.0008	25	1
2018	20185	2018Excavators	2018Excavators175	Excavators	163	0.38	0.6641	0.5872	0.0824	0.0013	0.0264	0.0243	112.2	0.0074	175	5
2018	20184	2018Forklifts	2018Forklifts120	Forklifts	89	0.2	0.2118	0.1884	0.0265	0.0004	0.0108	0.0099	31.2	0.0024	120	4
2018	20184	2018Generator Sets	2018Generator Sets120	Generator Sets	84	0.74	0.4694	0.6578	0.0642	0.0009	0.0333	0.0306	77.9	0.0058	120	4
2018	20186	2018Graders	2018Graders175	Graders	175	0.41	0.7294	0.6485	0.1059	0.0014	0.0385	0.0354	123.9	0.0096	175	6
2018	20185	2018Off-Highway Tractors	2018Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.8085	0.5131	0.1614	0.0015	0.0632	0.0581	130.4	0.0146	175	5
2018	20187	2018Off-Highway Trucks	2018Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.5578	1.3404	0.1656	0.0027	0.0351	0.0323	272.3	0.0149	500	7
2018	20185	2018Other Construction Equipment	2018Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5859	0.6848	0.0608	0.0012	0.0218	0.0200	106.5	0.0055	175	5
2018	20184	2018Other General Industrial Equipmen	2018Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.4277	0.3166	0.0732	0.0007	0.0350	0.0322	62.0	0.0066	120	4
2018	20185	2018Other Material Handling Equipment	2018Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.7171	0.6333	0.1050	0.0014	0.0389	0.0358	122.1	0.0095	175	5
2018	20185	2018Pavers	2018Pavers175	Pavers	126	0.42	0.7632	0.5017	0.1365	0.0014	0.0539	0.0496	128.3	0.0123	175	5
2018	20185	2018Paving Equipment	2018Paving Equipment175	Paving Equipment	131	0.36	0.5971	0.4471	0.1062	0.0011	0.0424	0.0390	101.0	0.0096	175	5
2018	20181	2018Plate Compactors	2018Plate Compactors15	Plate Compactors	8	0.43	0.0263	0.0356	0.0050	0.0001	0.0012	0.0011	4.3	0.0005	15	1
2018	20181	2018Pressure Washers	2018Pressure Washers15	Pressure Washers	13	0.3	0.0308	0.0404	0.0059	0.0001	0.0021	0.0019	4.9	0.0005	15	1
2018	20184	2018Pumps	2018Pumps120	Pumps	84	0.74	0.4767	0.6578	0.0676	0.0009	0.0350	0.0322	77.9	0.0061	120	4
2018	20184	2018Rollers	2018Rollers120	Rollers	81	0.38	0.3919	0.3257	0.0680	0.0007	0.0341	0.0314	59.0	0.0061	120	4
2018	20185	2018Rough Terrain Forklifts	2018Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.4179	0.3792	0.0596	0.0007	0.0273	0.0251	62.4	0.0054	120	5
2018	20186	2018Rubber Tired Dozers	2018Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	1.0338	0.9220	0.2531	0.0026	0.0787	0.0724	264.9	0.0228	500	6
2018	20186	2018Rubber Tired Loaders	2018Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3237	0.6508	0.0946	0.0017	0.0244	0.0224	149.0	0.0085	250	6
2018	20187	2018Scrapers	2018Scrapers500	Scrapers	362	0.48	0.9165	1.5323	0.2458	0.0032	0.0707	0.0650	321.4	0.0222	500	7
2018	20181	2018Signal Boards	2018Signal Boards15	Signal Boards	6	0.82	0.0377	0.0510	0.0072	0.0001	0.0018	0.0016	6.2	0.0006	15	1
2018	20183	2018Skid Steer Loaders	2018Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.2680	0.2651	0.0248	0.0005	0.0095	0.0087	42.8	0.0022	120	3
2018	20186	2018Surfacing Equipment	2018Surfacing Equipment500	Surfacing Equipment	254	0.3	0.5047	0.6888	0.1120	0.0022	0.0350	0.0322	221.2	0.0101	500	6
2018	20183	2018Sweepers/Scrubbers	2018Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.4983	0.3245	0.0647	0.0009	0.0291	0.0267	75.0	0.0058	120	3
2018	20184	2018Tractors/Loaders/Backhoes	2018Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.3426	0.3837	0.0435	0.0006	0.0184	0.0169	51.7	0.0039	120	4
2018	20184	2018Trenchers	2018Trenchers120	Trenchers	81	0.5	0.4498	0.4286	0.0959	0.0008	0.0477	0.0439	64.9	0.0087	120	4
2018	20182	2018Welders	2018Welders50	Welders	46	0.45	0.2339	0.2145	0.0563	0.0003	0.0144	0.0132	26.0	0.0051	50	2
2019	20193	2019Aerial Lifts	2019Aerial Lifts120	Aerial Lifts	63	0.31	0.2304	0.1981	0.0288	0.0004	0.0146	0.0135	38.1	0.0026	120	3
2019	20194	2019Air Compressors	2019Air Compressors120	Air Compressors	78	0.48	0.3075	0.3384	0.0450	0.0006	0.0218	0.0201	47.0	0.0041	120	4
2019	20196	2019Bore/Drill Rigs	2019Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.3426	0.7948	0.0502	0.0021	0.0054	0.0049	188.1	0.0045	250	6
2019	20191	2019Cement and Mortar Mixers	2019Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0386	0.0489	0.0074	0.0001	0.0018	0.0017	6.3	0.0007	15	1
2019	20194	2019Concrete/Industrial Saws	2019Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4633	0.5345	0.0579	0.0009	0.0288	0.0265	74.1	0.0052	120	4
2019	20196	2019Cranes	2019Cranes250	Cranes	226	0.29	0.2478	0.5057	0.0745	0.0013	0.0190	0.0175	112.2	0.0067	250	6
2019	20196	2019Crawler Tractors	2019Crawler Tractors250	Crawler Tractors	208	0.43	0.4065	0.6901	0.1258	0.0019	0.0349	0.0321	166.1	0.0114	250	6
2019	20194	2019Crushing/Proc. Equipment	2019Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5471	0.5993	0.0760	0.0010	0.0353	0.0325	83.1	0.0069	120	4
2019	20191	2019Dumpers/Tenders	2019Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0314	0.0590	0.0092	0.0001	0.0022	0.0021	7.6	0.0008	25	1
2019	20195	2019Excavators	2019Excavators175	Excavators	163	0.38	0.6638	0.5053	0.0759	0.0013	0.0227	0.0208	112.2	0.0068	175	5
2019	20194	2019Forklifts	2019Forklifts120	Forklifts	89	0.2	0.2109	0.1609	0.0243	0.0004	0.0089	0.0082	31.2	0.0022	120	4
2019	20194	2019Generator Sets	2019Generator Sets120	Generator Sets	84	0.74	0.4663	0.5619	0.0564	0.0009	0.0287	0.0264	77.9	0.0051	120	4
2019	20196	2019Graders	2019Graders175	Graders	175	0.41	0.7288	0.5536	0.0987	0.0014	0.0343	0.0315	123.9	0.0089	175	6
2019	20195	2019Off-Highway Tractors	2019Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.8053	0.4415	0.1533	0.0015	0.0588	0.0541	130.4	0.0138	175	5
2019	20197	2019Off-Highway Trucks	2019Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.5502	1.1393	0.1568	0.0027	0.0310	0.0285	272.3	0.0142	500	7
2019	20195	2019Other Construction Equipment	2019Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5859	0.5893	0.0562	0.0012	0.0189	0.0174	106.5	0.0051	175	5
2019	20194	2019Other General Industrial Equipmen	2019Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.4250	0.2704	0.0658	0.0007	0.0298	0.0274	62.0	0.0059	120	4
2019	20195	2019Other Material Handling Equipment	2019Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.7172	0.5449	0.0972	0.0014	0.0342	0.0315	122.1	0.0088	175	5
2019	20195	2019Pavers	2019Pavers175	Pavers	126	0.42	0.7615	0.4317	0.1290	0.0014	0.0498	0.0459	128.3	0.0116	175	5
2019	20195	2019Paving Equipment	2019Paving Equipment175	Paving Equipment	131	0.36	0.5958	0.3847	0.1002	0.0011	0.0391	0.0360	101.0	0.0090	175	5
2019	20191	2019Plate Compactors	2019Plate Compactors15	Plate Compactors	8	0.43	0.0263	0.0334	0.0050	0.0001	0.0012	0.0011	4.3	0.0005	15	1
2019	20191	2019Pressure Washers	2019Pressure Washers15	Pressure Washers	13	0.3	0.0307	0.0378	0.0057	0.0001	0.0019	0.0018	4.9	0.0005	15	1
2019	20194	2019Pumps	2019Pumps120	Pumps	84	0.74	0.4736	0.5619	0.0596	0.0009	0.0302	0.0278	77.9	0.0054	120	4

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2019	20194	2019Rollers	2019Rollers120	Rollers	81	0.38	0.3895	0.2782	0.0626	0.0007	0.0305	0.0280	59.0	0.0057	120	4
2019	20195	2019Rough Terrain Forklifts	2019Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.4158	0.3263	0.0539	0.0007	0.0231	0.0212	62.4	0.0049	120	5
2019	20196	2019Rubber Tired Dozers	2019Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.9773	0.7870	0.2407	0.0026	0.0728	0.0670	264.9	0.0217	500	6
2019	20196	2019Rubber Tired Loaders	2019Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3194	0.5556	0.0896	0.0017	0.0218	0.0200	149.0	0.0081	250	6
2019	20197	2019Scrapers	2019Scrapers500	Scrapers	362	0.48	0.8785	1.3025	0.2330	0.0032	0.0643	0.0591	321.4	0.0210	500	7
2019	20191	2019Signal Boards	2019Signal Boards15	Signal Boards	6	0.82	0.0377	0.0477	0.0072	0.0001	0.0018	0.0016	6.2	0.0006	15	1
2019	20193	2019Skid Steer Loaders	2019Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.2676	0.2439	0.0232	0.0005	0.0079	0.0072	42.8	0.0021	120	3
2019	20196	2019Surfacing Equipment	2019Surfacing Equipment500	Surfacing Equipment	254	0.3	0.4875	0.5880	0.1061	0.0022	0.0317	0.0292	221.2	0.0096	500	6
2019	20193	2019Sweepers/Scrubbers	2019Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.4973	0.2986	0.0600	0.0009	0.0250	0.0230	75.0	0.0054	120	3
2019	20194	2019Tractors/Loaders/Backhoes	2019Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.3413	0.3278	0.0398	0.0006	0.0154	0.0142	51.7	0.0036	120	4
2019	20194	2019Trenchers	2019Trenchers120	Trenchers	81	0.5	0.4470	0.3661	0.0903	0.0008	0.0442	0.0406	64.9	0.0081	120	4
2019	20192	2019Welders	2019Welders50	Welders	46	0.45	0.2271	0.2008	0.0490	0.0003	0.0126	0.0116	26.0	0.0044	50	2
2020	20203	2020Aerial Lifts	2020Aerial Lifts120	Aerial Lifts	63	0.31	0.2292	0.1808	0.0259	0.0004	0.0127	0.0117	38.1	0.0023	120	3
2020	20204	2020Air Compressors	2020Air Compressors120	Air Compressors	78	0.48	0.3058	0.2806	0.0408	0.0006	0.0188	0.0173	47.0	0.0037	120	4
2020	20206	2020Bore/Drill Rigs	2020Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.3426	0.6585	0.0474	0.0021	0.0044	0.0040	188.1	0.0043	250	6
2020	20201	2020Cement and Mortar Mixers	2020Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0386	0.0456	0.0074	0.0001	0.0018	0.0017	6.3	0.0007	15	1
2020	20204	2020Concrete/Industrial Saws	2020Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4613	0.4432	0.0524	0.0009	0.0249	0.0229	74.1	0.0047	120	4
2020	20206	2020Cranes	2020Cranes250	Cranes	226	0.29	0.2440	0.4190	0.0704	0.0013	0.0170	0.0157	112.2	0.0064	250	6
2020	20206	2020Crawler Tractors	2020Crawler Tractors250	Crawler Tractors	208	0.43	0.3966	0.5718	0.1188	0.0019	0.0315	0.0290	166.1	0.0107	250	6
2020	20204	2020Crushing/Proc. Equipment	2020Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5446	0.4970	0.0692	0.0010	0.0302	0.0278	83.1	0.0062	120	4
2020	20201	2020Dumpers/Tenders	2020Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0314	0.0550	0.0092	0.0001	0.0022	0.0020	7.6	0.0008	25	1
2020	20205	2020Excavators	2020Excavators175	Excavators	163	0.38	0.6637	0.4233	0.0703	0.0013	0.0195	0.0179	112.2	0.0063	175	5
2020	20204	2020Forklifts	2020Forklifts120	Forklifts	89	0.2	0.2102	0.1334	0.0225	0.0004	0.0074	0.0068	31.2	0.0020	120	4
2020	20204	2020Generator Sets	2020Generator Sets120	Generator Sets	84	0.74	0.4641	0.4659	0.0506	0.0009	0.0250	0.0230	77.9	0.0046	120	4
2020	20206	2020Graders	2020Graders175	Graders	175	0.41	0.7282	0.4587	0.0918	0.0014	0.0303	0.0279	123.9	0.0083	175	6
2020	20205	2020Off-Highway Tractors	2020Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.8025	0.3699	0.1455	0.0015	0.0547	0.0503	130.4	0.0131	175	5
2020	20207	2020Off-Highway Trucks	2020Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.5446	0.9383	0.1488	0.0027	0.0273	0.0251	272.3	0.0134	500	7
2020	20205	2020Other Construction Equipment	2020Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5859	0.4937	0.0524	0.0012	0.0164	0.0151	106.5	0.0047	175	5
2020	20204	2020Other General Industrial Equipmen	2020Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.4232	0.2243	0.0602	0.0007	0.0256	0.0236	62.0	0.0054	120	4
2020	20205	2020Other Material Handling Equipment	2020Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.7176	0.4565	0.0907	0.0014	0.0301	0.0277	122.1	0.0082	175	5
2020	20205	2020Pavers	2020Pavers175	Pavers	126	0.42	0.7599	0.3617	0.1217	0.0014	0.0459	0.0422	128.3	0.0110	175	5
2020	20205	2020Paving Equipment	2020Paving Equipment175	Paving Equipment	131	0.36	0.5945	0.3223	0.0944	0.0011	0.0360	0.0331	101.0	0.0085	175	5
2020	20201	2020Plate Compactors	2020Plate Compactors15	Plate Compactors	8	0.43	0.0263	0.0311	0.0050	0.0001	0.0012	0.0011	4.3	0.0005	15	1
2020	20201	2020Pressure Washers	2020Pressure Washers15	Pressure Washers	13	0.3	0.0305	0.0353	0.0056	0.0001	0.0018	0.0017	4.9	0.0005	15	1
2020	20204	2020Pumps	2020Pumps120	Pumps	84	0.74	0.4713	0.4659	0.0537	0.0009	0.0263	0.0242	77.9	0.0048	120	4
2020	20204	2020Rollers	2020Rollers120	Rollers	81	0.38	0.3873	0.2307	0.0576	0.0007	0.0270	0.0249	59.0	0.0052	120	4
2020	20205	2020Rough Terrain Forklifts	2020Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.4142	0.2734	0.0495	0.0007	0.0197	0.0181	62.4	0.0045	120	5
2020	20206	2020Rubber Tired Dozers	2020Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.9276	0.6521	0.2291	0.0026	0.0673	0.0619	264.9	0.0207	500	6
2020	20206	2020Rubber Tired Loaders	2020Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3159	0.4603	0.0848	0.0017	0.0194	0.0179	149.0	0.0077	250	6
2020	20207	2020Scrapers	2020Scrapers500	Scrapers	362	0.48	0.8455	1.0726	0.2211	0.0032	0.0584	0.0537	321.4	0.0200	500	7
2020	20201	2020Signal Boards	2020Signal Boards15	Signal Boards	6	0.82	0.0377	0.0445	0.0072	0.0001	0.0018	0.0016	6.2	0.0006	15	1
2020	20203	2020Skid Steer Loaders	2020Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.2673	0.2227	0.0218	0.0005	0.0064	0.0059	42.8	0.0020	120	3
2020	20206	2020Surfacing Equipment	2020Surfacing Equipment500	Surfacing Equipment	254	0.3	0.4728	0.4872	0.1008	0.0022	0.0288	0.0265	221.2	0.0091	500	6
2020	20203	2020Sweepers/Scrubbers	2020Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.4959	0.2726	0.0555	0.0009	0.0210	0.0193	75.0	0.0050	120	3
2020	20204	2020Tractors/Loaders/Backhoes	2020Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.3402	0.2718	0.0366	0.0006	0.0129	0.0119	51.7	0.0033	120	4
2020	20204	2020Trenchers	2020Trenchers120	Trenchers	81	0.5	0.4443	0.3036	0.0849	0.0008	0.0408	0.0375	64.9	0.0077	120	4
2020	20202	2020Welders	2020Welders50	Welders	46	0.45	0.2219	0.1871	0.0435	0.0003	0.0110	0.0102	26.0	0.0039	50	2
2021	20213	2021Aerial Lifts	2021Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0021	120	3
2021	20214	2021Air Compressors	2021Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0033	120	4
2021	20216	2021Bore/Drill Rigs	2021Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0041	250	6
2021	20211	2021Cement and Mortar Mixers	2021Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2021	20214	2021Concrete/Industrial Saws	2021Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0044	120	4
2021	20216	2021Cranes	2021Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0060	250	6
2021	20216	2021Crawler Tractors	2021Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0101	250	6
2021	20214	2021Crushing/Proc. Equipment	2021Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0058	120	4
2021	20211	2021Dumpers/Tenders	2021Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2021	20215	2021Excavators	2021Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0059	175	5
2021	20214	2021Forklifts	2021Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0019	120	4
2021	20214	2021Generator Sets	2021Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0041	120	4
2021	20216	2021Graders	2021Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0077	175	6
2021	20215	2021Off-Highway Tractors	2021Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0124	175	5
2021	20217	2021Off-Highway Trucks	2021Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0128	500	7
2021	20215	2021Other Construction Equipment	2021Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0044	175	5
2021	20214	2021Other General Industrial Equipmen	2021Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0050	120	4
2021	20215	2021Other Material Handling Equipment	2021Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0075	175	5
2021	20215	2021Pavers	2021Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0104	175	5

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2021	20215	2021Paving Equipment	2021Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0080	175	5
2021	20211	2021Plate Compactors	2021Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2021	20211	2021Pressure Washers	2021Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2021	20214	2021Pumps	2021Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0044	120	4
2021	20214	2021Rollers	2021Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0048	120	4
2021	20215	2021Rough Terrain Forklifts	2021Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0042	120	5
2021	20216	2021Rubber Tired Dozers	2021Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0197	500	6
2021	20216	2021Rubber Tired Loaders	2021Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0073	250	6
2021	20217	2021Scrapers	2021Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0190	500	7
2021	20211	2021Signal Boards	2021Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2021	20213	2021Skid Steer Loaders	2021Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0019	120	3
2021	20216	2021Surfacing Equipment	2021Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0087	500	6
2021	20213	2021Sweepers/Scrubbers	2021Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0046	120	3
2021	20214	2021Tractors/Loaders/Backhoes	2021Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0031	120	4
2021	20214	2021Trenchers	2021Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0072	120	4
2021	20212	2021Welders	2021Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0035	50	2
2022	20223	2022Aerial Lifts	2022Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0020	120	3
2022	20224	2022Air Compressors	2022Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0031	120	4
2022	20226	2022Bore/Drill Rigs	2022Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0040	250	6
2022	20221	2022Cement and Mortar Mixers	2022Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2022	20224	2022Concrete/Industrial Saws	2022Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0040	120	4
2022	20226	2022Cranes	2022Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0057	250	6
2022	20226	2022Crawler Tractors	2022Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0096	250	6
2022	20224	2022Crushing/Proc. Equipment	2022Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0054	120	4
2022	20221	2022Dumpers/Tenders	2022Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2022	20225	2022Excavators	2022Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0055	175	5
2022	20224	2022Forklifts	2022Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0018	120	4
2022	20224	2022Generator Sets	2022Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0038	120	4
2022	20226	2022Graders	2022Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0072	175	6
2022	20225	2022Off-Highway Tractors	2022Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0118	175	5
2022	20227	2022Off-Highway Trucks	2022Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0122	500	7
2022	20225	2022Other Construction Equipment	2022Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0041	175	5
2022	20224	2022Other General Industrial Equipmen	2022Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0047	120	4
2022	20225	2022Other Material Handling Equipment	2022Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0071	175	5
2022	20225	2022Pavers	2022Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0098	175	5
2022	20225	2022Paving Equipment	2022Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0075	175	5
2022	20221	2022Plate Compactors	2022Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2022	20221	2022Pressure Washers	2022Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2022	20224	2022Pumps	2022Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0040	120	4
2022	20224	2022Rollers	2022Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0044	120	4
2022	20225	2022Rough Terrain Forklifts	2022Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0039	120	5
2022	20226	2022Rubber Tired Dozers	2022Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0188	500	6
2022	20226	2022Rubber Tired Loaders	2022Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0069	250	6
2022	20227	2022Scrapers	2022Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0181	500	7
2022	20221	2022Signal Boards	2022Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2022	20223	2022Skid Steer Loaders	2022Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0018	120	3
2022	20226	2022Surfacing Equipment	2022Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0083	500	6
2022	20223	2022Sweepers/Scrubbers	2022Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0043	120	3
2022	20224	2022Tractors/Loaders/Backhoes	2022Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0029	120	4
2022	20224	2022Trenchers	2022Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0068	120	4
2022	20222	2022Welders	2022Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0032	50	2
2023	20233	2023Aerial Lifts	2023Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0018	120	3
2023	20234	2023Air Compressors	2023Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0029	120	4
2023	20236	2023Bore/Drill Rigs	2023Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2023	20231	2023Cement and Mortar Mixers	2023Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2023	20234	2023Concrete/Industrial Saws	2023Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0038	120	4
2023	20236	2023Cranes	2023Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0054	250	6
2023	20236	2023Crawler Tractors	2023Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0091	250	6
2023	20234	2023Crushing/Proc. Equipment	2023Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0051	120	4
2023	20231	2023Dumpers/Tenders	2023Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2023	20235	2023Excavators	2023Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0052	175	5
2023	20234	2023Forklifts	2023Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0017	120	4
2023	20234	2023Generator Sets	2023Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0035	120	4
2023	20236	2023Graders	2023Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0067	175	6
2023	20235	2023Off-Highway Tractors	2023Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0112	175	5
2023	20237	2023Off-Highway Trucks	2023Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0116	500	7

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2023	20235	2023Other Construction Equipment	2023Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0039	175	5
2023	20234	2023Other General Industrial Equipmen	2023Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0044	120	4
2023	20235	2023Other Material Handling Equipment	2023Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0067	175	5
2023	20235	2023Pavers	2023Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0092	175	5
2023	20235	2023Paving Equipment	2023Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0071	175	5
2023	20231	2023Plate Compactors	2023Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2023	20231	2023Pressure Washers	2023Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2023	20234	2023Pumps	2023Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0038	120	4
2023	20234	2023Rollers	2023Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0041	120	4
2023	20235	2023Rough Terrain Forklifts	2023Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0037	120	5
2023	20236	2023Rubber Tired Dozers	2023Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0179	500	6
2023	20236	2023Rubber Tired Loaders	2023Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0065	250	6
2023	20237	2023Scrapers	2023Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0173	500	7
2023	20231	2023Signal Boards	2023Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2023	20233	2023Skid Steer Loaders	2023Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0017	120	3
2023	20236	2023Surfacing Equipment	2023Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0079	500	6
2023	20233	2023Sweepers/Scrubbers	2023Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0040	120	3
2023	20234	2023Tractors/Loaders/Backhoes	2023Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0027	120	4
2023	20234	2023Trenchers	2023Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0064	120	4
2023	20232	2023Welders	2023Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0029	50	2
2024	20243	2024Aerial Lifts	2024Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0017	120	3
2024	20244	2024Air Compressors	2024Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0028	120	4
2024	20246	2024Bore/Drill Rigs	2024Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2024	20241	2024Cement and Mortar Mixers	2024Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2024	20244	2024Concrete/Industrial Saws	2024Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0035	120	4
2024	20246	2024Cranes	2024Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0051	250	6
2024	20246	2024Crawler Tractors	2024Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0087	250	6
2024	20244	2024Crushing/Proc. Equipment	2024Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0048	120	4
2024	20241	2024Dumpers/Tenders	2024Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2024	20245	2024Excavators	2024Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0049	175	5
2024	20244	2024Forklifts	2024Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0016	120	4
2024	20244	2024Generator Sets	2024Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2024	20246	2024Graders	2024Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0063	175	6
2024	20245	2024Off-Highway Tractors	2024Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0106	175	5
2024	20247	2024Off-Highway Trucks	2024Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0111	500	7
2024	20245	2024Other Construction Equipment	2024Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0037	175	5
2024	20244	2024Other General Industrial Equipmen	2024Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0041	120	4
2024	20245	2024Other Material Handling Equipment	2024Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0063	175	5
2024	20245	2024Pavers	2024Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0086	175	5
2024	20245	2024Paving Equipment	2024Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0066	175	5
2024	20241	2024Plate Compactors	2024Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2024	20241	2024Pressure Washers	2024Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2024	20244	2024Pumps	2024Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0035	120	4
2024	20244	2024Rollers	2024Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0038	120	4
2024	20245	2024Rough Terrain Forklifts	2024Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0035	120	5
2024	20246	2024Rubber Tired Dozers	2024Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0171	500	6
2024	20246	2024Rubber Tired Loaders	2024Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0062	250	6
2024	20247	2024Scrapers	2024Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0165	500	7
2024	20241	2024Signal Boards	2024Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2024	20243	2024Skid Steer Loaders	2024Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2024	20246	2024Surfacing Equipment	2024Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0075	500	6
2024	20243	2024Sweepers/Scrubbers	2024Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0038	120	3
2024	20244	2024Tractors/Loaders/Backhoes	2024Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0026	120	4
2024	20244	2024Trenchers	2024Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0060	120	4
2024	20242	2024Welders	2024Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0027	50	2
2025	20253	2025Aerial Lifts	2025Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2025	20254	2025Air Compressors	2025Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2025	20256	2025Bore/Drill Rigs	2025Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2025	20251	2025Cement and Mortar Mixers	2025Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2025	20254	2025Concrete/Industrial Saws	2025Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2025	20256	2025Cranes	2025Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2025	20256	2025Crawler Tractors	2025Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2025	20254	2025Crushing/Proc. Equipment	2025Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2025	20251	2025Dumpers/Tenders	2025Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2025	20255	2025Excavators	2025Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2025	20254	2025Forklifts	2025Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2025	20254	2025Generator Sets	2025Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2025	20256	2025Graders	2025Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2025	20255	2025Off-Highway Tractors	2025Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2025	20257	2025Off-Highway Trucks	2025Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2025	20255	2025Other Construction Equipment	2025Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2025	20254	2025Other General Industrial Equipmen	2025Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2025	20255	2025Other Material Handling Equipment	2025Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2025	20255	2025Pavers	2025Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2025	20255	2025Paving Equipment	2025Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2025	20251	2025Plate Compactors	2025Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2025	20251	2025Pressure Washers	2025Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2025	20254	2025Pumps	2025Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2025	20254	2025Rollers	2025Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2025	20255	2025Rough Terrain Forklifts	2025Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2025	20256	2025Rubber Tired Dozers	2025Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2025	20256	2025Rubber Tired Loaders	2025Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2025	20257	2025Scrapers	2025Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2025	20251	2025Signal Boards	2025Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2025	20253	2025Skid Steer Loaders	2025Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2025	20256	2025Surfacing Equipment	2025Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2025	20253	2025Sweepers/Scrubbers	2025Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2025	20254	2025Tractors/Loaders/Backhoes	2025Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2025	20254	2025Trenchers	2025Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2025	20252	2025Welders	2025Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2026	20263	2026Aerial Lifts	2026Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2026	20264	2026Air Compressors	2026Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2026	20266	2026Bore/Drill Rigs	2026Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2026	20261	2026Cement and Mortar Mixers	2026Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2026	20264	2026Concrete/Industrial Saws	2026Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2026	20266	2026Cranes	2026Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2026	20266	2026Crawler Tractors	2026Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2026	20264	2026Crushing/Proc. Equipment	2026Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2026	20261	2026Dumpers/Tenders	2026Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2026	20265	2026Excavators	2026Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2026	20264	2026Forklifts	2026Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2026	20264	2026Generator Sets	2026Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2026	20266	2026Graders	2026Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2026	20265	2026Off-Highway Tractors	2026Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2026	20267	2026Off-Highway Trucks	2026Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2026	20265	2026Other Construction Equipment	2026Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2026	20264	2026Other General Industrial Equipmen	2026Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2026	20265	2026Other Material Handling Equipment	2026Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2026	20265	2026Pavers	2026Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2026	20265	2026Paving Equipment	2026Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2026	20261	2026Plate Compactors	2026Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2026	20261	2026Pressure Washers	2026Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2026	20264	2026Pumps	2026Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2026	20264	2026Rollers	2026Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2026	20265	2026Rough Terrain Forklifts	2026Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2026	20266	2026Rubber Tired Dozers	2026Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2026	20266	2026Rubber Tired Loaders	2026Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2026	20267	2026Scrapers	2026Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2026	20261	2026Signal Boards	2026Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2026	20263	2026Skid Steer Loaders	2026Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2026	20266	2026Surfacing Equipment	2026Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2026	20263	2026Sweepers/Scrubbers	2026Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2026	20264	2026Tractors/Loaders/Backhoes	2026Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2026	20264	2026Trenchers	2026Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2026	20262	2026Welders	2026Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2027	20273	2027Aerial Lifts	2027Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2027	20274	2027Air Compressors	2027Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2027	20276	2027Bore/Drill Rigs	2027Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2027	20271	2027Cement and Mortar Mixers	2027Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2027	20274	2027Concrete/Industrial Saws	2027Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2027	20276	2027Cranes	2027Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2027	20276	2027Crawler Tractors	2027Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2027	20274	2027Crushing/Proc. Equipment	2027Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2027	20271	2027Dumpers/Tenders	2027Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2027	20275	2027Excavators	2027Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2027	20274	2027Forklifts	2027Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2027	20274	2027Generator Sets	2027Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2027	20276	2027Graders	2027Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2027	20275	2027Off-Highway Tractors	2027Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2027	20277	2027Off-Highway Trucks	2027Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2027	20275	2027Other Construction Equipment	2027Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2027	20274	2027Other General Industrial Equipmen	2027Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2027	20275	2027Other Material Handling Equipment	2027Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2027	20275	2027Pavers	2027Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2027	20275	2027Paving Equipment	2027Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2027	20271	2027Plate Compactors	2027Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2027	20271	2027Pressure Washers	2027Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2027	20274	2027Pumps	2027Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2027	20274	2027Rollers	2027Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2027	20275	2027Rough Terrain Forklifts	2027Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2027	20276	2027Rubber Tired Dozers	2027Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2027	20276	2027Rubber Tired Loaders	2027Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2027	20277	2027Scrapers	2027Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2027	20271	2027Signal Boards	2027Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2027	20273	2027Skid Steer Loaders	2027Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2027	20276	2027Surfacing Equipment	2027Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2027	20273	2027Sweepers/Scrubbers	2027Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2027	20274	2027Tractors/Loaders/Backhoes	2027Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2027	20274	2027Trenchers	2027Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2027	20272	2027Welders	2027Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2028	20283	2028Aerial Lifts	2028Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2028	20284	2028Air Compressors	2028Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2028	20286	2028Bore/Drill Rigs	2028Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2028	20281	2028Cement and Mortar Mixers	2028Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2028	20284	2028Concrete/Industrial Saws	2028Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2028	20286	2028Cranes	2028Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2028	20286	2028Crawler Tractors	2028Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2028	20284	2028Crushing/Proc. Equipment	2028Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2028	20281	2028Dumpers/Tenders	2028Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2028	20285	2028Excavators	2028Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2028	20284	2028Forklifts	2028Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2028	20284	2028Generator Sets	2028Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2028	20286	2028Graders	2028Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2028	20285	2028Off-Highway Tractors	2028Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2028	20287	2028Off-Highway Trucks	2028Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2028	20285	2028Other Construction Equipment	2028Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2028	20284	2028Other General Industrial Equipmen	2028Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2028	20285	2028Other Material Handling Equipment	2028Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2028	20285	2028Pavers	2028Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2028	20285	2028Paving Equipment	2028Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2028	20281	2028Plate Compactors	2028Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2028	20281	2028Pressure Washers	2028Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2028	20284	2028Pumps	2028Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2028	20284	2028Rollers	2028Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2028	20285	2028Rough Terrain Forklifts	2028Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2028	20286	2028Rubber Tired Dozers	2028Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2028	20286	2028Rubber Tired Loaders	2028Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2028	20287	2028Scrapers	2028Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2028	20281	2028Signal Boards	2028Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2028	20283	2028Skid Steer Loaders	2028Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2028	20286	2028Surfacing Equipment	2028Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2028	20283	2028Sweepers/Scrubbers	2028Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2028	20284	2028Tractors/Loaders/Backhoes	2028Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2028	20284	2028Trenchers	2028Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2028	20282	2028Welders	2028Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2029	20293	2029Aerial Lifts	2029Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2029	20294	2029Air Compressors	2029Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2029	20296	2029Bore/Drill Rigs	2029Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2029	20291	2029Cement and Mortar Mixers	2029Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2029	20294	2029Concrete/Industrial Saws	2029Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2029	20296	2029Cranes	2029Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2029	20296	2029Crawler Tractors	2029Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2029	20294	2029Crushing/Proc. Equipment	2029Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2029	20291	2029Dumpers/Tenders	2029Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2029	20295	2029Excavators	2029Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2029	20294	2029Forklifts	2029Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2029	20294	2029Generator Sets	2029Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2029	20296	2029Graders	2029Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2029	20295	2029Off-Highway Tractors	2029Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2029	20297	2029Off-Highway Trucks	2029Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2029	20295	2029Other Construction Equipment	2029Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2029	20294	2029Other General Industrial Equipmen	2029Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2029	20295	2029Other Material Handling Equipment	2029Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2029	20295	2029Pavers	2029Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2029	20295	2029Paving Equipment	2029Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2029	20291	2029Plate Compactors	2029Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2029	20291	2029Pressure Washers	2029Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2029	20294	2029Pumps	2029Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2029	20294	2029Rollers	2029Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2029	20295	2029Rough Terrain Forklifts	2029Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2029	20296	2029Rubber Tired Dozers	2029Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2029	20296	2029Rubber Tired Loaders	2029Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2029	20297	2029Scrapers	2029Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2029	20291	2029Signal Boards	2029Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2029	20293	2029Skid Steer Loaders	2029Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2029	20296	2029Surfacing Equipment	2029Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2029	20293	2029Sweepers/Scrubbers	2029Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2029	20294	2029Tractors/Loaders/Backhoes	2029Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2029	20294	2029Trenchers	2029Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2029	20292	2029Welders	2029Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2030	20303	2030Aerial Lifts	2030Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2030	20304	2030Air Compressors	2030Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2030	20306	2030Bore/Drill Rigs	2030Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2030	20301	2030Cement and Mortar Mixers	2030Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2030	20304	2030Concrete/Industrial Saws	2030Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2030	20306	2030Cranes	2030Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2030	20306	2030Crawler Tractors	2030Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2030	20304	2030Crushing/Proc. Equipment	2030Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2030	20301	2030Dumpers/Tenders	2030Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2030	20305	2030Excavators	2030Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2030	20304	2030Forklifts	2030Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2030	20304	2030Generator Sets	2030Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2030	20306	2030Graders	2030Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2030	20305	2030Off-Highway Tractors	2030Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2030	20307	2030Off-Highway Trucks	2030Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2030	20305	2030Other Construction Equipment	2030Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2030	20304	2030Other General Industrial Equipmen	2030Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2030	20305	2030Other Material Handling Equipment	2030Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2030	20305	2030Pavers	2030Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2030	20305	2030Paving Equipment	2030Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2030	20301	2030Plate Compactors	2030Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2030	20301	2030Pressure Washers	2030Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2030	20304	2030Pumps	2030Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2030	20304	2030Rollers	2030Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2030	20305	2030Rough Terrain Forklifts	2030Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2030	20306	2030Rubber Tired Dozers	2030Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2030	20306	2030Rubber Tired Loaders	2030Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2030	20307	2030Scrapers	2030Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2030	20301	2030Signal Boards	2030Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2030	20303	2030Skid Steer Loaders	2030Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2030	20306	2030Surfacing Equipment	2030Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2030	20303	2030Sweepers/Scrubbers	2030Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2030	20304	2030Tractors/Loaders/Backhoes	2030Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2030	20304	2030Trenchers	2030Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2030	20302	2030Welders	2030Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2031	20313	2031Aerial Lifts	2031Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2031	20314	2031Air Compressors	2031Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2031	20316	2031Bore/Drill Rigs	2031Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2031	20311	2031Cement and Mortar Mixers	2031Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2031	20314	2031Concrete/Industrial Saws	2031Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2031	20316	2031Cranes	2031Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2031	20316	2031Crawler Tractors	2031Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2031	20314	2031Crushing/Proc. Equipment	2031Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2031	20311	2031Dumpers/Tenders	2031Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2031	20315	2031Excavators	2031Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2031	20314	2031Forklifts	2031Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2031	20314	2031Generator Sets	2031Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2031	20316	2031Graders	2031Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2031	20315	2031Off-Highway Tractors	2031Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2031	20317	2031Off-Highway Trucks	2031Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2031	20315	2031Other Construction Equipment	2031Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2031	20314	2031Other General Industrial Equipmen	2031Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2031	20315	2031Other Material Handling Equipment	2031Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2031	20315	2031Pavers	2031Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2031	20315	2031Paving Equipment	2031Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2031	20311	2031Plate Compactors	2031Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2031	20311	2031Pressure Washers	2031Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2031	20314	2031Pumps	2031Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2031	20314	2031Rollers	2031Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2031	20315	2031Rough Terrain Forklifts	2031Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2031	20316	2031Rubber Tired Dozers	2031Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2031	20316	2031Rubber Tired Loaders	2031Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2031	20317	2031Scrapers	2031Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2031	20311	2031Signal Boards	2031Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2031	20313	2031Skid Steer Loaders	2031Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2031	20316	2031Surfacing Equipment	2031Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2031	20313	2031Sweepers/Scrubbers	2031Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2031	20314	2031Tractors/Loaders/Backhoes	2031Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2031	20314	2031Trenchers	2031Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2031	20312	2031Welders	2031Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2033	20333	2033Aerial Lifts	2033Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2033	20334	2033Air Compressors	2033Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2033	20336	2033Bore/Drill Rigs	2033Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2033	20331	2033Cement and Mortar Mixers	2033Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2033	20334	2033Concrete/Industrial Saws	2033Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2033	20336	2033Cranes	2033Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2033	20336	2033Crawler Tractors	2033Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2033	20334	2033Crushing/Proc. Equipment	2033Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2033	20331	2033Dumpers/Tenders	2033Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2033	20335	2033Excavators	2033Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2033	20334	2033Forklifts	2033Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2033	20334	2033Generator Sets	2033Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2033	20336	2033Graders	2033Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2033	20335	2033Off-Highway Tractors	2033Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2033	20337	2033Off-Highway Trucks	2033Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2033	20335	2033Other Construction Equipment	2033Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2033	20334	2033Other General Industrial Equipmen	2033Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2033	20335	2033Other Material Handling Equipment	2033Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2033	20335	2033Pavers	2033Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2033	20335	2033Paving Equipment	2033Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2033	20331	2033Plate Compactors	2033Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2033	20331	2033Pressure Washers	2033Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2033	20334	2033Pumps	2033Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2033	20334	2033Rollers	2033Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2033	20335	2033Rough Terrain Forklifts	2033Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2033	20336	2033Rubber Tired Dozers	2033Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2033	20336	2033Rubber Tired Loaders	2033Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2033	20337	2033Scrapers	2033Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2033	20331	2033Signal Boards	2033Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2033	20333	2033Skid Steer Loaders	2033Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2033	20336	2033Surfacing Equipment	2033Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2033	20333	2033Sweepers/Scrubbers	2033Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2033	20334	2033Tractors/Loaders/Backhoes	2033Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2033	20334	2033Trenchers	2033Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2033	20332	2033Welders	2033Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2035	20353	2035Aerial Lifts	2035Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2035	20354	2035Air Compressors	2035Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2035	20356	2035Bore/Drill Rigs	2035Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2035	20351	2035Cement and Mortar Mixers	2035Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2035	20354	2035Concrete/Industrial Saws	2035Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2035	20356	2035Cranes	2035Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2035	20356	2035Crawler Tractors	2035Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2035	20354	2035Crushing/Proc. Equipment	2035Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2035	20351	2035Dumpers/Tenders	2035Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2035	20355	2035Excavators	2035Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2035	20354	2035Forklifts	2035Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2035	20354	2035Generator Sets	2035Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2035	20356	2035Graders	2035Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2035	20355	2035Off-Highway Tractors	2035Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2035	20357	2035Off-Highway Trucks	2035Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2035	20355	2035Other Construction Equipment	2035Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2035	20354	2035Other General Industrial Equipmen	2035Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2035	20355	2035Other Material Handling Equipment	2035Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2035	20355	2035Pavers	2035Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2035	20355	2035Paving Equipment	2035Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2035	20351	2035Plate Compactors	2035Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2035	20351	2035Pressure Washers	2035Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2035	20354	2035Pumps	2035Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2035	20354	2035Rollers	2035Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2035	20355	2035Rough Terrain Forklifts	2035Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2035	20356	2035Rubber Tired Dozers	2035Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2035	20356	2035Rubber Tired Loaders	2035Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2035	20357	2035Scrapers	2035Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2035	20351	2035Signal Boards	2035Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2035	20353	2035Skid Steer Loaders	2035Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2035	20356	2035Surfacing Equipment	2035Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2035	20353	2035Sweepers/Scrubbers	2035Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2035	20354	2035Tractors/Loaders/Backhoes	2035Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2035	20354	2035Trenchers	2035Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2035	20352	2035Welders	2035Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2037	20373	2037Aerial Lifts	2037Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2037	20374	2037Air Compressors	2037Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2037	20376	2037Bore/Drill Rigs	2037Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2037	20371	2037Cement and Mortar Mixers	2037Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2037	20374	2037Concrete/Industrial Saws	2037Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2037	20376	2037Cranes	2037Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2037	20376	2037Crawler Tractors	2037Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2037	20374	2037Crushing/Proc. Equipment	2037Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2037	20371	2037Dumpers/Tenders	2037Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2037	20375	2037Excavators	2037Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2037	20374	2037Forklifts	2037Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2037	20374	2037Generator Sets	2037Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2037	20376	2037Graders	2037Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2037	20375	2037Off-Highway Tractors	2037Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2037	20377	2037Off-Highway Trucks	2037Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2037	20375	2037Other Construction Equipment	2037Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2037	20374	2037Other General Industrial Equipmen	2037Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2037	20375	2037Other Material Handling Equipment	2037Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2037	20375	2037Pavers	2037Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2037	20375	2037Paving Equipment	2037Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2037	20371	2037Plate Compactors	2037Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2037	20371	2037Pressure Washers	2037Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2037	20374	2037Pumps	2037Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2037	20374	2037Rollers	2037Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2037	20375	2037Rough Terrain Forklifts	2037Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2037	20376	2037Rubber Tired Dozers	2037Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2037	20376	2037Rubber Tired Loaders	2037Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2037	20377	2037Scrapers	2037Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2037	20371	2037Signal Boards	2037Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2037	20373	2037Skid Steer Loaders	2037Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2037	20376	2037Surfacing Equipment	2037Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2037	20373	2037Sweepers/Scrubbers	2037Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2037	20374	2037Tractors/Loaders/Backhoes	2037Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2037	20374	2037Trenchers	2037Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2037	20372	2037Welders	2037Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2038	20383	2038Aerial Lifts	2038Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2038	20384	2038Air Compressors	2038Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2038	20386	2038Bore/Drill Rigs	2038Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2038	20381	2038Cement and Mortar Mixers	2038Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2038	20384	2038Concrete/Industrial Saws	2038Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2038	20386	2038Cranes	2038Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2038	20386	2038Crawler Tractors	2038Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2038	20384	2038Crushing/Proc. Equipment	2038Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2038	20381	2038Dumpers/Tenders	2038Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2038	20385	2038Excavators	2038Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2038	20384	2038Forklifts	2038Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2038	20384	2038Generator Sets	2038Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2038	20386	2038Graders	2038Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2038	20385	2038Off-Highway Tractors	2038Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2038	20387	2038Off-Highway Trucks	2038Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2038	20385	2038Other Construction Equipment	2038Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2038	20384	2038Other General Industrial Equipmen	2038Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2038	20385	2038Other Material Handling Equipment	2038Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2038	20385	2038Pavers	2038Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2038	20385	2038Paving Equipment	2038Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2038	20381	2038Plate Compactors	2038Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2038	20381	2038Pressure Washers	2038Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2038	20384	2038Pumps	2038Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2038	20384	2038Rollers	2038Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2038	20385	2038Rough Terrain Forklifts	2038Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2038	20386	2038Rubber Tired Dozers	2038Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2038	20386	2038Rubber Tired Loaders	2038Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2038	20387	2038Scrapers	2038Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2038	20381	2038Signal Boards	2038Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2038	20383	2038Skid Steer Loaders	2038Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2038	20386	2038Surfacing Equipment	2038Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2038	20383	2038Sweepers/Scrubbers	2038Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2038	20384	2038Tractors/Loaders/Backhoes	2038Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2038	20384	2038Trenchers	2038Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2038	20382	2038Welders	2038Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2041	20413	2041Aerial Lifts	2041Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2041	20414	2041Air Compressors	2041Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2041	20416	2041Bore/Drill Rigs	2041Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2041	20411	2041Cement and Mortar Mixers	2041Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2041	20414	2041Concrete/Industrial Saws	2041Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2041	20416	2041Cranes	2041Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2041	20416	2041Crawler Tractors	2041Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2041	20414	2041Crushing/Proc. Equipment	2041Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2041	20411	2041Dumpers/Tenders	2041Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2041	20415	2041Excavators	2041Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2041	20414	2041Forklifts	2041Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2041	20414	2041Generator Sets	2041Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2041	20416	2041Graders	2041Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2041	20415	2041Off-Highway Tractors	2041Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2041	20417	2041Off-Highway Trucks	2041Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2041	20415	2041Other Construction Equipment	2041Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2041	20414	2041Other General Industrial Equipmen	2041Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2041	20415	2041Other Material Handling Equipment	2041Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2041	20415	2041Pavers	2041Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2041	20415	2041Paving Equipment	2041Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2041	20411	2041Plate Compactors	2041Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2041	20411	2041Pressure Washers	2041Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1

Chiquita Canyon Landfill EIR

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2041	20414	2041Pumps	2041Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2041	20414	2041Rollers	2041Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2041	20415	2041Rough Terrain Forklifts	2041Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2041	20416	2041Rubber Tired Dozers	2041Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2041	20416	2041Rubber Tired Loaders	2041Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2041	20417	2041Scrapers	2041Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2041	20411	2041Signal Boards	2041Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2041	20413	2041Skid Steer Loaders	2041Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2041	20416	2041Surfacing Equipment	2041Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2041	20413	2041Sweepers/Scrubbers	2041Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2041	20414	2041Tractors/Loaders/Backhoes	2041Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2041	20414	2041Trenchers	2041Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2041	20412	2041Welders	2041Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2

Source: SCAQMD CEQA Handbook website: http://sfprod.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/off-road-mobile-source-emission-factors
Emission factors only available up to 2025; therefore, it was conservatively assumed that the emission factors for years 2026 through 2035 were the same as 2025.
After 2020, NOx/PM10/PM2.5/CO/VOC emission factors taken as the Tier 4f emission standards per the ARB's Diesel Off-road Equipment Regulation Table 3 (13 CCR 2449).
Emission factors for PM2.5 not available; therefore, it was assumed that 92% of diesel off-road equipment PM10 emissions were PM2.5 (SCAQMD Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology, October 2006; Appendix A – Updated CEIDARS List with PM2.5 Fractions, http://www.aqmd.gov/ceqa/handbook/PM2_5/finalAppA.doc).
Default hp and load factor taken from CalEEMod User Guide Appendix D, Table 3.3 (September 2013).

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2014	2014Aerial Lifts	2014Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0046	120	3
2014	2014Air Compressors	2014Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0068	120	4
2014	2014Bore/Drill Rigs	2014Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0066	250	6
2014	2014Cement and Mortar Mixers	2014Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2014	2014Concrete/Industrial Saws	2014Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0088	120	4
2014	2014Cranes	2014Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0088	250	6
2014	2014Crawler Tractors	2014Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0151	250	6
2014	2014Crushing/Proc. Equipment	2014Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0116	120	4
2014	2014Dumpers/Tenders	2014Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0009	25	1
2014	2014Excavators	2014Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0102	175	5
2014	2014Forklifts	2014Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0035	120	4
2014	2014Generator Sets	2014Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0091	120	4
2014	2014Graders	2014Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0125	175	6
2014	2014Off-Highway Tractors	2014Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0177	175	5
2014	2014Off-Highway Trucks	2014Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0186	500	7
2014	2014Other Construction Equipment	2014Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0078	175	5
2014	2014Other General Industrial Equipmen	2014Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0098	120	4
2014	2014Other Material Handling Equipment	2014Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0134	175	5
2014	2014Pavers	2014Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0153	175	5
2014	2014Paving Equipment	2014Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0119	175	5
2014	2014Plate Compactors	2014Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2014	2014Pressure Washers	2014Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0006	15	1
2014	2014Pumps	2014Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0095	120	4
2014	2014Rollers	2014Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0083	120	4
2014	2014Rough Terrain Forklifts	2014Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0079	120	4
2014	2014Rubber Tired Dozers	2014Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0277	500	6
2014	2014Rubber Tired Loaders	2014Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0107	250	6
2014	2014Scrapers	2014Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0274	500	7
2014	2014Signal Boards	2014Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2014	2014Sweepers/Scrubbers	2014Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0089	120	3
2014	2014Tractors/Loaders/Backhoes	2014Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0057	120	4
2014	2014Trenchers	2014Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0109	120	4
2014	2014Welders	2014Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0080	50	2
2015	2015Aerial Lifts	2015Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0042	120	3
2015	2015Air Compressors	2015Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0062	120	4
2015	2015Bore/Drill Rigs	2015Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0061	250	6
2015	2015Cement and Mortar Mixers	2015Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2015	2015Concrete/Industrial Saws	2015Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0080	120	4
2015	2015Cranes	2015Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0083	250	6
2015	2015Crawler Tractors	2015Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0143	250	6
2015	2015Crushing/Proc. Equipment	2015Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0105	120	4
2015	2015Dumpers/Tenders	2015Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2015	2015Excavators	2015Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0095	175	5
2015	2015Forklifts	2015Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0031	120	4
2015	2015Generator Sets	2015Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0082	120	4
2015	2015Graders	2015Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0117	175	6
2015	2015Off-Highway Tractors	2015Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0169	175	5
2015	2015Off-Highway Trucks	2015Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0177	500	7
2015	2015Other Construction Equipment	2015Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0072	175	5
2015	2015Other General Industrial Equipmen	2015Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0089	120	4
2015	2015Other Material Handling Equipment	2015Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0123	175	5
2015	2015Pavers	2015Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0145	175	5
2015	2015Paving Equipment	2015Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0113	175	5
2015	2015Plate Compactors	2015Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2015	2015Pressure Washers	2015Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0006	15	1
2015	2015Pumps	2015Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0086	120	4
2015	2015Rollers	2015Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0077	120	4
2015	2015Rough Terrain Forklifts	2015Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0072	120	4
2015	2015Rubber Tired Dozers	2015Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0265	500	6
2015	2015Rubber Tired Loaders	2015Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0101	250	6
2015	2015Scrapers	2015Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0260	500	7
2015	2015Signal Boards	2015Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2015	2015Skid Steer Loaders	2015Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0030	120	3
2015	2015Surfacing Equipment	2015Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0121	500	6
2015	2015Sweepers/Scrubbers	2015Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0079	120	3
2015	2015Tractors/Loaders/Backhoes	2015Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0052	120	4
2015	2015Trenchers	2015Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0103	120	4
2015	2015Welders	2015Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0072	50	2
2016	2016Aerial Lifts	2016Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0037	120	3
2016	2016Air Compressors	2016Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0056	120	4
2016	2016Bore/Drill Rigs	2016Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0057	250	6
2016	2016Cement and Mortar Mixers	2016Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2016	2016Concrete/Industrial Saws	2016Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0073	120	4
2016	2016Cranes	2016Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0079	250	6
2016	2016Crawler Tractors	2016Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0135	250	6
2016	2016Crushing/Proc. Equipment	2016Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0095	120	4
2016	2016Dumpers/Tenders	2016Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2016	2016Excavators	2016Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0088	175	5
2016	2016Forklifts	2016Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0028	120	4
2016	2016Generator Sets	2016Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0073	120	4
2016	2016Graders	2016Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0110	175	6
2016	2016Off-Highway Tractors	2016Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0161	175	5
2016	2016Off-Highway Trucks	2016Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0167	500	7
2016	2016Other Construction Equipment	2016Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0066	175	5
2016	2016Other General Industrial Equipmen	2016Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0081	120	4
2016	2016Other Material Handling Equipment	2016Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0113	175	5
2016	2016Pavers	2016Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0138	175	5
2016	2016Paving Equipment	2016Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0107	175	5
2016	2016Plate Compactors	2016Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2016	2016Pressure Washers	2016Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0006	15	1
2016	2016Pumps	2016Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0077	120	4
2016	2016Rollers	2016Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0072	120	4
2016	2016Rough Terrain Forklifts	2016Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0066	120	4
2016	2016Rubber Tired Dozers	2016Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0252	500	6
2016	2016Rubber Tired Loaders	2016Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0095	250	6
2016	2016Scrapers	2016Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0247	500	7
2016	2016Signal Boards	2016Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2016	2016Skid Steer Loaders	2016Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0027	120	3
2016	2016Surfacing Equipment	2016Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0114	500	6
2016	2016Sweepers/Scrubbers	2016Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0070	120	3
2016	2016Tractors/Loaders/Backhoes	2016Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0047	120	4
2016	2016Trenchers	2016Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0097	120	4
2016	2016Welders	2016Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0065	50	2
2017	2017Aerial Lifts	2017Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0033	120	3
2017	2017Air Compressors	2017Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0051	120	4
2017	2017Bore/Drill Rigs	2017Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0052	250	6
2017	2017Cement and Mortar Mixers	2017Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2017	2017Concrete/Industrial Saws	2017Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0066	120	4
2017	2017Cranes	2017Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0075	250	6
2017	2017Crawler Tractors	2017Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0127	250	6
2017	2017Crushing/Proc. Equipment	2017Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0086	120	4
2017	2017Dumpers/Tenders	2017Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2017	2017Excavators	2017Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0081	175	5
2017	2017Forklifts	2017Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0026	120	4
2017	2017Generator Sets	2017Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0065	120	4
2017	2017Graders	2017Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0102	175	6
2017	2017Off-Highway Tractors	2017Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0153	175	5
2017	2017Off-Highway Trucks	2017Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0158	500	7
2017	2017Other Construction Equipment	2017Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0060	175	5
2017	2017Other General Industrial Equipmen	2017Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0073	120	4
2017	2017Other Material Handling Equipment	2017Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0103	175	5
2017	2017Pavers	2017Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0130	175	5
2017	2017Paving Equipment	2017Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0101	175	5
2017	2017Plate Compactors	2017Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2017	2017Pressure Washers	2017Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2017	2017Pumps	2017Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0069	120	4

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2017	2017Rollers	2017Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0066	120	4
2017	2017Rough Terrain Forklifts	2017Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0060	120	4
2017	2017Rubber Tired Dozers	2017Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0240	500	6
2017	2017Rubber Tired Loaders	2017Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0090	250	6
2017	2017Scrapers	2017Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0234	500	7
2017	2017Signal Boards	2017Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2017	2017Skid Steer Loaders	2017Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0024	120	3
2017	2017Surfacing Equipment	2017Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0107	500	6
2017	2017Sweepers/Scrubbers	2017Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0063	120	3
2017	2017Tractors/Loaders/Backhoes	2017Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0043	120	4
2017	2017Trenchers	2017Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0092	120	4
2017	2017Welders	2017Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0058	50	2
2018	2018Aerial Lifts	2018Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0029	120	3
2018	2018Air Compressors	2018Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0045	120	4
2018	2018Bore/Drill Rigs	2018Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0049	250	6
2018	2018Cement and Mortar Mixers	2018Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2018	2018Concrete/Industrial Saws	2018Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0059	120	4
2018	2018Cranes	2018Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0071	250	6
2018	2018Crawler Tractors	2018Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0120	250	6
2018	2018Crushing/Proc. Equipment	2018Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0077	120	4
2018	2018Dumpers/Tenders	2018Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2018	2018Excavators	2018Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0074	175	5
2018	2018Forklifts	2018Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0024	120	4
2018	2018Generator Sets	2018Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0058	120	4
2018	2018Graders	2018Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0096	175	6
2018	2018Off-Highway Tractors	2018Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0146	175	5
2018	2018Off-Highway Trucks	2018Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0149	500	7
2018	2018Other Construction Equipment	2018Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0055	175	5
2018	2018Other General Industrial Equipmen	2018Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0066	120	4
2018	2018Other Material Handling Equipment	2018Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0095	175	5
2018	2018Pavers	2018Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0123	175	5
2018	2018Paving Equipment	2018Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0096	175	5
2018	2018Plate Compactors	2018Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2018	2018Pressure Washers	2018Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2018	2018Pumps	2018Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0061	120	4
2018	2018Rollers	2018Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0061	120	4
2018	2018Rough Terrain Forklifts	2018Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0054	120	4
2018	2018Rubber Tired Dozers	2018Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0228	500	6
2018	2018Rubber Tired Loaders	2018Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0085	250	6
2018	2018Scrapers	2018Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0222	500	7
2018	2018Signal Boards	2018Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2018	2018Skid Steer Loaders	2018Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0022	120	3
2018	2018Surfacing Equipment	2018Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0101	500	6
2018	2018Sweepers/Scrubbers	2018Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0058	120	3
2018	2018Tractors/Loaders/Backhoes	2018Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0039	120	4
2018	2018Trenchers	2018Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0087	120	4
2018	2018Welders	2018Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0051	50	2
2019	2019Aerial Lifts	2019Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0026	120	3
2019	2019Air Compressors	2019Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0041	120	4
2019	2019Bore/Drill Rigs	2019Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0045	250	6
2019	2019Cement and Mortar Mixers	2019Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2019	2019Concrete/Industrial Saws	2019Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0052	120	4
2019	2019Cranes	2019Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0067	250	6
2019	2019Crawler Tractors	2019Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0114	250	6
2019	2019Crushing/Proc. Equipment	2019Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0069	120	4
2019	2019Dumpers/Tenders	2019Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2019	2019Excavators	2019Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0068	175	5
2019	2019Forklifts	2019Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0022	120	4
2019	2019Generator Sets	2019Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0051	120	4
2019	2019Graders	2019Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0089	175	6
2019	2019Off-Highway Tractors	2019Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0138	175	5
2019	2019Off-Highway Trucks	2019Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0142	500	7
2019	2019Other Construction Equipment	2019Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0051	175	5
2019	2019Other General Industrial Equipmen	2019Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0059	120	4

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2019	2019Other Material Handling Equipment	2019Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0088	175	5
2019	2019Pavers	2019Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0116	175	5
2019	2019Paving Equipment	2019Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0090	175	5
2019	2019Plate Compactors	2019Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2019	2019Pressure Washers	2019Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2019	2019Pumps	2019Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0054	120	4
2019	2019Rollers	2019Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0057	120	4
2019	2019Rough Terrain Forklifts	2019Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0049	120	4
2019	2019Rubber Tired Dozers	2019Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0217	500	6
2019	2019Rubber Tired Loaders	2019Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0081	250	6
2019	2019Scrapers	2019Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0210	500	7
2019	2019Signal Boards	2019Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2019	2019Skid Steer Loaders	2019Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0021	120	3
2019	2019Surfacing Equipment	2019Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0096	500	6
2019	2019Sweepers/Scrubbers	2019Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0054	120	3
2019	2019Tractors/Loaders/Backhoes	2019Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0036	120	4
2019	2019Trenchers	2019Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0081	120	4
2019	2019Welders	2019Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0044	50	2
2020	2020Aerial Lifts	2020Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0023	120	3
2020	2020Air Compressors	2020Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0037	120	4
2020	2020Bore/Drill Rigs	2020Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0043	250	6
2020	2020Cement and Mortar Mixers	2020Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2020	2020Concrete/Industrial Saws	2020Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0047	120	4
2020	2020Cranes	2020Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0064	250	6
2020	2020Crawler Tractors	2020Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0107	250	6
2020	2020Crushing/Proc. Equipment	2020Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0062	120	4
2020	2020Dumpers/Tenders	2020Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2020	2020Excavators	2020Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0063	175	5
2020	2020Forklifts	2020Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0020	120	4
2020	2020Generator Sets	2020Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0046	120	4
2020	2020Graders	2020Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0083	175	6
2020	2020Off-Highway Tractors	2020Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0131	175	5
2020	2020Off-Highway Trucks	2020Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0134	500	7
2020	2020Other Construction Equipment	2020Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0047	175	5
2020	2020Other General Industrial Equipmen	2020Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0054	120	4
2020	2020Other Material Handling Equipment	2020Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0082	175	5
2020	2020Pavers	2020Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0110	175	5
2020	2020Paving Equipment	2020Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0085	175	5
2020	2020Plate Compactors	2020Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2020	2020Pressure Washers	2020Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2020	2020Pumps	2020Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0048	120	4
2020	2020Rollers	2020Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0052	120	4
2020	2020Rough Terrain Forklifts	2020Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0045	120	4
2020	2020Rubber Tired Dozers	2020Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0207	500	6
2020	2020Rubber Tired Loaders	2020Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0077	250	6
2020	2020Scrapers	2020Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0200	500	7
2020	2020Signal Boards	2020Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2020	2020Skid Steer Loaders	2020Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0020	120	3
2020	2020Surfacing Equipment	2020Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0091	500	6
2020	2020Sweepers/Scrubbers	2020Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0050	120	3
2020	2020Tractors/Loaders/Backhoes	2020Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0033	120	4
2020	2020Trenchers	2020Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0077	120	4
2020	2020Welders	2020Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0039	50	2
2021	2021Aerial Lifts	2021Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0021	120	3
2021	2021Air Compressors	2021Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0033	120	4
2021	2021Bore/Drill Rigs	2021Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0041	250	6
2021	2021Cement and Mortar Mixers	2021Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2021	2021Concrete/Industrial Saws	2021Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0044	120	4
2021	2021Cranes	2021Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0060	250	6
2021	2021Crawler Tractors	2021Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0101	250	6
2021	2021Crushing/Proc. Equipment	2021Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0058	120	4
2021	2021Dumpers/Tenders	2021Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2021	2021Excavators	2021Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0059	175	5
2021	2021Forklifts	2021Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0019	120	4

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2021	2021Generator Sets	2021Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0041	120	4
2021	2021Graders	2021Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0077	175	6
2021	2021Off-Highway Tractors	2021Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0124	175	5
2021	2021Off-Highway Trucks	2021Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0128	500	7
2021	2021Other Construction Equipment	2021Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0044	175	5
2021	2021Other General Industrial Equipmen	2021Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0050	120	4
2021	2021Other Material Handling Equipment	2021Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0075	175	5
2021	2021Pavers	2021Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0104	175	5
2021	2021Paving Equipment	2021Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0080	175	5
2021	2021Plate Compactors	2021Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2021	2021Pressure Washers	2021Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2021	2021Pumps	2021Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0044	120	4
2021	2021Rollers	2021Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0048	120	4
2021	2021Rough Terrain Forklifts	2021Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0042	120	4
2021	2021Rubber Tired Dozers	2021Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0197	500	6
2021	2021Rubber Tired Loaders	2021Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0073	250	6
2021	2021Scrapers	2021Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0190	500	7
2021	2021Signal Boards	2021Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2021	2021Skid Steer Loaders	2021Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0019	120	3
2021	2021Surfacing Equipment	2021Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0087	500	6
2021	2021Sweepers/Scrubbers	2021Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0046	120	3
2021	2021Tractors/Loaders/Backhoes	2021Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0031	120	4
2021	2021Trenchers	2021Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0072	120	4
2021	2021Welders	2021Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0035	50	2
2022	2022Aerial Lifts	2022Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0020	120	3
2022	2022Air Compressors	2022Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0031	120	4
2022	2022Bore/Drill Rigs	2022Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0040	250	6
2022	2022Cement and Mortar Mixers	2022Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2022	2022Concrete/Industrial Saws	2022Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0040	120	4
2022	2022Cranes	2022Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0057	250	6
2022	2022Crawler Tractors	2022Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0096	250	6
2022	2022Crushing/Proc. Equipment	2022Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0054	120	4
2022	2022Dumpers/Tenders	2022Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2022	2022Excavators	2022Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0055	175	5
2022	2022Forklifts	2022Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0018	120	4
2022	2022Generator Sets	2022Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0038	120	4
2022	2022Graders	2022Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0072	175	6
2022	2022Off-Highway Tractors	2022Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0118	175	5
2022	2022Off-Highway Trucks	2022Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0122	500	7
2022	2022Other Construction Equipment	2022Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0041	175	5
2022	2022Other General Industrial Equipmen	2022Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0047	120	4
2022	2022Other Material Handling Equipment	2022Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0071	175	5
2022	2022Pavers	2022Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0098	175	5
2022	2022Paving Equipment	2022Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0075	175	5
2022	2022Plate Compactors	2022Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2022	2022Pressure Washers	2022Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2022	2022Pumps	2022Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0040	120	4
2022	2022Rollers	2022Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0044	120	4
2022	2022Rough Terrain Forklifts	2022Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0039	120	4
2022	2022Rubber Tired Dozers	2022Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0188	500	6
2022	2022Rubber Tired Loaders	2022Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0069	250	6
2022	2022Scrapers	2022Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0181	500	7
2022	2022Signal Boards	2022Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2022	2022Skid Steer Loaders	2022Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0018	120	3
2022	2022Surfacing Equipment	2022Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0083	500	6
2022	2022Sweepers/Scrubbers	2022Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0043	120	3
2022	2022Tractors/Loaders/Backhoes	2022Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0029	120	4
2022	2022Trenchers	2022Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0068	120	4
2022	2022Welders	2022Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0032	50	2
2023	2023Aerial Lifts	2023Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0018	120	3
2023	2023Air Compressors	2023Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0029	120	4
2023	2023Bore/Drill Rigs	2023Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2023	2023Cement and Mortar Mixers	2023Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2023	2023Concrete/Industrial Saws	2023Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0038	120	4

Chiquita Canyon Landfill EIR

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2023	2023Cranes	2023Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0054	250	6
2023	2023Crawler Tractors	2023Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0091	250	6
2023	2023Crushing/Proc. Equipment	2023Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0051	120	4
2023	2023Dumpers/Tenders	2023Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2023	2023Excavators	2023Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0052	175	5
2023	2023Forklifts	2023Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0017	120	4
2023	2023Generator Sets	2023Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0035	120	4
2023	2023Graders	2023Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0067	175	6
2023	2023Off-Highway Tractors	2023Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0112	175	5
2023	2023Off-Highway Trucks	2023Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0116	500	7
2023	2023Other Construction Equipment	2023Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0039	175	5
2023	2023Other General Industrial Equipmen	2023Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0044	120	4
2023	2023Other Material Handling Equipment	2023Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0067	175	5
2023	2023Pavers	2023Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0092	175	5
2023	2023Paving Equipment	2023Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0071	175	5
2023	2023Plate Compactors	2023Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2023	2023Pressure Washers	2023Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2023	2023Pumps	2023Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0038	120	4
2023	2023Rollers	2023Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0041	120	4
2023	2023Rough Terrain Forklifts	2023Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0037	120	4
2023	2023Rubber Tired Dozers	2023Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0179	500	6
2023	2023Rubber Tired Loaders	2023Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0065	250	6
2023	2023Scrapers	2023Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0173	500	7
2023	2023Signal Boards	2023Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2023	2023Skid Steer Loaders	2023Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0017	120	3
2023	2023Surfacing Equipment	2023Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0079	500	6
2023	2023Sweepers/Scrubbers	2023Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0040	120	3
2023	2023Tractors/Loaders/Backhoes	2023Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0027	120	4
2023	2023Trenchers	2023Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0064	120	4
2023	2023Welders	2023Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0029	50	2
2024	2024Aerial Lifts	2024Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0017	120	3
2024	2024Air Compressors	2024Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0028	120	4
2024	2024Bore/Drill Rigs	2024Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2024	2024Cement and Mortar Mixers	2024Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2024	2024Concrete/Industrial Saws	2024Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0035	120	4
2024	2024Cranes	2024Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0051	250	6
2024	2024Crawler Tractors	2024Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0087	250	6
2024	2024Crushing/Proc. Equipment	2024Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0048	120	4
2024	2024Dumpers/Tenders	2024Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2024	2024Excavators	2024Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0049	175	5
2024	2024Forklifts	2024Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0016	120	4
2024	2024Generator Sets	2024Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2024	2024Graders	2024Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0063	175	6
2024	2024Off-Highway Tractors	2024Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0106	175	5
2024	2024Off-Highway Trucks	2024Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0111	500	7
2024	2024Other Construction Equipment	2024Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0037	175	5
2024	2024Other General Industrial Equipmen	2024Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0041	120	4
2024	2024Other Material Handling Equipment	2024Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0063	175	5
2024	2024Pavers	2024Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0086	175	5
2024	2024Paving Equipment	2024Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0066	175	5
2024	2024Plate Compactors	2024Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2024	2024Pressure Washers	2024Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2024	2024Pumps	2024Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0035	120	4
2024	2024Rollers	2024Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0038	120	4
2024	2024Rough Terrain Forklifts	2024Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0035	120	4
2024	2024Rubber Tired Dozers	2024Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0171	500	6
2024	2024Rubber Tired Loaders	2024Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0062	250	6
2024	2024Scrapers	2024Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0165	500	7
2024	2024Signal Boards	2024Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2024	2024Skid Steer Loaders	2024Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2024	2024Surfacing Equipment	2024Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0075	500	6
2024	2024Sweepers/Scrubbers	2024Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0038	120	3
2024	2024Tractors/Loaders/Backhoes	2024Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0026	120	4
2024	2024Trenchers	2024Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0060	120	4

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2024	2024Welders	2024Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0027	50	2
2025	2025Aerial Lifts	2025Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2025	2025Air Compressors	2025Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2025	2025Bore/Drill Rigs	2025Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2025	2025Cement and Mortar Mixers	2025Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2025	2025Concrete/Industrial Saws	2025Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2025	2025Cranes	2025Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2025	2025Crawler Tractors	2025Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2025	2025Crushing/Proc. Equipment	2025Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2025	2025Dumpers/Tenders	2025Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2025	2025Excavators	2025Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2025	2025Forklifts	2025Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2025	2025Generator Sets	2025Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2025	2025Graders	2025Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2025	2025Off-Highway Tractors	2025Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2025	2025Off-Highway Trucks	2025Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2025	2025Other Construction Equipment	2025Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2025	2025Other General Industrial Equipmen	2025Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2025	2025Other Material Handling Equipment	2025Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2025	2025Pavers	2025Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2025	2025Paving Equipment	2025Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2025	2025Plate Compactors	2025Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2025	2025Pressure Washers	2025Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2025	2025Pumps	2025Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2025	2025Rollers	2025Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2025	2025Rough Terrain Forklifts	2025Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2025	2025Rubber Tired Dozers	2025Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2025	2025Rubber Tired Loaders	2025Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2025	2025Scrapers	2025Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2025	2025Signal Boards	2025Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2025	2025Skid Steer Loaders	2025Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2025	2025Surfacing Equipment	2025Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2025	2025Sweepers/Scrubbers	2025Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2025	2025Tractors/Loaders/Backhoes	2025Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2025	2025Trenchers	2025Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2025	2025Welders	2025Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2026	2026Aerial Lifts	2026Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2026	2026Air Compressors	2026Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2026	2026Bore/Drill Rigs	2026Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2026	2026Cement and Mortar Mixers	2026Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2026	2026Concrete/Industrial Saws	2026Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2026	2026Cranes	2026Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2026	2026Crawler Tractors	2026Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2026	2026Crushing/Proc. Equipment	2026Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2026	2026Dumpers/Tenders	2026Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2026	2026Excavators	2026Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2026	2026Forklifts	2026Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2026	2026Generator Sets	2026Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2026	2026Graders	2026Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2026	2026Off-Highway Tractors	2026Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2026	2026Off-Highway Trucks	2026Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2026	2026Other Construction Equipment	2026Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2026	2026Other General Industrial Equipmen	2026Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2026	2026Other Material Handling Equipment	2026Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2026	2026Pavers	2026Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2026	2026Paving Equipment	2026Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2026	2026Plate Compactors	2026Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2026	2026Pressure Washers	2026Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2026	2026Pumps	2026Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2026	2026Rollers	2026Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2026	2026Rough Terrain Forklifts	2026Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2026	2026Rubber Tired Dozers	2026Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2026	2026Rubber Tired Loaders	2026Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2026	2026Scrapers	2026Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7

Chiquita Canyon Landfill EIR

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2026	2026Signal Boards	2026Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2026	2026Skid Steer Loaders	2026Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2026	2026Surfacing Equipment	2026Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2026	2026Sweepers/Scrubbers	2026Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2026	2026Tractors/Loaders/Backhoes	2026Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2026	2026Trenchers	2026Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2026	2026Welders	2026Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2027	2027Aerial Lifts	2027Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2027	2027Air Compressors	2027Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2027	2027Bore/Drill Rigs	2027Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2027	2027Cement and Mortar Mixers	2027Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2027	2027Concrete/Industrial Saws	2027Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2027	2027Cranes	2027Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2027	2027Crawler Tractors	2027Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2027	2027Crushing/Proc. Equipment	2027Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2027	2027Dumpers/Tenders	2027Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2027	2027Excavators	2027Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2027	2027Forklifts	2027Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2027	2027Generator Sets	2027Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2027	2027Graders	2027Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2027	2027Off-Highway Tractors	2027Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2027	2027Off-Highway Trucks	2027Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2027	2027Other Construction Equipment	2027Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2027	2027Other General Industrial Equipmen	2027Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2027	2027Other Material Handling Equipment	2027Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2027	2027Pavers	2027Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2027	2027Paving Equipment	2027Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2027	2027Plate Compactors	2027Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2027	2027Pressure Washers	2027Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2027	2027Pumps	2027Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2027	2027Rollers	2027Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2027	2027Rough Terrain Forklifts	2027Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2027	2027Rubber Tired Dozers	2027Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2027	2027Rubber Tired Loaders	2027Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2027	2027Scrapers	2027Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2027	2027Signal Boards	2027Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2027	2027Skid Steer Loaders	2027Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2027	2027Surfacing Equipment	2027Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2027	2027Sweepers/Scrubbers	2027Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2027	2027Tractors/Loaders/Backhoes	2027Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2027	2027Trenchers	2027Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2027	2027Welders	2027Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2028	2028Aerial Lifts	2028Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2028	2028Air Compressors	2028Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2028	2028Bore/Drill Rigs	2028Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2028	2028Cement and Mortar Mixers	2028Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2028	2028Concrete/Industrial Saws	2028Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2028	2028Cranes	2028Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2028	2028Crawler Tractors	2028Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2028	2028Crushing/Proc. Equipment	2028Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2028	2028Dumpers/Tenders	2028Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2028	2028Excavators	2028Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2028	2028Forklifts	2028Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2028	2028Generator Sets	2028Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2028	2028Graders	2028Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2028	2028Off-Highway Tractors	2028Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2028	2028Off-Highway Trucks	2028Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2028	2028Other Construction Equipment	2028Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2028	2028Other General Industrial Equipmen	2028Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2028	2028Other Material Handling Equipment	2028Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2028	2028Pavers	2028Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2028	2028Paving Equipment	2028Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2028	2028Plate Compactors	2028Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2028	2028Pressure Washers	2028Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1

Chiquita Canyon Landfill EIR

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2028	2028Pumps	2028Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2028	2028Rollers	2028Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2028	2028Rough Terrain Forklifts	2028Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2028	2028Rubber Tired Dozers	2028Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2028	2028Rubber Tired Loaders	2028Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2028	2028Scrapers	2028Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2028	2028Signal Boards	2028Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2028	2028Skid Steer Loaders	2028Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2028	2028Surfacing Equipment	2028Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2028	2028Sweepers/Scrubbers	2028Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2028	2028Tractors/Loaders/Backhoes	2028Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2028	2028Trenchers	2028Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2028	2028Welders	2028Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2029	2029Aerial Lifts	2029Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2029	2029Air Compressors	2029Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2029	2029Bore/Drill Rigs	2029Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2029	2029Cement and Mortar Mixers	2029Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2029	2029Concrete/Industrial Saws	2029Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2029	2029Cranes	2029Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2029	2029Crawler Tractors	2029Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2029	2029Crushing/Proc. Equipment	2029Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2029	2029Dumpers/Tenders	2029Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2029	2029Excavators	2029Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2029	2029Forklifts	2029Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2029	2029Generator Sets	2029Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2029	2029Graders	2029Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2029	2029Off-Highway Tractors	2029Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2029	2029Off-Highway Trucks	2029Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2029	2029Other Construction Equipment	2029Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2029	2029Other General Industrial Equipmen	2029Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2029	2029Other Material Handling Equipment	2029Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2029	2029Pavers	2029Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2029	2029Paving Equipment	2029Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2029	2029Plate Compactors	2029Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2029	2029Pressure Washers	2029Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2029	2029Pumps	2029Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2029	2029Rollers	2029Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2029	2029Rough Terrain Forklifts	2029Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2029	2029Rubber Tired Dozers	2029Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2029	2029Rubber Tired Loaders	2029Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2029	2029Scrapers	2029Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2029	2029Signal Boards	2029Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2029	2029Skid Steer Loaders	2029Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2029	2029Surfacing Equipment	2029Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2029	2029Sweepers/Scrubbers	2029Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2029	2029Tractors/Loaders/Backhoes	2029Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2029	2029Trenchers	2029Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2029	2029Welders	2029Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2030	2030Aerial Lifts	2030Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2030	2030Air Compressors	2030Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2030	2030Bore/Drill Rigs	2030Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2030	2030Cement and Mortar Mixers	2030Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2030	2030Concrete/Industrial Saws	2030Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2030	2030Cranes	2030Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2030	2030Crawler Tractors	2030Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2030	2030Crushing/Proc. Equipment	2030Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2030	2030Dumpers/Tenders	2030Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2030	2030Excavators	2030Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2030	2030Forklifts	2030Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2030	2030Generator Sets	2030Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2030	2030Graders	2030Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2030	2030Off-Highway Tractors	2030Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2030	2030Off-Highway Trucks	2030Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2030	2030Other Construction Equipment	2030Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2030	2030Other General Industrial Equipmen	2030Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2030	2030Other Material Handling Equipment	2030Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2030	2030Pavers	2030Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2030	2030Paving Equipment	2030Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2030	2030Plate Compactors	2030Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2030	2030Pressure Washers	2030Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2030	2030Pumps	2030Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2030	2030Rollers	2030Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2030	2030Rough Terrain Forklifts	2030Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2030	2030Rubber Tired Dozers	2030Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2030	2030Rubber Tired Loaders	2030Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2030	2030Scrapers	2030Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2030	2030Signal Boards	2030Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2030	2030Skid Steer Loaders	2030Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2030	2030Surfacing Equipment	2030Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2030	2030Sweepers/Scrubbers	2030Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2030	2030Tractors/Loaders/Backhoes	2030Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2030	2030Trenchers	2030Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2030	2030Welders	2030Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2031	2031Aerial Lifts	2031Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2031	2031Air Compressors	2031Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2031	2031Bore/Drill Rigs	2031Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2031	2031Cement and Mortar Mixers	2031Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2031	2031Concrete/Industrial Saws	2031Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2031	2031Cranes	2031Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2031	2031Crawler Tractors	2031Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2031	2031Crushing/Proc. Equipment	2031Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2031	2031Dumpers/Tenders	2031Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2031	2031Excavators	2031Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2031	2031Forklifts	2031Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2031	2031Generator Sets	2031Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2031	2031Graders	2031Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2031	2031Off-Highway Tractors	2031Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2031	2031Off-Highway Trucks	2031Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2031	2031Other Construction Equipment	2031Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2031	2031Other General Industrial Equipmen	2031Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2031	2031Other Material Handling Equipment	2031Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2031	2031Pavers	2031Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2031	2031Paving Equipment	2031Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2031	2031Plate Compactors	2031Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2031	2031Pressure Washers	2031Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2031	2031Pumps	2031Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2031	2031Rollers	2031Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2031	2031Rough Terrain Forklifts	2031Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2031	2031Rubber Tired Dozers	2031Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2031	2031Rubber Tired Loaders	2031Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2031	2031Scrapers	2031Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2031	2031Signal Boards	2031Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2031	2031Skid Steer Loaders	2031Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2031	2031Surfacing Equipment	2031Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2031	2031Sweepers/Scrubbers	2031Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2031	2031Tractors/Loaders/Backhoes	2031Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2031	2031Trenchers	2031Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2031	2031Welders	2031Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2033	2033Aerial Lifts	2033Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2033	2033Air Compressors	2033Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2033	2033Bore/Drill Rigs	2033Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2033	2033Cement and Mortar Mixers	2033Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2033	2033Concrete/Industrial Saws	2033Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2033	2033Cranes	2033Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2033	2033Crawler Tractors	2033Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2033	2033Crushing/Proc. Equipment	2033Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2033	2033Dumpers/Tenders	2033Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2033	2033Excavators	2033Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2033	2033Forklifts	2033Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2033	2033Generator Sets	2033Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2033	2033Graders	2033Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2033	2033Off-Highway Tractors	2033Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2033	2033Off-Highway Trucks	2033Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2033	2033Other Construction Equipment	2033Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2033	2033Other General Industrial Equipmen	2033Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2033	2033Other Material Handling Equipment	2033Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2033	2033Pavers	2033Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2033	2033Paving Equipment	2033Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2033	2033Plate Compactors	2033Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2033	2033Pressure Washers	2033Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2033	2033Pumps	2033Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2033	2033Rollers	2033Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2033	2033Rough Terrain Forklifts	2033Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2033	2033Rubber Tired Dozers	2033Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2033	2033Rubber Tired Loaders	2033Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2033	2033Scrapers	2033Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2033	2033Signal Boards	2033Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2033	2033Skid Steer Loaders	2033Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2033	2033Surfacing Equipment	2033Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2033	2033Sweepers/Scrubbers	2033Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2033	2033Tractors/Loaders/Backhoes	2033Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2033	2033Trenchers	2033Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2033	2033Welders	2033Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2035	2035Aerial Lifts	2035Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2035	2035Air Compressors	2035Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2035	2035Bore/Drill Rigs	2035Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2035	2035Cement and Mortar Mixers	2035Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2035	2035Concrete/Industrial Saws	2035Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2035	2035Cranes	2035Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2035	2035Crawler Tractors	2035Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2035	2035Crushing/Proc. Equipment	2035Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2035	2035Dumpers/Tenders	2035Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2035	2035Excavators	2035Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2035	2035Forklifts	2035Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2035	2035Generator Sets	2035Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2035	2035Graders	2035Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2035	2035Off-Highway Tractors	2035Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2035	2035Off-Highway Trucks	2035Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2035	2035Other Construction Equipment	2035Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2035	2035Other General Industrial Equipmen	2035Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2035	2035Other Material Handling Equipment	2035Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2035	2035Pavers	2035Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2035	2035Paving Equipment	2035Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2035	2035Plate Compactors	2035Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2035	2035Pressure Washers	2035Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2035	2035Pumps	2035Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2035	2035Rollers	2035Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2035	2035Rough Terrain Forklifts	2035Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2035	2035Rubber Tired Dozers	2035Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2035	2035Rubber Tired Loaders	2035Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2035	2035Scrapers	2035Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2035	2035Signal Boards	2035Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2035	2035Skid Steer Loaders	2035Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2035	2035Surfacing Equipment	2035Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2035	2035Sweepers/Scrubbers	2035Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2035	2035Tractors/Loaders/Backhoes	2035Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2035	2035Trenchers	2035Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2035	2035Welders	2035Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2037	2037Aerial Lifts	2037Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2037	2037Air Compressors	2037Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2037	2037Bore/Drill Rigs	2037Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2037	2037Cement and Mortar Mixers	2037Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2037	2037Concrete/Industrial Saws	2037Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2037	2037Cranes	2037Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2037	2037Crawler Tractors	2037Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2037	2037Crushing/Proc. Equipment	2037Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2037	2037Dumpers/Tenders	2037Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2037	2037Excavators	2037Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2037	2037Forklifts	2037Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2037	2037Generator Sets	2037Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2037	2037Graders	2037Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2037	2037Off-Highway Tractors	2037Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2037	2037Off-Highway Trucks	2037Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2037	2037Other Construction Equipment	2037Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2037	2037Other General Industrial Equipmen	2037Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2037	2037Other Material Handling Equipment	2037Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2037	2037Pavers	2037Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2037	2037Paving Equipment	2037Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2037	2037Plate Compactors	2037Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2037	2037Pressure Washers	2037Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2037	2037Pumps	2037Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2037	2037Rollers	2037Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2037	2037Rough Terrain Forklifts	2037Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2037	2037Rubber Tired Dozers	2037Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2037	2037Rubber Tired Loaders	2037Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2037	2037Scrapers	2037Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2037	2037Signal Boards	2037Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2037	2037Skid Steer Loaders	2037Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2037	2037Surfacing Equipment	2037Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2037	2037Sweepers/Scrubbers	2037Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2037	2037Tractors/Loaders/Backhoes	2037Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2037	2037Trenchers	2037Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2037	2037Welders	2037Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2038	2038Aerial Lifts	2038Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2038	2038Air Compressors	2038Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2038	2038Bore/Drill Rigs	2038Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2038	2038Cement and Mortar Mixers	2038Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2038	2038Concrete/Industrial Saws	2038Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2038	2038Cranes	2038Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2038	2038Crawler Tractors	2038Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2038	2038Crushing/Proc. Equipment	2038Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2038	2038Dumpers/Tenders	2038Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2038	2038Excavators	2038Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2038	2038Forklifts	2038Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2038	2038Generator Sets	2038Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2038	2038Graders	2038Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2038	2038Off-Highway Tractors	2038Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2038	2038Off-Highway Trucks	2038Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2038	2038Other Construction Equipment	2038Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2038	2038Other General Industrial Equipmen	2038Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2038	2038Other Material Handling Equipment	2038Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2038	2038Pavers	2038Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2038	2038Paving Equipment	2038Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2038	2038Plate Compactors	2038Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2038	2038Pressure Washers	2038Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2038	2038Pumps	2038Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2038	2038Rollers	2038Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2038	2038Rough Terrain Forklifts	2038Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2038	2038Rubber Tired Dozers	2038Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2038	2038Rubber Tired Loaders	2038Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2038	2038Scrapers	2038Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2038	2038Signal Boards	2038Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2038	2038Skid Steer Loaders	2038Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2038	2038Surfacing Equipment	2038Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2038	2038Sweepers/Scrubbers	2038Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2038	2038Tractors/Loaders/Backhoes	2038Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2038	2038Trenchers	2038Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2038	2038Welders	2038Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2041	2041Aerial Lifts	2041Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2041	2041Air Compressors	2041Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2041	2041Bore/Drill Rigs	2041Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2041	2041Cement and Mortar Mixers	2041Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2041	2041Concrete/Industrial Saws	2041Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2041	2041Cranes	2041Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2041	2041Crawler Tractors	2041Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2041	2041Crushing/Proc. Equipment	2041Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2041	2041Dumpers/Tenders	2041Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2041	2041Excavators	2041Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2041	2041Forklifts	2041Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2041	2041Generator Sets	2041Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2041	2041Graders	2041Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2041	2041Off-Highway Tractors	2041Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2041	2041Off-Highway Trucks	2041Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2041	2041Other Construction Equipment	2041Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2041	2041Other General Industrial Equipmen	2041Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2041	2041Other Material Handling Equipment	2041Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2041	2041Pavers	2041Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2041	2041Paving Equipment	2041Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2041	2041Plate Compactors	2041Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2041	2041Pressure Washers	2041Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2041	2041Pumps	2041Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2041	2041Rollers	2041Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2041	2041Rough Terrain Forklifts	2041Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2041	2041Rubber Tired Dozers	2041Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2041	2041Rubber Tired Loaders	2041Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2041	2041Scrapers	2041Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2041	2041Signal Boards	2041Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2041	2041Skid Steer Loaders	2041Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2041	2041Surfacing Equipment	2041Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2041	2041Sweepers/Scrubbers	2041Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2041	2041Tractors/Loaders/Backhoes	2041Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2041	2041Trenchers	2041Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2041	2041Welders	2041Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2

Source: SCAQMD CEQA Handbook website: http://sfprod.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/off-road-mobile-source-emission-factors
Emission factors only available up to 2025; therefore, it was conservatively assumed that the emission factors for years 2026 through 2035 were the same as 2025.
NOx/PM10/PM2.5/CO/VOC emission factors taken as the Tier 4f emission standards per the ARB's Diesel Off-road Equipment Regulation Table 3 (13 CCR 2449).
Default hp and load factor taken from CalEEMod User Guide Appendix D, Table 3.3 (September 2013).

SCAQMD Offroad Emission Factors

Source: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/off-road-mobile-source-emission-factors.

				(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)
Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2014	2014Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0633	0.0001	0.0026	8.7	0.0009
2014	2014Aerial Lifts25	Aerial Lifts	25	0.0160	0.0494	0.0919	0.0001	0.0048	11.0	0.0014
2014	2014Aerial Lifts50	Aerial Lifts	50	0.0534	0.1694	0.1765	0.0003	0.0142	19.6	0.0048
2014	2014Aerial Lifts120	Aerial Lifts	120	0.0509	0.2400	0.3531	0.0004	0.0272	38.1	0.0046
2014	2014Aerial Lifts500	Aerial Lifts	500	0.1106	0.4444	1.3843	0.0021	0.0408	213	0.0100
2014	2014Aerial Lifts750	Aerial Lifts	750	0.2063	0.8033	2.5864	0.0039	0.0751	385	0.0186
2014	2014Aerial Lifts Composite	Aerial Lifts Composite		0.0483	0.1877	0.2867	0.0004	0.0184	34.7	0.0044
2014	2014Air Compressors15	Air Compressors	15	0.0114	0.0474	0.0697	0.0001	0.0044	7.2	0.0010
2014	2014Air Compressors25	Air Compressors	25	0.0247	0.0711	0.1275	0.0002	0.0075	14.4	0.0022
2014	2014Air Compressors50	Air Compressors	50	0.0831	0.2446	0.2134	0.0003	0.0201	22.3	0.0075
2014	2014Air Compressors120	Air Compressors	120	0.0758	0.3216	0.4682	0.0006	0.0416	47.0	0.0068
2014	2014Air Compressors175	Air Compressors	175	0.0984	0.5035	0.7837	0.0010	0.0431	88.5	0.0089
2014	2014Air Compressors250	Air Compressors	250	0.0948	0.2873	1.0299	0.0015	0.0316	131	0.0086
2014	2014Air Compressors500	Air Compressors	500	0.1543	0.5129	1.5945	0.0023	0.0519	232	0.0139
2014	2014Air Compressors750	Air Compressors	750	0.2412	0.7927	2.5509	0.0036	0.0819	358	0.0218
2014	2014Air Compressors1000	Air Compressors	1000	0.3865	1.2935	4.7637	0.0049	0.1363	486	0.0349
2014	2014Air Compressors Composite	Air Compressors Composite		0.0842	0.3313	0.5635	0.0007	0.0396	63.6	0.0076
2014	2014Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2014	2014Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1222	0.0002	0.0048	16.0	0.0017
2014	2014Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0255	0.2253	0.2394	0.0004	0.0095	31.0	0.0023
2014	2014Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0409	0.4684	0.4254	0.0009	0.0204	77.1	0.0037
2014	2014Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0671	0.7539	0.6527	0.0016	0.0246	141	0.0061
2014	2014Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0737	0.3426	0.6140	0.0021	0.0179	188	0.0066
2014	2014Bore/Drill Rigs500	Bore/Drill Rigs	500	0.1206	0.5512	0.9516	0.0031	0.0294	311	0.0109
2014	2014Bore/Drill Rigs750	Bore/Drill Rigs	750	0.2388	1.0890	1.8972	0.0062	0.0582	615	0.0215
2014	2014Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.3889	1.6591	5.4092	0.0093	0.1411	928	0.0351
2014	2014Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0729	0.5030	0.7136	0.0017	0.0248	165	0.0066
2014	2014Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0466	0.0001	0.0020	6.3	0.0007
2014	2014Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0259	0.0794	0.1481	0.0002	0.0078	17.6	0.0023
2014	2014Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0089	0.0420	0.0550	0.0001	0.0025	7.2	0.0008
2014	2014Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0048	16.5	0.0018
2014	2014Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0864	0.2825	0.2750	0.0004	0.0226	30.2	0.0078
2014	2014Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0978	0.4796	0.6733	0.0009	0.0538	74.1	0.0088
2014	2014Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.1457	0.8685	1.2772	0.0018	0.0645	160	0.0131
2014	2014Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0917	0.4031	0.5267	0.0007	0.0413	58.5	0.0083
2014	2014Cranes50	Cranes	50	0.0932	0.2808	0.2313	0.0003	0.0221	23.2	0.0084
2014	2014Cranes120	Cranes	120	0.0859	0.3587	0.5189	0.0006	0.0453	50.1	0.0078
2014	2014Cranes175	Cranes	175	0.0977	0.4806	0.7306	0.0009	0.0412	80.3	0.0088
2014	2014Cranes250	Cranes	250	0.0979	0.2817	0.9088	0.0013	0.0317	112	0.0088
2014	2014Cranes500	Cranes	500	0.1468	0.4948	1.2979	0.0018	0.0470	180	0.0132
2014	2014Cranes750	Cranes	750	0.2485	0.8312	2.2480	0.0030	0.0803	303	0.0224
2014	2014Cranes9999	Cranes	9999	0.9122	3.0993	9.8090	0.0098	0.3001	971	0.0823
2014	2014Cranes Composite	Cranes Composite		0.1276	0.4553	1.1066	0.0014	0.0466	129	0.0115
2014	2014Crawler Tractors50	Crawler Tractors	50	0.1094	0.3164	0.2544	0.0003	0.0251	24.9	0.0099
2014	2014Crawler Tractors120	Crawler Tractors	120	0.1217	0.4814	0.7280	0.0008	0.0627	65.8	0.0110
2014	2014Crawler Tractors175	Crawler Tractors	175	0.1594	0.7413	1.1857	0.0014	0.0663	121	0.0144
2014	2014Crawler Tractors250	Crawler Tractors	250	0.1672	0.4797	1.4702	0.0019	0.0562	166	0.0151
2014	2014Crawler Tractors500	Crawler Tractors	500	0.2420	0.8885	2.0637	0.0025	0.0798	259	0.0218
2014	2014Crawler Tractors750	Crawler Tractors	750	0.4355	1.5882	3.7861	0.0047	0.1446	465	0.0393
2014	2014Crawler Tractors1000	Crawler Tractors	1000	0.6595	2.5182	7.0047	0.0066	0.2228	658	0.0595
2014	2014Crawler Tractors Composite	Crawler Tractors Composite		0.1499	0.5767	1.0853	0.0013	0.0644	114	0.0135
2014	2014Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.1559	0.4812	0.4182	0.0006	0.0383	44.0	0.0141
2014	2014Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.1284	0.5703	0.8000	0.0010	0.0704	83.1	0.0116

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2014	2014Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.1801	0.9583	1.4195	0.0019	0.0782	167	0.0163
2014	2014Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1744	0.5287	1.8241	0.0028	0.0562	245	0.0157
2014	2014Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.2480	0.8092	2.4341	0.0037	0.0801	374	0.0224
2014	2014Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.3929	1.2625	3.9931	0.0059	0.1283	589	0.0354
2014	2014Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	1.0512	3.3574	12.4161	0.0131	0.3572	1,308	0.0948
2014	2014Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.1597	0.6651	1.0867	0.0015	0.0677	132	0.0144
2014	2014Dumpers/Tenders25	Dumpers/Tenders	25	0.0095	0.0317	0.0595	0.0001	0.0027	7.6	0.0009
2014	2014Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0095	0.0317	0.0595	0.0001	0.0027	7.6	0.0009
2014	2014Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2014	2014Excavators50	Excavators	50	0.0728	0.2757	0.2354	0.0003	0.0189	25.0	0.0066
2014	2014Excavators120	Excavators	120	0.0998	0.5137	0.6331	0.0009	0.0519	73.6	0.0090
2014	2014Excavators175	Excavators	175	0.1134	0.6660	0.8323	0.0013	0.0457	112	0.0102
2014	2014Excavators250	Excavators	250	0.1180	0.3480	1.0099	0.0018	0.0333	159	0.0106
2014	2014Excavators500	Excavators	500	0.1657	0.5102	1.3127	0.0023	0.0463	234	0.0149
2014	2014Excavators750	Excavators	750	0.2764	0.8452	2.2503	0.0039	0.0782	387	0.0249
2014	2014Excavators Composite	Excavators Composite		0.1143	0.5289	0.8299	0.0013	0.0428	120	0.0103
2014	2014Forklifts50	Forklifts	50	0.0381	0.1569	0.1376	0.0002	0.0106	14.7	0.0034
2014	2014Forklifts120	Forklifts	120	0.0390	0.2158	0.2571	0.0004	0.0206	31.2	0.0035
2014	2014Forklifts175	Forklifts	175	0.0524	0.3311	0.3883	0.0006	0.0214	56.1	0.0047
2014	2014Forklifts250	Forklifts	250	0.0542	0.1595	0.4606	0.0009	0.0149	77.1	0.0049
2014	2014Forklifts500	Forklifts	500	0.0752	0.2182	0.5845	0.0011	0.0206	111	0.0068
2014	2014Forklifts Composite	Forklifts Composite		0.0497	0.2215	0.3551	0.0006	0.0178	54.4	0.0045
2014	2014Generator Sets15	Generator Sets	15	0.0142	0.0670	0.0971	0.0002	0.0054	10.2	0.0013
2014	2014Generator Sets25	Generator Sets	25	0.0256	0.0868	0.1557	0.0002	0.0085	17.6	0.0023
2014	2014Generator Sets50	Generator Sets	50	0.0785	0.2545	0.2731	0.0004	0.0213	30.6	0.0071
2014	2014Generator Sets120	Generator Sets	120	0.1008	0.4857	0.7130	0.0009	0.0537	77.9	0.0091
2014	2014Generator Sets175	Generator Sets	175	0.1236	0.7367	1.1536	0.0016	0.0538	142	0.0112
2014	2014Generator Sets250	Generator Sets	250	0.1181	0.4248	1.5252	0.0024	0.0422	213	0.0107
2014	2014Generator Sets500	Generator Sets	500	0.1683	0.6904	2.1655	0.0033	0.0627	337	0.0152
2014	2014Generator Sets750	Generator Sets	750	0.2811	1.1145	3.6123	0.0055	0.1032	544	0.0254
2014	2014Generator Sets9999	Generator Sets	9999	0.7280	2.5702	9.5914	0.0105	0.2595	1,049	0.0657
2014	2014Generator Sets Composite	Generator Sets Composite		0.0702	0.2974	0.5083	0.0007	0.0296	61.0	0.0063
2014	2014Graders50	Graders	50	0.0985	0.3168	0.2668	0.0004	0.0239	27.5	0.0089
2014	2014Graders120	Graders	120	0.1166	0.5268	0.7270	0.0009	0.0614	75.0	0.0105
2014	2014Graders175	Graders	175	0.1386	0.7331	1.0511	0.0014	0.0577	124	0.0125
2014	2014Graders250	Graders	250	0.1407	0.4177	1.2844	0.0019	0.0445	172	0.0127
2014	2014Graders500	Graders	500	0.1759	0.5992	1.5242	0.0023	0.0550	229	0.0159
2014	2014Graders750	Graders	750	0.3746	1.2665	3.3218	0.0049	0.1182	486	0.0338
2014	2014Graders Composite	Graders Composite		0.1362	0.5987	1.0796	0.0015	0.0539	133	0.0123
2014	2014Off-Highway Tractors120	Off-Highway Tractors	120	0.2008	0.7118	1.1800	0.0011	0.1014	93.7	0.0181
2014	2014Off-Highway Tractors175	Off-Highway Tractors	175	0.1960	0.8272	1.4624	0.0015	0.0820	130	0.0177
2014	2014Off-Highway Tractors250	Off-Highway Tractors	250	0.1564	0.4499	1.3527	0.0015	0.0560	130	0.0141
2014	2014Off-Highway Tractors750	Off-Highway Tractors	750	0.6254	2.6908	5.4422	0.0057	0.2197	568	0.0564
2014	2014Off-Highway Tractors1000	Off-Highway Tractors	1000	0.9416	4.2058	9.6214	0.0082	0.3259	814	0.0850
2014	2014Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1986	0.7438	1.6111	0.0017	0.0767	151	0.0179
2014	2014Off-Highway Trucks175	Off-Highway Trucks	175	0.1355	0.7569	0.9614	0.0014	0.0539	125	0.0122
2014	2014Off-Highway Trucks250	Off-Highway Trucks	250	0.1326	0.3761	1.1048	0.0019	0.0368	167	0.0120
2014	2014Off-Highway Trucks500	Off-Highway Trucks	500	0.2065	0.6134	1.5945	0.0027	0.0567	272	0.0186
2014	2014Off-Highway Trucks750	Off-Highway Trucks	750	0.3371	0.9944	2.6748	0.0044	0.0937	442	0.0304
2014	2014Off-Highway Trucks1000	Off-Highway Trucks	1000	0.5191	1.5673	5.5862	0.0063	0.1665	625	0.0468
2014	2014Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.2034	0.6148	1.6679	0.0027	0.0579	260	0.0183
2014	2014Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2014	2014Other Construction Equipment25	Other Construction Equipment	25	0.0160	0.0544	0.1010	0.0002	0.0039	13.2	0.0014
2014	2014Other Construction Equipment50	Other Construction Equipment	50	0.0670	0.2573	0.2471	0.0004	0.0183	28.0	0.0060
2014	2014Other Construction Equipment120	Other Construction Equipment	120	0.0915	0.5237	0.6571	0.0009	0.0503	80.9	0.0083
2014	2014Other Construction Equipment175	Other Construction Equipment	175	0.0868	0.5867	0.7476	0.0012	0.0374	107	0.0078

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2014	2014Other Construction Equipment500	Other Construction Equipment	500	0.1379	0.5080	1.3457	0.0025	0.0441	254	0.0124
2014	2014Other Construction Equipment Composite	Other Construction Equipment Composite		0.0820	0.3697	0.7168	0.0013	0.0296	123	0.0074
2014	2014Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2014	2014Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2014	2014Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0878	0.2626	0.2155	0.0003	0.0211	21.7	0.0079
2014	2014Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.1082	0.4435	0.6351	0.0007	0.0583	62.0	0.0098
2014	2014Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.1174	0.5703	0.8698	0.0011	0.0498	95.9	0.0106
2014	2014Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.1111	0.3089	1.0899	0.0015	0.0346	136	0.0100
2014	2014Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.2032	0.6064	1.8639	0.0026	0.0630	265	0.0183
2014	2014Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.3375	0.9995	3.1813	0.0044	0.1061	437	0.0305
2014	2014Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.4892	1.5297	5.6194	0.0056	0.1666	560	0.0441
2014	2014Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.1448	0.4985	1.2360	0.0016	0.0527	152	0.0131
2014	2014Other Material Handling Equipment50	Other Material Handling Equipment	50	0.1219	0.3632	0.2997	0.0004	0.0293	30.3	0.0110
2014	2014Other Material Handling Equipment120	Other Material Handling Equipment	120	0.1051	0.4319	0.6201	0.0007	0.0568	60.7	0.0095
2014	2014Other Material Handling Equipment175	Other Material Handling Equipment	175	0.1481	0.7226	1.1054	0.0014	0.0631	122	0.0134
2014	2014Other Material Handling Equipment250	Other Material Handling Equipment	250	0.1174	0.3291	1.1643	0.0016	0.0368	145	0.0106
2014	2014Other Material Handling Equipment500	Other Material Handling Equipment	500	0.1448	0.4365	1.3440	0.0019	0.0453	192	0.0131
2014	2014Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.6617	2.0216	7.4315	0.0073	0.2197	741	0.0597
2014	2014Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.1381	0.4814	1.2068	0.0015	0.0511	141	0.0125
2014	2014Pavers25	Pavers	25	0.0239	0.0788	0.1472	0.0002	0.0070	18.7	0.0022
2014	2014Pavers50	Pavers	50	0.1281	0.3506	0.2860	0.0004	0.0289	28.0	0.0116
2014	2014Pavers120	Pavers	120	0.1311	0.5011	0.7948	0.0008	0.0682	69.2	0.0118
2014	2014Pavers175	Pavers	175	0.1695	0.7742	1.3079	0.0014	0.0720	128	0.0153
2014	2014Pavers250	Pavers	250	0.1962	0.5822	1.8076	0.0022	0.0696	194	0.0177
2014	2014Pavers500	Pavers	500	0.2165	0.8647	1.9551	0.0023	0.0756	233	0.0195
2014	2014Pavers Composite	Pavers Composite		0.1429	0.5277	0.8112	0.0009	0.0564	77.9	0.0129
2014	2014Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0965	0.0002	0.0038	12.6	0.0014
2014	2014Paving Equipment50	Paving Equipment	50	0.1094	0.2974	0.2439	0.0003	0.0247	23.9	0.0099
2014	2014Paving Equipment120	Paving Equipment	120	0.1028	0.3923	0.6241	0.0006	0.0538	54.5	0.0093
2014	2014Paving Equipment175	Paving Equipment	175	0.1323	0.6049	1.0274	0.0011	0.0565	101	0.0119
2014	2014Paving Equipment250	Paving Equipment	250	0.1207	0.3595	1.1333	0.0014	0.0429	122	0.0109
2014	2014Paving Equipment Composite	Paving Equipment Composite		0.1082	0.4273	0.7312	0.0008	0.0502	68.9	0.0098
2014	2014Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2014	2014Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2014	2014Pressure Washers15	Pressure Washers	15	0.0068	0.0321	0.0465	0.0001	0.0026	4.9	0.0006
2014	2014Pressure Washers25	Pressure Washers	25	0.0104	0.0352	0.0631	0.0001	0.0035	7.1	0.0009
2014	2014Pressure Washers50	Pressure Washers	50	0.0281	0.1001	0.1230	0.0002	0.0085	14.3	0.0025
2014	2014Pressure Washers120	Pressure Washers	120	0.0274	0.1429	0.2101	0.0003	0.0143	24.1	0.0025
2014	2014Pressure Washers Composite	Pressure Washers Composite		0.0145	0.0603	0.0838	0.0001	0.0053	9.4	0.0013
2014	2014Pumps15	Pumps	15	0.0117	0.0488	0.0716	0.0001	0.0045	7.4	0.0011
2014	2014Pumps25	Pumps	25	0.0333	0.0959	0.1721	0.0002	0.0101	19.5	0.0030
2014	2014Pumps50	Pumps	50	0.0949	0.3004	0.3098	0.0004	0.0251	34.3	0.0086
2014	2014Pumps120	Pumps	120	0.1049	0.4934	0.7241	0.0009	0.0563	77.9	0.0095
2014	2014Pumps175	Pumps	175	0.1275	0.7382	1.1562	0.0016	0.0556	140	0.0115
2014	2014Pumps250	Pumps	250	0.1175	0.4096	1.4689	0.0023	0.0416	201	0.0106
2014	2014Pumps500	Pumps	500	0.1815	0.7226	2.2468	0.0034	0.0667	345	0.0164
2014	2014Pumps750	Pumps	750	0.3092	1.1947	3.8390	0.0057	0.1124	571	0.0279
2014	2014Pumps9999	Pumps	9999	0.9669	3.3910	12.5393	0.0136	0.3422	1,355	0.0872
2014	2014Pumps Composite	Pumps Composite		0.0683	0.2873	0.4427	0.0006	0.0295	49.6	0.0062
2014	2014Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2014	2014Rollers25	Rollers	25	0.0161	0.0549	0.1019	0.0002	0.0040	13.3	0.0015
2014	2014Rollers50	Rollers	50	0.0947	0.2831	0.2492	0.0003	0.0226	26.0	0.0085
2014	2014Rollers120	Rollers	120	0.0921	0.4030	0.5906	0.0007	0.0494	59.0	0.0083
2014	2014Rollers175	Rollers	175	0.1178	0.6182	0.9537	0.0012	0.0510	108	0.0106
2014	2014Rollers250	Rollers	250	0.1180	0.3717	1.2002	0.0017	0.0407	153	0.0106
2014	2014Rollers500	Rollers	500	0.1555	0.5926	1.5340	0.0022	0.0537	219	0.0140

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2014	2014Rollers Composite	Rollers Composite		0.0912	0.4018	0.6164	0.0008	0.0419	67.1	0.0082
2014	2014Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.1055	0.3654	0.3185	0.0004	0.0271	33.9	0.0095
2014	2014Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0877	0.4292	0.5612	0.0007	0.0474	62.4	0.0079
2014	2014Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.1265	0.7246	0.9750	0.0014	0.0534	125	0.0114
2014	2014Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.1230	0.3717	1.1633	0.0019	0.0376	171	0.0111
2014	2014Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1745	0.5501	1.5313	0.0025	0.0529	257	0.0157
2014	2014Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0929	0.4608	0.6101	0.0008	0.0477	70.3	0.0084
2014	2014Rubber Tired Dozers175	Rubber Tired Dozers	175	0.2034	0.8392	1.4854	0.0015	0.0841	129	0.0183
2014	2014Rubber Tired Dozers250	Rubber Tired Dozers	250	0.2322	0.6560	1.9517	0.0021	0.0821	183	0.0209
2014	2014Rubber Tired Dozers500	Rubber Tired Dozers	500	0.3072	1.3307	2.5592	0.0026	0.1058	265	0.0277
2014	2014Rubber Tired Dozers750	Rubber Tired Dozers	750	0.4633	1.9954	3.9201	0.0040	0.1603	399	0.0418
2014	2014Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.7196	3.2150	7.1336	0.0060	0.2458	592	0.0649
2014	2014Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.2854	1.1058	2.3867	0.0025	0.0993	239	0.0257
2014	2014Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0049	16.9	0.0018
2014	2014Rubber Tired Loaders50	Rubber Tired Loaders	50	0.1092	0.3535	0.3000	0.0004	0.0266	31.1	0.0099
2014	2014Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0902	0.4119	0.5654	0.0007	0.0477	58.9	0.0081
2014	2014Rubber Tired Loaders175	Rubber Tired Loaders	175	0.1168	0.6261	0.8915	0.0012	0.0489	106	0.0105
2014	2014Rubber Tired Loaders250	Rubber Tired Loaders	250	0.1186	0.3553	1.0966	0.0017	0.0375	149	0.0107
2014	2014Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1769	0.6085	1.5507	0.0023	0.0554	237	0.0160
2014	2014Rubber Tired Loaders750	Rubber Tired Loaders	750	0.3648	1.2450	3.2733	0.0049	0.1153	486	0.0329
2014	2014Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.4927	1.7350	5.6204	0.0060	0.1686	594	0.0445
2014	2014Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.1122	0.4683	0.8620	0.0012	0.0461	109	0.0101
2014	2014Scrapers120	Scrapers	120	0.1770	0.6882	1.0571	0.0011	0.0913	93.9	0.0160
2014	2014Scrapers175	Scrapers	175	0.1973	0.9065	1.4751	0.0017	0.0824	148	0.0178
2014	2014Scrapers250	Scrapers	250	0.2135	0.6146	1.8936	0.0024	0.0726	209	0.0193
2014	2014Scrapers500	Scrapers	500	0.3033	1.1355	2.6139	0.0032	0.1012	321	0.0274
2014	2014Scrapers750	Scrapers	750	0.5260	1.9562	4.6194	0.0056	0.1767	555	0.0475
2014	2014Scrapers Composite	Scrapers Composite		0.2648	0.9890	2.2371	0.0027	0.0928	262	0.0239
2014	2014Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2014	2014Signal Boards50	Signal Boards	50	0.1035	0.3331	0.3273	0.0005	0.0269	36.2	0.0093
2014	2014Signal Boards120	Signal Boards	120	0.1072	0.5163	0.7320	0.0009	0.0584	80.2	0.0097
2014	2014Signal Boards175	Signal Boards	175	0.1415	0.8317	1.2462	0.0017	0.0621	155	0.0128
2014	2014Signal Boards250	Signal Boards	250	0.1520	0.5213	1.8056	0.0029	0.0525	255	0.0137
2014	2014Signal Boards Composite	Signal Boards Composite		0.0181	0.0929	0.1332	0.0002	0.0071	16.7	0.0016
2014	2014Skid Steer Loaders25	Skid Steer Loaders	25	0.0195	0.0610	0.1145	0.0002	0.0059	13.8	0.0018
2014	2014Skid Steer Loaders50	Skid Steer Loaders	50	0.0443	0.2196	0.2161	0.0003	0.0134	25.5	0.0040
2014	2014Skid Steer Loaders120	Skid Steer Loaders	120	0.0380	0.2727	0.3020	0.0005	0.0205	42.8	0.0034
2014	2014Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0406	0.2262	0.2369	0.0004	0.0152	30.3	0.0037
2014	2014Surfacing Equipment50	Surfacing Equipment	50	0.0442	0.1367	0.1310	0.0002	0.0110	14.1	0.0040
2014	2014Surfacing Equipment120	Surfacing Equipment	120	0.0904	0.4182	0.6174	0.0007	0.0477	63.8	0.0082
2014	2014Surfacing Equipment175	Surfacing Equipment	175	0.0842	0.4716	0.7317	0.0010	0.0363	85.8	0.0076
2014	2014Surfacing Equipment250	Surfacing Equipment	250	0.0955	0.3237	1.0228	0.0015	0.0341	135	0.0086
2014	2014Surfacing Equipment500	Surfacing Equipment	500	0.1433	0.6069	1.5156	0.0022	0.0516	221	0.0129
2014	2014Surfacing Equipment750	Surfacing Equipment	750	0.2284	0.9503	2.4407	0.0035	0.0820	347	0.0206
2014	2014Surfacing Equipment Composite	Surfacing Equipment Composite		0.1194	0.4930	1.1688	0.0017	0.0427	166	0.0108
2014	2014Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2014	2014Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0057	19.6	0.0021
2014	2014Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0911	0.3300	0.2939	0.0004	0.0241	31.6	0.0082
2014	2014Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0991	0.5098	0.6481	0.0009	0.0543	75.0	0.0089
2014	2014Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.1317	0.7996	1.0280	0.0016	0.0561	139	0.0119
2014	2014Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.1086	0.3327	1.0406	0.0018	0.0325	162	0.0098
2014	2014Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.1029	0.5086	0.6353	0.0009	0.0447	78.5	0.0093
2014	2014Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0193	0.0654	0.1228	0.0002	0.0052	15.9	0.0017
2014	2014Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0792	0.3103	0.2765	0.0004	0.0211	30.3	0.0071
2014	2014Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0634	0.3503	0.4252	0.0006	0.0337	51.7	0.0057
2014	2014Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0924	0.5857	0.7161	0.0011	0.0380	101	0.0083

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2014	2014Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.1142	0.3608	1.0294	0.0019	0.0330	172	0.0103
2014	2014Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.2186	0.7245	1.8255	0.0039	0.0627	345	0.0197
2014	2014Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.3304	1.0864	2.8317	0.0058	0.0958	517	0.0298
2014	2014Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0728	0.3747	0.4977	0.0008	0.0341	66.8	0.0066
2014	2014Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2014	2014Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0095	32.9	0.0036
2014	2014Trenchers50	Trenchers	50	0.1477	0.3990	0.3332	0.0004	0.0333	32.9	0.0133
2014	2014Trenchers120	Trenchers	120	0.1212	0.4640	0.7489	0.0008	0.0629	64.9	0.0109
2014	2014Trenchers175	Trenchers	175	0.1864	0.8579	1.4773	0.0016	0.0798	144	0.0168
2014	2014Trenchers250	Trenchers	250	0.2226	0.6786	2.0933	0.0025	0.0813	223	0.0201
2014	2014Trenchers500	Trenchers	500	0.2835	1.2125	2.6464	0.0031	0.1024	311	0.0256
2014	2014Trenchers750	Trenchers	750	0.5377	2.2784	5.0912	0.0059	0.1947	587	0.0485
2014	2014Trenchers Composite	Trenchers Composite		0.1350	0.4606	0.6384	0.0007	0.0517	58.7	0.0122
2014	2014Welders15	Welders	15	0.0098	0.0408	0.0599	0.0001	0.0038	6.2	0.0009
2014	2014Welders25	Welders	25	0.0193	0.0555	0.0996	0.0001	0.0058	11.3	0.0017
2014	2014Welders50	Welders	50	0.0886	0.2652	0.2435	0.0003	0.0219	26.0	0.0080
2014	2014Welders120	Welders	120	0.0601	0.2632	0.3850	0.0005	0.0328	39.5	0.0054
2014	2014Welders175	Welders	175	0.1021	0.5438	0.8502	0.0011	0.0448	98.2	0.0092
2014	2014Welders250	Welders	250	0.0801	0.2545	0.9129	0.0013	0.0274	119	0.0072
2014	2014Welders500	Welders	500	0.1028	0.3644	1.1332	0.0016	0.0359	168	0.0093
2014	2014Welders Composite	Welders Composite		0.0589	0.2041	0.2436	0.0003	0.0206	25.6	0.0053
2015	2015Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2015	2015Aerial Lifts25	Aerial Lifts	25	0.0155	0.0486	0.0902	0.0001	0.0046	11.0	0.0014
2015	2015Aerial Lifts50	Aerial Lifts	50	0.0480	0.1641	0.1699	0.0003	0.0129	19.6	0.0043
2015	2015Aerial Lifts120	Aerial Lifts	120	0.0460	0.2377	0.3272	0.0004	0.0246	38.1	0.0042
2015	2015Aerial Lifts500	Aerial Lifts	500	0.1026	0.4261	1.2422	0.0021	0.0368	213	0.0093
2015	2015Aerial Lifts750	Aerial Lifts	750	0.1912	0.7702	2.3263	0.0039	0.0680	385	0.0173
2015	2015Aerial Lifts Composite	Aerial Lifts Composite		0.0439	0.1837	0.2670	0.0004	0.0167	34.7	0.0040
2015	2015Air Compressors15	Air Compressors	15	0.0108	0.0466	0.0664	0.0001	0.0040	7.2	0.0010
2015	2015Air Compressors25	Air Compressors	25	0.0229	0.0681	0.1247	0.0002	0.0069	14.4	0.0021
2015	2015Air Compressors50	Air Compressors	50	0.0747	0.2360	0.2056	0.0003	0.0183	22.3	0.0067
2015	2015Air Compressors120	Air Compressors	120	0.0691	0.3182	0.4334	0.0006	0.0375	47.0	0.0062
2015	2015Air Compressors175	Air Compressors	175	0.0903	0.5019	0.7101	0.0010	0.0388	88.5	0.0082
2015	2015Air Compressors250	Air Compressors	250	0.0892	0.2803	0.9294	0.0015	0.0286	131	0.0080
2015	2015Air Compressors500	Air Compressors	500	0.1463	0.4915	1.4297	0.0023	0.0470	232	0.0132
2015	2015Air Compressors750	Air Compressors	750	0.2285	0.7595	2.2932	0.0036	0.0743	358	0.0206
2015	2015Air Compressors1000	Air Compressors	1000	0.3551	1.1843	4.4558	0.0049	0.1239	486	0.0320
2015	2015Air Compressors Composite	Air Compressors Composite		0.0773	0.3257	0.5175	0.0007	0.0357	63.6	0.0070
2015	2015Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2015	2015Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1220	0.0002	0.0047	16.0	0.0017
2015	2015Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0234	0.2235	0.2240	0.0004	0.0075	31.0	0.0021
2015	2015Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0376	0.4676	0.3736	0.0009	0.0160	77.1	0.0034
2015	2015Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0618	0.7540	0.5364	0.0016	0.0198	141	0.0056
2015	2015Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0681	0.3425	0.4900	0.0021	0.0144	188	0.0061
2015	2015Bore/Drill Rigs500	Bore/Drill Rigs	500	0.1118	0.5511	0.7692	0.0031	0.0236	311	0.0101
2015	2015Bore/Drill Rigs750	Bore/Drill Rigs	750	0.2212	1.0888	1.5301	0.0062	0.0466	615	0.0200
2015	2015Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.3562	1.6528	4.9704	0.0093	0.1194	928	0.0321
2015	2015Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0673	0.5022	0.6138	0.0017	0.0200	165	0.0061
2015	2015Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0464	0.0001	0.0019	6.3	0.0007
2015	2015Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0251	0.0782	0.1456	0.0002	0.0074	17.6	0.0023
2015	2015Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0088	0.0419	0.0545	0.0001	0.0024	7.2	0.0008
2015	2015Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2015	2015Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0782	0.2745	0.2652	0.0004	0.0206	30.2	0.0071
2015	2015Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0892	0.4759	0.6249	0.0009	0.0486	74.1	0.0080
2015	2015Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.1340	0.8674	1.1593	0.0018	0.0585	160	0.0121
2015	2015Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0835	0.3982	0.4921	0.0007	0.0374	58.5	0.0075

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2015	2015Cranes50	Cranes	50	0.0853	0.2729	0.2235	0.0003	0.0202	23.2	0.0077
2015	2015Cranes120	Cranes	120	0.0800	0.3559	0.4822	0.0006	0.0415	50.1	0.0072
2015	2015Cranes175	Cranes	175	0.0919	0.4794	0.6684	0.0009	0.0378	80.3	0.0083
2015	2015Cranes250	Cranes	250	0.0925	0.2713	0.8284	0.0013	0.0286	112	0.0083
2015	2015Cranes500	Cranes	500	0.1393	0.4663	1.1812	0.0018	0.0426	180	0.0126
2015	2015Cranes750	Cranes	750	0.2358	0.7835	2.0490	0.0030	0.0729	303	0.0213
2015	2015Cranes9999	Cranes	9999	0.8682	2.8913	9.2743	0.0098	0.2775	971	0.0783
2015	2015Cranes Composite	Cranes Composite		0.1204	0.4395	1.0200	0.0014	0.0426	129	0.0109
2015	2015Crawler Tractors50	Crawler Tractors	50	0.1017	0.3087	0.2464	0.0003	0.0232	24.9	0.0092
2015	2015Crawler Tractors120	Crawler Tractors	120	0.1143	0.4774	0.6815	0.0008	0.0579	65.8	0.0103
2015	2015Crawler Tractors175	Crawler Tractors	175	0.1509	0.7384	1.0951	0.0014	0.0614	121	0.0136
2015	2015Crawler Tractors250	Crawler Tractors	250	0.1582	0.4614	1.3531	0.0019	0.0514	166	0.0143
2015	2015Crawler Tractors500	Crawler Tractors	500	0.2300	0.8352	1.8987	0.0025	0.0732	259	0.0207
2015	2015Crawler Tractors750	Crawler Tractors	750	0.4140	1.4936	3.4863	0.0047	0.1327	465	0.0374
2015	2015Crawler Tractors1000	Crawler Tractors	1000	0.6278	2.3640	6.6574	0.0066	0.2075	658	0.0566
2015	2015Crawler Tractors Composite	Crawler Tractors Composite		0.1415	0.5650	1.0059	0.0013	0.0594	114	0.0128
2015	2015Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.1392	0.4644	0.4024	0.0006	0.0346	44.0	0.0126
2015	2015Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.1167	0.5646	0.7374	0.0010	0.0629	83.1	0.0105
2015	2015Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.1654	0.9559	1.2783	0.0019	0.0700	167	0.0149
2015	2015Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1646	0.5171	1.6355	0.0028	0.0506	245	0.0149
2015	2015Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.2358	0.7790	2.1722	0.0037	0.0722	374	0.0213
2015	2015Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.3723	1.2184	3.5561	0.0059	0.1154	589	0.0336
2015	2015Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.9726	3.0901	11.5626	0.0131	0.3225	1,308	0.0878
2015	2015Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.1465	0.6549	0.9893	0.0015	0.0607	132	0.0132
2015	2015Dumpers/Tenders25	Dumpers/Tenders	25	0.0093	0.0315	0.0591	0.0001	0.0025	7.6	0.0008
2015	2015Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0093	0.0315	0.0591	0.0001	0.0025	7.6	0.0008
2015	2015Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2015	2015Excavators50	Excavators	50	0.0650	0.2683	0.2256	0.0003	0.0167	25.0	0.0059
2015	2015Excavators120	Excavators	120	0.0912	0.5102	0.5787	0.0009	0.0455	73.6	0.0082
2015	2015Excavators175	Excavators	175	0.1052	0.6653	0.7408	0.0013	0.0405	112	0.0095
2015	2015Excavators250	Excavators	250	0.1117	0.3431	0.8935	0.0018	0.0297	159	0.0101
2015	2015Excavators500	Excavators	500	0.1577	0.4964	1.1619	0.0023	0.0413	234	0.0142
2015	2015Excavators750	Excavators	750	0.2630	0.8225	1.9926	0.0039	0.0698	387	0.0237
2015	2015Excavators Composite	Excavators Composite		0.1064	0.5248	0.7416	0.0013	0.0379	120	0.0096
2015	2015Forklifts50	Forklifts	50	0.0324	0.1522	0.1324	0.0002	0.0092	14.7	0.0029
2015	2015Forklifts120	Forklifts	120	0.0345	0.2143	0.2326	0.0004	0.0174	31.2	0.0031
2015	2015Forklifts175	Forklifts	175	0.0486	0.3316	0.3442	0.0006	0.0189	56.1	0.0044
2015	2015Forklifts250	Forklifts	250	0.0518	0.1582	0.4040	0.0009	0.0133	77.1	0.0047
2015	2015Forklifts500	Forklifts	500	0.0724	0.2164	0.5170	0.0011	0.0185	111	0.0065
2015	2015Forklifts Composite	Forklifts Composite		0.0459	0.2200	0.3163	0.0006	0.0156	54.4	0.0041
2015	2015Generator Sets15	Generator Sets	15	0.0135	0.0658	0.0929	0.0002	0.0051	10.2	0.0012
2015	2015Generator Sets25	Generator Sets	25	0.0247	0.0831	0.1522	0.0002	0.0080	17.6	0.0022
2015	2015Generator Sets50	Generator Sets	50	0.0706	0.2465	0.2628	0.0004	0.0193	30.6	0.0064
2015	2015Generator Sets120	Generator Sets	120	0.0910	0.4811	0.6607	0.0009	0.0484	77.9	0.0082
2015	2015Generator Sets175	Generator Sets	175	0.1120	0.7350	1.0463	0.0016	0.0485	142	0.0101
2015	2015Generator Sets250	Generator Sets	250	0.1090	0.4148	1.3776	0.0024	0.0381	213	0.0098
2015	2015Generator Sets500	Generator Sets	500	0.1556	0.6639	1.9429	0.0033	0.0567	337	0.0140
2015	2015Generator Sets750	Generator Sets	750	0.2599	1.0718	3.2483	0.0055	0.0934	544	0.0234
2015	2015Generator Sets9999	Generator Sets	9999	0.6582	2.3655	8.9789	0.0105	0.2325	1,049	0.0594
2015	2015Generator Sets Composite	Generator Sets Composite		0.0640	0.2913	0.4717	0.0007	0.0268	61.0	0.0058
2015	2015Graders50	Graders	50	0.0897	0.3082	0.2569	0.0004	0.0217	27.5	0.0081
2015	2015Graders120	Graders	120	0.1081	0.5230	0.6726	0.0009	0.0555	75.0	0.0098
2015	2015Graders175	Graders	175	0.1299	0.7319	0.9534	0.0014	0.0526	124	0.0117
2015	2015Graders250	Graders	250	0.1326	0.4046	1.1596	0.0019	0.0400	172	0.0120
2015	2015Graders500	Graders	500	0.1666	0.5739	1.3760	0.0023	0.0496	229	0.0150
2015	2015Graders750	Graders	750	0.3549	1.2133	3.0011	0.0049	0.1066	486	0.0320

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2015	2015Graders Composite	Graders Composite		0.1277	0.5931	0.9795	0.0015	0.0489	133	0.0115
2015	2015Off-Highway Tractors120	Off-Highway Tractors	120	0.1905	0.7051	1.1159	0.0011	0.0952	93.7	0.0172
2015	2015Off-Highway Tractors175	Off-Highway Tractors	175	0.1870	0.8216	1.3703	0.0015	0.0771	130	0.0169
2015	2015Off-Highway Tractors250	Off-Highway Tractors	250	0.1489	0.4320	1.2644	0.0015	0.0520	130	0.0134
2015	2015Off-Highway Tractors750	Off-Highway Tractors	750	0.5975	2.5165	5.0885	0.0057	0.2047	568	0.0539
2015	2015Off-Highway Tractors1000	Off-Highway Tractors	1000	0.9006	3.9378	9.2072	0.0082	0.3063	814	0.0813
2015	2015Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1893	0.7244	1.5085	0.0017	0.0717	151	0.0171
2015	2015Off-Highway Trucks175	Off-Highway Trucks	175	0.1259	0.7559	0.8596	0.0014	0.0477	125	0.0114
2015	2015Off-Highway Trucks250	Off-Highway Trucks	250	0.1252	0.3702	0.9818	0.0019	0.0328	167	0.0113
2015	2015Off-Highway Trucks500	Off-Highway Trucks	500	0.1960	0.5949	1.4165	0.0027	0.0505	272	0.0177
2015	2015Off-Highway Trucks750	Off-Highway Trucks	750	0.3198	0.9645	2.3779	0.0044	0.0835	442	0.0289
2015	2015Off-Highway Trucks1000	Off-Highway Trucks	1000	0.4873	1.4801	5.2216	0.0063	0.1505	625	0.0440
2015	2015Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1924	0.5974	1.4932	0.0027	0.0516	260	0.0174
2015	2015Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2015	2015Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0039	13.2	0.0014
2015	2015Other Construction Equipment50	Other Construction Equipment	50	0.0597	0.2506	0.2369	0.0004	0.0162	28.0	0.0054
2015	2015Other Construction Equipment120	Other Construction Equipment	120	0.0827	0.5202	0.6012	0.0009	0.0441	80.9	0.0075
2015	2015Other Construction Equipment175	Other Construction Equipment	175	0.0796	0.5864	0.6636	0.0012	0.0331	107	0.0072
2015	2015Other Construction Equipment500	Other Construction Equipment	500	0.1310	0.4963	1.1867	0.0025	0.0394	254	0.0118
2015	2015Other Construction Equipment Composite	Other Construction Equipment Composite		0.0768	0.3645	0.6392	0.0013	0.0264	123	0.0069
2015	2015Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2015	2015Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2015	2015Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0786	0.2532	0.2077	0.0003	0.0191	21.7	0.0071
2015	2015Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0987	0.4387	0.5864	0.0007	0.0521	62.0	0.0089
2015	2015Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.1083	0.5684	0.7866	0.0011	0.0448	95.9	0.0098
2015	2015Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.1050	0.3015	0.9812	0.0015	0.0312	136	0.0095
2015	2015Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1931	0.5811	1.6702	0.0026	0.0569	265	0.0174
2015	2015Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.3208	0.9578	2.8569	0.0044	0.0959	437	0.0289
2015	2015Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.4546	1.4023	5.2482	0.0056	0.1513	560	0.0410
2015	2015Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.1355	0.4843	1.1215	0.0016	0.0475	152	0.0122
2015	2015Other Material Handling Equipment50	Other Material Handling Equipment	50	0.1090	0.3501	0.2887	0.0004	0.0265	30.3	0.0098
2015	2015Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0959	0.4271	0.5727	0.0007	0.0509	60.7	0.0087
2015	2015Other Material Handling Equipment175	Other Material Handling Equipment	175	0.1365	0.7201	0.9997	0.0014	0.0567	122	0.0123
2015	2015Other Material Handling Equipment250	Other Material Handling Equipment	250	0.1109	0.3211	1.0483	0.0016	0.0332	145	0.0100
2015	2015Other Material Handling Equipment500	Other Material Handling Equipment	500	0.1376	0.4182	1.2042	0.0019	0.0409	192	0.0124
2015	2015Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.6190	1.8527	6.9410	0.0073	0.1995	741	0.0558
2015	2015Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.1289	0.4698	1.0967	0.0015	0.0460	141	0.0116
2015	2015Pavers25	Pavers	25	0.0234	0.0780	0.1458	0.0002	0.0066	18.7	0.0021
2015	2015Pavers50	Pavers	50	0.1198	0.3421	0.2775	0.0004	0.0271	28.0	0.0108
2015	2015Pavers120	Pavers	120	0.1235	0.4969	0.7477	0.0008	0.0636	69.2	0.0111
2015	2015Pavers175	Pavers	175	0.1608	0.7707	1.2155	0.0014	0.0673	128	0.0145
2015	2015Pavers250	Pavers	250	0.1858	0.5585	1.6747	0.0022	0.0640	194	0.0168
2015	2015Pavers500	Pavers	500	0.2059	0.8113	1.8097	0.0023	0.0697	233	0.0186
2015	2015Pavers Composite	Pavers Composite		0.1347	0.5203	0.7607	0.0009	0.0526	77.9	0.0122
2015	2015Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0037	12.6	0.0014
2015	2015Paving Equipment50	Paving Equipment	50	0.1023	0.2901	0.2367	0.0003	0.0231	23.9	0.0092
2015	2015Paving Equipment120	Paving Equipment	120	0.0969	0.3891	0.5874	0.0006	0.0503	54.5	0.0087
2015	2015Paving Equipment175	Paving Equipment	175	0.1254	0.6025	0.9549	0.0011	0.0528	101	0.0113
2015	2015Paving Equipment250	Paving Equipment	250	0.1140	0.3441	1.0498	0.0014	0.0394	122	0.0103
2015	2015Paving Equipment Composite	Paving Equipment Composite		0.1023	0.4234	0.6842	0.0008	0.0469	68.9	0.0092
2015	2015Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2015	2015Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2015	2015Pressure Washers15	Pressure Washers	15	0.0065	0.0315	0.0445	0.0001	0.0024	4.9	0.0006
2015	2015Pressure Washers25	Pressure Washers	25	0.0100	0.0337	0.0617	0.0001	0.0033	7.1	0.0009
2015	2015Pressure Washers50	Pressure Washers	50	0.0251	0.0970	0.1183	0.0002	0.0077	14.3	0.0023
2015	2015Pressure Washers120	Pressure Washers	120	0.0245	0.1416	0.1947	0.0003	0.0128	24.1	0.0022

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2015	2015Pressure Washers Composite	Pressure Washers Composite		0.0133	0.0590	0.0799	0.0001	0.0049	9.4	0.0012
2015	2015Pumps15	Pumps	15	0.0111	0.0479	0.0683	0.0001	0.0041	7.4	0.0010
2015	2015Pumps25	Pumps	25	0.0309	0.0919	0.1682	0.0002	0.0094	19.5	0.0028
2015	2015Pumps50	Pumps	50	0.0855	0.2910	0.2982	0.0004	0.0228	34.3	0.0077
2015	2015Pumps120	Pumps	120	0.0949	0.4887	0.6710	0.0009	0.0508	77.9	0.0086
2015	2015Pumps175	Pumps	175	0.1158	0.7365	1.0489	0.0016	0.0502	140	0.0104
2015	2015Pumps250	Pumps	250	0.1088	0.3998	1.3270	0.0023	0.0376	201	0.0098
2015	2015Pumps500	Pumps	500	0.1686	0.6929	2.0163	0.0034	0.0603	345	0.0152
2015	2015Pumps750	Pumps	750	0.2872	1.1454	3.4529	0.0057	0.1018	571	0.0259
2015	2015Pumps9999	Pumps	9999	0.8773	3.1134	11.7387	0.0136	0.3072	1,355	0.0792
2015	2015Pumps Composite	Pumps Composite		0.0621	0.2825	0.4121	0.0006	0.0267	49.6	0.0056
2015	2015Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2015	2015Rollers25	Rollers	25	0.0161	0.0549	0.1018	0.0002	0.0039	13.3	0.0015
2015	2015Rollers50	Rollers	50	0.0871	0.2754	0.2405	0.0003	0.0209	26.0	0.0079
2015	2015Rollers120	Rollers	120	0.0857	0.4000	0.5498	0.0007	0.0454	59.0	0.0077
2015	2015Rollers175	Rollers	175	0.1104	0.6166	0.8731	0.0012	0.0470	108	0.0100
2015	2015Rollers250	Rollers	250	0.1107	0.3575	1.0948	0.0017	0.0368	153	0.0100
2015	2015Rollers500	Rollers	500	0.1468	0.5595	1.3956	0.0022	0.0487	219	0.0132
2015	2015Rollers Composite	Rollers Composite		0.0851	0.3979	0.5706	0.0008	0.0386	67.1	0.0077
2015	2015Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0942	0.3551	0.3066	0.0004	0.0243	33.9	0.0085
2015	2015Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0801	0.4260	0.5164	0.0007	0.0420	62.4	0.0072
2015	2015Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.1171	0.7240	0.8746	0.0014	0.0477	125	0.0106
2015	2015Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.1168	0.3650	1.0385	0.0019	0.0338	171	0.0105
2015	2015Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1668	0.5337	1.3642	0.0025	0.0477	257	0.0150
2015	2015Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0850	0.4577	0.5588	0.0008	0.0423	70.3	0.0077
2015	2015Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1942	0.8333	1.3944	0.0015	0.0790	129	0.0175
2015	2015Rubber Tired Dozers250	Rubber Tired Dozers	250	0.2209	0.6304	1.8273	0.0021	0.0762	183	0.0199
2015	2015Rubber Tired Dozers500	Rubber Tired Dozers	500	0.2932	1.2456	2.3951	0.0026	0.0985	265	0.0265
2015	2015Rubber Tired Dozers750	Rubber Tired Dozers	750	0.4423	1.8685	3.6712	0.0040	0.1494	399	0.0399
2015	2015Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.6883	3.0139	6.8297	0.0060	0.2311	592	0.0621
2015	2015Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.2721	1.0420	2.2344	0.0025	0.0924	239	0.0246
2015	2015Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0049	16.9	0.0018
2015	2015Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0993	0.3438	0.2888	0.0004	0.0242	31.1	0.0090
2015	2015Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0835	0.4090	0.5226	0.0007	0.0431	58.9	0.0075
2015	2015Rubber Tired Loaders175	Rubber Tired Loaders	175	0.1094	0.6251	0.8077	0.0012	0.0445	106	0.0099
2015	2015Rubber Tired Loaders250	Rubber Tired Loaders	250	0.1118	0.3444	0.9890	0.0017	0.0337	149	0.0101
2015	2015Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1678	0.5818	1.3980	0.0023	0.0499	237	0.0151
2015	2015Rubber Tired Loaders750	Rubber Tired Loaders	750	0.3459	1.1905	2.9534	0.0049	0.1040	486	0.0312
2015	2015Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.4657	1.6412	5.2967	0.0060	0.1552	594	0.0420
2015	2015Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.1050	0.4615	0.7838	0.0012	0.0416	109	0.0095
2015	2015Scrapers120	Scrapers	120	0.1665	0.6826	0.9915	0.0011	0.0846	93.9	0.0150
2015	2015Scrapers175	Scrapers	175	0.1871	0.9030	1.3657	0.0017	0.0766	148	0.0169
2015	2015Scrapers250	Scrapers	250	0.2021	0.5906	1.7470	0.0024	0.0665	209	0.0182
2015	2015Scrapers500	Scrapers	500	0.2883	1.0688	2.4104	0.0032	0.0930	321	0.0260
2015	2015Scrapers750	Scrapers	750	0.5001	1.8419	4.2634	0.0056	0.1624	555	0.0451
2015	2015Scrapers Composite	Scrapers Composite		0.2513	0.9443	2.0647	0.0027	0.0854	262	0.0227
2015	2015Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2015	2015Signal Boards50	Signal Boards	50	0.0931	0.3227	0.3148	0.0005	0.0243	36.2	0.0084
2015	2015Signal Boards120	Signal Boards	120	0.0970	0.5116	0.6762	0.0009	0.0525	80.2	0.0088
2015	2015Signal Boards175	Signal Boards	175	0.1290	0.8300	1.1249	0.0017	0.0559	155	0.0116
2015	2015Signal Boards250	Signal Boards	250	0.1416	0.5098	1.6229	0.0029	0.0474	255	0.0128
2015	2015Signal Boards Composite	Signal Boards Composite		0.0171	0.0925	0.1250	0.0002	0.0066	16.7	0.0015
2015	2015Skid Steer Loaders25	Skid Steer Loaders	25	0.0189	0.0601	0.1125	0.0002	0.0056	13.8	0.0017
2015	2015Skid Steer Loaders50	Skid Steer Loaders	50	0.0378	0.2138	0.2052	0.0003	0.0113	25.5	0.0034
2015	2015Skid Steer Loaders120	Skid Steer Loaders	120	0.0334	0.2710	0.2699	0.0005	0.0170	42.8	0.0030
2015	2015Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0352	0.2220	0.2198	0.0004	0.0128	30.3	0.0032

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2015	2015Surfacing Equipment50	Surfacing Equipment	50	0.0408	0.1333	0.1263	0.0002	0.0101	14.1	0.0037
2015	2015Surfacing Equipment120	Surfacing Equipment	120	0.0840	0.4151	0.5756	0.0007	0.0439	63.8	0.0076
2015	2015Surfacing Equipment175	Surfacing Equipment	175	0.0787	0.4705	0.6706	0.0010	0.0335	85.8	0.0071
2015	2015Surfacing Equipment250	Surfacing Equipment	250	0.0891	0.3116	0.9338	0.0015	0.0309	135	0.0080
2015	2015Surfacing Equipment500	Surfacing Equipment	500	0.1342	0.5759	1.3809	0.0022	0.0468	221	0.0121
2015	2015Surfacing Equipment750	Surfacing Equipment	750	0.2139	0.9020	2.2264	0.0035	0.0745	347	0.0193
2015	2015Surfacing Equipment Composite	Surfacing Equipment Composite		0.1116	0.4705	1.0675	0.0017	0.0389	166	0.0101
2015	2015Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2015	2015Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2015	2015Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0782	0.3186	0.2828	0.0004	0.0211	31.6	0.0071
2015	2015Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0880	0.5056	0.5893	0.0009	0.0466	75.0	0.0079
2015	2015Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.1193	0.7999	0.9051	0.0016	0.0488	139	0.0108
2015	2015Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.1029	0.3286	0.9094	0.0018	0.0289	162	0.0093
2015	2015Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0913	0.5034	0.5746	0.0009	0.0387	78.5	0.0082
2015	2015Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0192	0.0653	0.1221	0.0002	0.0049	15.9	0.0017
2015	2015Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0702	0.3020	0.2646	0.0004	0.0186	30.3	0.0063
2015	2015Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0577	0.3480	0.3870	0.0006	0.0293	51.7	0.0052
2015	2015Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0854	0.5853	0.6331	0.0011	0.0335	101	0.0077
2015	2015Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.1082	0.3566	0.9047	0.0019	0.0294	172	0.0098
2015	2015Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.2085	0.7089	1.6070	0.0039	0.0559	345	0.0188
2015	2015Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.3148	1.0631	2.4922	0.0058	0.0854	517	0.0284
2015	2015Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0666	0.3716	0.4501	0.0008	0.0298	66.8	0.0060
2015	2015Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2015	2015Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2015	2015Trenchers50	Trenchers	50	0.1390	0.3900	0.3235	0.0004	0.0313	32.9	0.0125
2015	2015Trenchers120	Trenchers	120	0.1144	0.4600	0.7060	0.0008	0.0590	64.9	0.0103
2015	2015Trenchers175	Trenchers	175	0.1770	0.8534	1.3767	0.0016	0.0748	144	0.0160
2015	2015Trenchers250	Trenchers	250	0.2105	0.6510	1.9456	0.0025	0.0750	223	0.0190
2015	2015Trenchers500	Trenchers	500	0.2694	1.1349	2.4560	0.0031	0.0947	311	0.0243
2015	2015Trenchers750	Trenchers	750	0.5107	2.1334	4.7300	0.0059	0.1802	587	0.0461
2015	2015Trenchers Composite	Trenchers Composite		0.1274	0.4541	0.6043	0.0007	0.0485	58.7	0.0115
2015	2015Welders15	Welders	15	0.0093	0.0400	0.0571	0.0001	0.0034	6.2	0.0008
2015	2015Welders25	Welders	25	0.0179	0.0532	0.0974	0.0001	0.0054	11.3	0.0016
2015	2015Welders50	Welders	50	0.0801	0.2564	0.2346	0.0003	0.0200	26.0	0.0072
2015	2015Welders120	Welders	120	0.0547	0.2606	0.3567	0.0005	0.0296	39.5	0.0049
2015	2015Welders175	Welders	175	0.0936	0.5424	0.7713	0.0011	0.0405	98.2	0.0084
2015	2015Welders250	Welders	250	0.0749	0.2483	0.8249	0.0013	0.0248	119	0.0068
2015	2015Welders500	Welders	500	0.0968	0.3491	1.0171	0.0016	0.0325	168	0.0087
2015	2015Welders Composite	Welders Composite		0.0534	0.1994	0.2301	0.0003	0.0187	25.6	0.0048
2016	2016Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2016	2016Aerial Lifts25	Aerial Lifts	25	0.0150	0.0479	0.0887	0.0001	0.0043	11.0	0.0014
2016	2016Aerial Lifts50	Aerial Lifts	50	0.0430	0.1592	0.1637	0.0003	0.0116	19.6	0.0039
2016	2016Aerial Lifts120	Aerial Lifts	120	0.0413	0.2355	0.3021	0.0004	0.0219	38.1	0.0037
2016	2016Aerial Lifts500	Aerial Lifts	500	0.0951	0.4103	1.1062	0.0021	0.0331	213	0.0086
2016	2016Aerial Lifts750	Aerial Lifts	750	0.1771	0.7417	2.0748	0.0039	0.0611	385	0.0160
2016	2016Aerial Lifts Composite	Aerial Lifts Composite		0.0397	0.1800	0.2482	0.0004	0.0150	34.7	0.0036
2016	2016Air Compressors15	Air Compressors	15	0.0104	0.0461	0.0642	0.0001	0.0037	7.2	0.0009
2016	2016Air Compressors25	Air Compressors	25	0.0219	0.0665	0.1224	0.0002	0.0066	14.4	0.0020
2016	2016Air Compressors50	Air Compressors	50	0.0667	0.2281	0.1982	0.0003	0.0165	22.3	0.0060
2016	2016Air Compressors120	Air Compressors	120	0.0624	0.3150	0.3994	0.0006	0.0333	47.0	0.0056
2016	2016Air Compressors175	Air Compressors	175	0.0824	0.5006	0.6378	0.0010	0.0346	88.5	0.0074
2016	2016Air Compressors250	Air Compressors	250	0.0838	0.2741	0.8308	0.0015	0.0257	131	0.0076
2016	2016Air Compressors500	Air Compressors	500	0.1387	0.4734	1.2719	0.0023	0.0422	232	0.0125
2016	2016Air Compressors750	Air Compressors	750	0.2164	0.7315	2.0431	0.0036	0.0668	358	0.0195
2016	2016Air Compressors1000	Air Compressors	1000	0.3315	1.1175	4.1882	0.0049	0.1137	486	0.0299
2016	2016Air Compressors Composite	Air Compressors Composite		0.0704	0.3207	0.4729	0.0007	0.0318	63.6	0.0064

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2016	2016Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2016	2016Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2016	2016Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0220	0.2223	0.2106	0.0004	0.0058	31.0	0.0020
2016	2016Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0349	0.4671	0.3308	0.0009	0.0125	77.1	0.0031
2016	2016Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0566	0.7540	0.4376	0.0016	0.0156	141	0.0051
2016	2016Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0628	0.3425	0.3887	0.0021	0.0114	188	0.0057
2016	2016Bore/Drill Rigs500	Bore/Drill Rigs	500	0.1033	0.5511	0.6252	0.0031	0.0186	311	0.0093
2016	2016Bore/Drill Rigs750	Bore/Drill Rigs	750	0.2045	1.0889	1.2440	0.0062	0.0369	615	0.0185
2016	2016Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.3273	1.6484	4.6465	0.0093	0.1011	928	0.0295
2016	2016Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0623	0.5016	0.5340	0.0017	0.0160	165	0.0056
2016	2016Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0462	0.0001	0.0019	6.3	0.0007
2016	2016Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0243	0.0771	0.1432	0.0002	0.0070	17.6	0.0022
2016	2016Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0088	0.0418	0.0542	0.0001	0.0023	7.2	0.0008
2016	2016Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2016	2016Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0703	0.2673	0.2562	0.0004	0.0186	30.2	0.0063
2016	2016Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0809	0.4724	0.5783	0.0009	0.0436	74.1	0.0073
2016	2016Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.1226	0.8668	1.0454	0.0018	0.0525	160	0.0111
2016	2016Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0756	0.3936	0.4589	0.0007	0.0336	58.5	0.0068
2016	2016Cranes50	Cranes	50	0.0779	0.2655	0.2159	0.0003	0.0185	23.2	0.0070
2016	2016Cranes120	Cranes	120	0.0744	0.3533	0.4476	0.0006	0.0378	50.1	0.0067
2016	2016Cranes175	Cranes	175	0.0862	0.4783	0.6099	0.0009	0.0346	80.3	0.0078
2016	2016Cranes250	Cranes	250	0.0875	0.2634	0.7534	0.0013	0.0259	112	0.0079
2016	2016Cranes500	Cranes	500	0.1325	0.4431	1.0723	0.0018	0.0387	180	0.0120
2016	2016Cranes750	Cranes	750	0.2244	0.7448	1.8635	0.0030	0.0663	303	0.0202
2016	2016Cranes9999	Cranes	9999	0.8246	2.7017	8.7644	0.0098	0.2555	971	0.0744
2016	2016Cranes Composite	Cranes Composite		0.1137	0.4263	0.9387	0.0014	0.0388	129	0.0103
2016	2016Crawler Tractors50	Crawler Tractors	50	0.0944	0.3015	0.2386	0.0003	0.0215	24.9	0.0085
2016	2016Crawler Tractors120	Crawler Tractors	120	0.1073	0.4739	0.6379	0.0008	0.0533	65.8	0.0097
2016	2016Crawler Tractors175	Crawler Tractors	175	0.1427	0.7361	1.0097	0.0014	0.0567	121	0.0129
2016	2016Crawler Tractors250	Crawler Tractors	250	0.1496	0.4452	1.2431	0.0019	0.0468	166	0.0135
2016	2016Crawler Tractors500	Crawler Tractors	500	0.2183	0.7903	1.7438	0.0025	0.0669	259	0.0197
2016	2016Crawler Tractors750	Crawler Tractors	750	0.3930	1.4137	3.2045	0.0047	0.1213	465	0.0355
2016	2016Crawler Tractors1000	Crawler Tractors	1000	0.5970	2.2313	6.3308	0.0066	0.1930	658	0.0539
2016	2016Crawler Tractors Composite	Crawler Tractors Composite		0.1335	0.5549	0.9315	0.0013	0.0546	114	0.0120
2016	2016Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.1234	0.4493	0.3877	0.0006	0.0310	44.0	0.0111
2016	2016Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.1054	0.5594	0.6775	0.0010	0.0555	83.1	0.0095
2016	2016Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.1513	0.9539	1.1428	0.0019	0.0620	167	0.0136
2016	2016Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1553	0.5071	1.4547	0.0028	0.0453	245	0.0140
2016	2016Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.2240	0.7541	1.9256	0.0037	0.0648	374	0.0202
2016	2016Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.3524	1.1817	3.1408	0.0059	0.1031	589	0.0318
2016	2016Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.9152	2.9318	10.8280	0.0131	0.2940	1,308	0.0826
2016	2016Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.1337	0.6461	0.8965	0.0015	0.0538	132	0.0121
2016	2016Dumpers/Tenders25	Dumpers/Tenders	25	0.0093	0.0314	0.0587	0.0001	0.0024	7.6	0.0008
2016	2016Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0093	0.0314	0.0587	0.0001	0.0024	7.6	0.0008
2016	2016Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2016	2016Excavators50	Excavators	50	0.0581	0.2621	0.2166	0.0003	0.0147	25.0	0.0052
2016	2016Excavators120	Excavators	120	0.0833	0.5070	0.5292	0.0009	0.0395	73.6	0.0075
2016	2016Excavators175	Excavators	175	0.0972	0.6648	0.6563	0.0013	0.0355	112	0.0088
2016	2016Excavators250	Excavators	250	0.1054	0.3389	0.7862	0.0018	0.0263	159	0.0095
2016	2016Excavators500	Excavators	500	0.1496	0.4851	1.0236	0.0023	0.0366	234	0.0135
2016	2016Excavators750	Excavators	750	0.2493	0.8037	1.7546	0.0039	0.0618	387	0.0225
2016	2016Excavators Composite	Excavators Composite		0.0988	0.5213	0.6603	0.0013	0.0332	120	0.0089
2016	2016Forklifts50	Forklifts	50	0.0284	0.1489	0.1276	0.0002	0.0080	14.7	0.0026
2016	2016Forklifts120	Forklifts	120	0.0313	0.2133	0.2116	0.0004	0.0149	31.2	0.0028
2016	2016Forklifts175	Forklifts	175	0.0454	0.3320	0.3050	0.0006	0.0167	56.1	0.0041
2016	2016Forklifts250	Forklifts	250	0.0493	0.1572	0.3531	0.0009	0.0118	77.1	0.0044

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2016	2016Forklifts500	Forklifts	500	0.0693	0.2150	0.4532	0.0011	0.0165	111	0.0062
2016	2016Forklifts Composite	Forklifts Composite		0.0427	0.2190	0.2816	0.0006	0.0137	54.4	0.0039
2016	2016Generator Sets15	Generator Sets	15	0.0130	0.0652	0.0899	0.0002	0.0048	10.2	0.0012
2016	2016Generator Sets25	Generator Sets	25	0.0241	0.0811	0.1494	0.0002	0.0076	17.6	0.0022
2016	2016Generator Sets50	Generator Sets	50	0.0630	0.2393	0.2532	0.0004	0.0174	30.6	0.0057
2016	2016Generator Sets120	Generator Sets	120	0.0814	0.4767	0.6102	0.0009	0.0431	77.9	0.0073
2016	2016Generator Sets175	Generator Sets	175	0.1006	0.7336	0.9416	0.0016	0.0432	142	0.0091
2016	2016Generator Sets250	Generator Sets	250	0.1003	0.4059	1.2339	0.0024	0.0342	213	0.0091
2016	2016Generator Sets500	Generator Sets	500	0.1437	0.6411	1.7299	0.0033	0.0509	337	0.0130
2016	2016Generator Sets750	Generator Sets	750	0.2399	1.0349	2.8965	0.0055	0.0840	544	0.0216
2016	2016Generator Sets9999	Generator Sets	9999	0.6052	2.2398	8.4480	0.0105	0.2114	1,049	0.0546
2016	2016Generator Sets Composite	Generator Sets Composite		0.0581	0.2862	0.4370	0.0007	0.0241	61.0	0.0052
2016	2016Graders50	Graders	50	0.0816	0.3003	0.2476	0.0004	0.0196	27.5	0.0074
2016	2016Graders120	Graders	120	0.1002	0.5196	0.6220	0.0009	0.0499	75.0	0.0090
2016	2016Graders175	Graders	175	0.1215	0.7310	0.8624	0.0014	0.0476	124	0.0110
2016	2016Graders250	Graders	250	0.1250	0.3936	1.0444	0.0019	0.0359	172	0.0113
2016	2016Graders500	Graders	500	0.1579	0.5525	1.2394	0.0023	0.0446	229	0.0142
2016	2016Graders750	Graders	750	0.3362	1.1682	2.7050	0.0049	0.0960	486	0.0303
2016	2016Graders Composite	Graders Composite		0.1197	0.5883	0.8866	0.0015	0.0441	133	0.0108
2016	2016Off-Highway Tractors120	Off-Highway Tractors	120	0.1806	0.6988	1.0550	0.0011	0.0892	93.7	0.0163
2016	2016Off-Highway Tractors175	Off-Highway Tractors	175	0.1782	0.8166	1.2825	0.0015	0.0723	130	0.0161
2016	2016Off-Highway Tractors250	Off-Highway Tractors	250	0.1415	0.4155	1.1803	0.0015	0.0482	130	0.0128
2016	2016Off-Highway Tractors750	Off-Highway Tractors	750	0.5701	2.3586	4.7515	0.0057	0.1903	568	0.0514
2016	2016Off-Highway Tractors1000	Off-Highway Tractors	1000	0.8608	3.6939	8.8128	0.0082	0.2875	814	0.0777
2016	2016Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1803	0.7067	1.4108	0.0017	0.0670	151	0.0163
2016	2016Off-Highway Trucks175	Off-Highway Trucks	175	0.1164	0.7552	0.7647	0.0014	0.0417	125	0.0105
2016	2016Off-Highway Trucks250	Off-Highway Trucks	250	0.1179	0.3651	0.8678	0.0019	0.0290	167	0.0106
2016	2016Off-Highway Trucks500	Off-Highway Trucks	500	0.1855	0.5796	1.2524	0.0027	0.0448	272	0.0167
2016	2016Off-Highway Trucks750	Off-Highway Trucks	750	0.3026	0.9397	2.1025	0.0044	0.0741	442	0.0273
2016	2016Off-Highway Trucks1000	Off-Highway Trucks	1000	0.4576	1.4117	4.8929	0.0063	0.1360	625	0.0413
2016	2016Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1816	0.5831	1.3322	0.0027	0.0459	260	0.0164
2016	2016Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2016	2016Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2016	2016Other Construction Equipment50	Other Construction Equipment	50	0.0530	0.2447	0.2274	0.0004	0.0143	28.0	0.0048
2016	2016Other Construction Equipment120	Other Construction Equipment	120	0.0747	0.5170	0.5495	0.0009	0.0384	80.9	0.0067
2016	2016Other Construction Equipment175	Other Construction Equipment	175	0.0729	0.5862	0.5856	0.0012	0.0291	107	0.0066
2016	2016Other Construction Equipment500	Other Construction Equipment	500	0.1243	0.4868	1.0415	0.0025	0.0350	254	0.0112
2016	2016Other Construction Equipment Composite	Other Construction Equipment Composite		0.0720	0.3602	0.5680	0.0013	0.0234	123	0.0065
2016	2016Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2016	2016Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2016	2016Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0700	0.2449	0.2003	0.0003	0.0171	21.7	0.0063
2016	2016Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0895	0.4343	0.5394	0.0007	0.0461	62.0	0.0081
2016	2016Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0993	0.5671	0.7059	0.0011	0.0398	95.9	0.0090
2016	2016Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0990	0.2950	0.8757	0.0015	0.0279	136	0.0089
2016	2016Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1832	0.5599	1.4849	0.0026	0.0511	265	0.0165
2016	2016Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.3043	0.9228	2.5436	0.0044	0.0861	437	0.0275
2016	2016Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.4283	1.3244	4.9259	0.0056	0.1385	560	0.0386
2016	2016Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.1267	0.4731	1.0122	0.0016	0.0425	152	0.0114
2016	2016Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0970	0.3384	0.2785	0.0004	0.0237	30.3	0.0088
2016	2016Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0869	0.4228	0.5267	0.0007	0.0450	60.7	0.0078
2016	2016Other Material Handling Equipment175	Other Material Handling Equipment	175	0.1251	0.7182	0.8969	0.0014	0.0504	122	0.0113
2016	2016Other Material Handling Equipment250	Other Material Handling Equipment	250	0.1046	0.3141	0.9355	0.0016	0.0298	145	0.0094
2016	2016Other Material Handling Equipment500	Other Material Handling Equipment	500	0.1305	0.4029	1.0706	0.0019	0.0367	192	0.0118
2016	2016Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.5874	1.7492	6.5148	0.0073	0.1827	741	0.0530
2016	2016Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.1202	0.4608	0.9913	0.0015	0.0411	141	0.0108
2016	2016Pavers25	Pavers	25	0.0230	0.0774	0.1448	0.0002	0.0061	18.7	0.0021

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2016	2016Pavers50	Pavers	50	0.1117	0.3339	0.2694	0.0004	0.0252	28.0	0.0101
2016	2016Pavers120	Pavers	120	0.1164	0.4930	0.7030	0.0008	0.0591	69.2	0.0105
2016	2016Pavers175	Pavers	175	0.1524	0.7678	1.1274	0.0014	0.0627	128	0.0138
2016	2016Pavers250	Pavers	250	0.1758	0.5369	1.5485	0.0022	0.0587	194	0.0159
2016	2016Pavers500	Pavers	500	0.1956	0.7646	1.6718	0.0023	0.0641	233	0.0177
2016	2016Pavers Composite	Pavers Composite		0.1269	0.5135	0.7128	0.0009	0.0489	77.9	0.0114
2016	2016Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2016	2016Paving Equipment50	Paving Equipment	50	0.0953	0.2829	0.2297	0.0003	0.0216	23.9	0.0086
2016	2016Paving Equipment120	Paving Equipment	120	0.0912	0.3862	0.5522	0.0006	0.0468	54.5	0.0082
2016	2016Paving Equipment175	Paving Equipment	175	0.1188	0.6004	0.8857	0.0011	0.0492	101	0.0107
2016	2016Paving Equipment250	Paving Equipment	250	0.1077	0.3302	0.9703	0.0014	0.0360	122	0.0097
2016	2016Paving Equipment Composite	Paving Equipment Composite		0.0965	0.4198	0.6393	0.0008	0.0436	68.9	0.0087
2016	2016Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2016	2016Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2016	2016Pressure Washers15	Pressure Washers	15	0.0062	0.0312	0.0431	0.0001	0.0023	4.9	0.0006
2016	2016Pressure Washers25	Pressure Washers	25	0.0098	0.0329	0.0606	0.0001	0.0031	7.1	0.0009
2016	2016Pressure Washers50	Pressure Washers	50	0.0222	0.0943	0.1139	0.0002	0.0069	14.3	0.0020
2016	2016Pressure Washers120	Pressure Washers	120	0.0217	0.1404	0.1798	0.0003	0.0114	24.1	0.0020
2016	2016Pressure Washers Composite	Pressure Washers Composite		0.0121	0.0579	0.0764	0.0001	0.0044	9.4	0.0011
2016	2016Pumps15	Pumps	15	0.0106	0.0474	0.0660	0.0001	0.0038	7.4	0.0010
2016	2016Pumps25	Pumps	25	0.0296	0.0897	0.1651	0.0002	0.0088	19.5	0.0027
2016	2016Pumps50	Pumps	50	0.0765	0.2823	0.2874	0.0004	0.0206	34.3	0.0069
2016	2016Pumps120	Pumps	120	0.0851	0.4842	0.6196	0.0009	0.0453	77.9	0.0077
2016	2016Pumps175	Pumps	175	0.1044	0.7350	0.9440	0.0016	0.0448	140	0.0094
2016	2016Pumps250	Pumps	250	0.1005	0.3911	1.1887	0.0023	0.0338	201	0.0091
2016	2016Pumps500	Pumps	500	0.1566	0.6672	1.7955	0.0034	0.0542	345	0.0141
2016	2016Pumps750	Pumps	750	0.2663	1.1031	3.0795	0.0057	0.0916	571	0.0240
2016	2016Pumps9999	Pumps	9999	0.8096	2.9411	11.0444	0.0136	0.2798	1,355	0.0730
2016	2016Pumps Composite	Pumps Composite		0.0562	0.2785	0.3830	0.0006	0.0239	49.6	0.0051
2016	2016Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2016	2016Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0039	13.3	0.0015
2016	2016Rollers50	Rollers	50	0.0798	0.2680	0.2323	0.0003	0.0191	26.0	0.0072
2016	2016Rollers120	Rollers	120	0.0795	0.3971	0.5112	0.0007	0.0416	59.0	0.0072
2016	2016Rollers175	Rollers	175	0.1033	0.6152	0.7968	0.0012	0.0431	108	0.0093
2016	2016Rollers250	Rollers	250	0.1042	0.3463	0.9961	0.0017	0.0333	153	0.0094
2016	2016Rollers500	Rollers	500	0.1391	0.5319	1.2666	0.0022	0.0442	219	0.0126
2016	2016Rollers Composite	Rollers Composite		0.0792	0.3944	0.5273	0.0008	0.0353	67.0	0.0071
2016	2016Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0840	0.3459	0.2954	0.0004	0.0216	33.9	0.0076
2016	2016Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0729	0.4231	0.4742	0.0007	0.0369	62.4	0.0066
2016	2016Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.1081	0.7236	0.7797	0.0014	0.0423	125	0.0098
2016	2016Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.1107	0.3592	0.9207	0.0019	0.0302	171	0.0100
2016	2016Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1590	0.5205	1.2089	0.0025	0.0428	257	0.0143
2016	2016Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0775	0.4549	0.5104	0.0008	0.0372	70.3	0.0070
2016	2016Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1852	0.8280	1.3073	0.0015	0.0740	129	0.0167
2016	2016Rubber Tired Dozers250	Rubber Tired Dozers	250	0.2099	0.6066	1.7084	0.0021	0.0707	183	0.0189
2016	2016Rubber Tired Dozers500	Rubber Tired Dozers	500	0.2794	1.1678	2.2384	0.0026	0.0915	265	0.0252
2016	2016Rubber Tired Dozers750	Rubber Tired Dozers	750	0.4216	1.7523	3.4334	0.0040	0.1388	399	0.0380
2016	2016Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.6575	2.8291	6.5404	0.0060	0.2169	592	0.0593
2016	2016Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.2591	0.9834	2.0891	0.0025	0.0858	239	0.0234
2016	2016Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2016	2016Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0901	0.3349	0.2783	0.0004	0.0218	31.1	0.0081
2016	2016Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0773	0.4063	0.4828	0.0007	0.0387	58.9	0.0070
2016	2016Rubber Tired Loaders175	Rubber Tired Loaders	175	0.1022	0.6242	0.7295	0.0012	0.0402	106	0.0092
2016	2016Rubber Tired Loaders250	Rubber Tired Loaders	250	0.1056	0.3357	0.8897	0.0017	0.0302	149	0.0095
2016	2016Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1592	0.5594	1.2576	0.0023	0.0449	237	0.0144
2016	2016Rubber Tired Loaders750	Rubber Tired Loaders	750	0.3283	1.1450	2.6587	0.0049	0.0937	486	0.0296

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2016	2016Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.4397	1.5570	4.9948	0.0060	0.1424	594	0.0397
2016	2016Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0983	0.4557	0.7114	0.0012	0.0375	109	0.0089
2016	2016Scrapers120	Scrapers	120	0.1566	0.6775	0.9295	0.0011	0.0781	93.9	0.0141
2016	2016Scrapers175	Scrapers	175	0.1771	0.9000	1.2619	0.0017	0.0709	148	0.0160
2016	2016Scrapers250	Scrapers	250	0.1911	0.5689	1.6086	0.0024	0.0607	209	0.0172
2016	2016Scrapers500	Scrapers	500	0.2736	1.0107	2.2183	0.0032	0.0851	321	0.0247
2016	2016Scrapers750	Scrapers	750	0.4747	1.7423	3.9270	0.0056	0.1488	555	0.0428
2016	2016Scrapers Composite	Scrapers Composite		0.2383	0.9053	1.9017	0.0027	0.0783	262	0.0215
2016	2016Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2016	2016Signal Boards50	Signal Boards	50	0.0832	0.3134	0.3032	0.0005	0.0219	36.2	0.0075
2016	2016Signal Boards120	Signal Boards	120	0.0873	0.5072	0.6231	0.0009	0.0466	80.2	0.0079
2016	2016Signal Boards175	Signal Boards	175	0.1169	0.8288	1.0085	0.0017	0.0498	155	0.0106
2016	2016Signal Boards250	Signal Boards	250	0.1318	0.4998	1.4477	0.0029	0.0424	255	0.0119
2016	2016Signal Boards Composite	Signal Boards Composite		0.0161	0.0921	0.1172	0.0002	0.0060	16.7	0.0014
2016	2016Skid Steer Loaders25	Skid Steer Loaders	25	0.0184	0.0594	0.1107	0.0002	0.0053	13.8	0.0017
2016	2016Skid Steer Loaders50	Skid Steer Loaders	50	0.0323	0.2089	0.1953	0.0003	0.0094	25.5	0.0029
2016	2016Skid Steer Loaders120	Skid Steer Loaders	120	0.0295	0.2695	0.2411	0.0005	0.0138	42.8	0.0027
2016	2016Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0305	0.2184	0.2044	0.0004	0.0106	30.3	0.0028
2016	2016Surfacing Equipment50	Surfacing Equipment	50	0.0376	0.1300	0.1219	0.0002	0.0093	14.1	0.0034
2016	2016Surfacing Equipment120	Surfacing Equipment	120	0.0779	0.4123	0.5363	0.0007	0.0403	63.8	0.0070
2016	2016Surfacing Equipment175	Surfacing Equipment	175	0.0734	0.4695	0.6130	0.0010	0.0308	85.8	0.0066
2016	2016Surfacing Equipment250	Surfacing Equipment	250	0.0833	0.3013	0.8507	0.0015	0.0280	135	0.0075
2016	2016Surfacing Equipment500	Surfacing Equipment	500	0.1260	0.5485	1.2555	0.0022	0.0425	221	0.0114
2016	2016Surfacing Equipment750	Surfacing Equipment	750	0.2006	0.8594	2.0266	0.0035	0.0677	347	0.0181
2016	2016Surfacing Equipment Composite	Surfacing Equipment Composite		0.1045	0.4506	0.9731	0.0017	0.0353	166	0.0094
2016	2016Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2016	2016Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2016	2016Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0662	0.3084	0.2720	0.0004	0.0182	31.6	0.0060
2016	2016Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0774	0.5017	0.5324	0.0009	0.0392	75.0	0.0070
2016	2016Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.1100	0.8005	0.7999	0.0016	0.0429	139	0.0099
2016	2016Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0979	0.3255	0.7954	0.0018	0.0258	162	0.0088
2016	2016Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0810	0.4988	0.5192	0.0009	0.0332	78.5	0.0073
2016	2016Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0192	0.0653	0.1216	0.0002	0.0048	15.9	0.0017
2016	2016Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0623	0.2949	0.2536	0.0004	0.0162	30.3	0.0056
2016	2016Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0524	0.3460	0.3526	0.0006	0.0253	51.7	0.0047
2016	2016Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0788	0.5850	0.5574	0.0011	0.0293	101	0.0071
2016	2016Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.1025	0.3534	0.7914	0.0019	0.0260	172	0.0092
2016	2016Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1985	0.6964	1.4092	0.0039	0.0496	345	0.0179
2016	2016Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.2995	1.0443	2.1837	0.0058	0.0758	517	0.0270
2016	2016Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0610	0.3689	0.4070	0.0008	0.0258	66.8	0.0055
2016	2016Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2016	2016Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2016	2016Trenchers50	Trenchers	50	0.1305	0.3813	0.3141	0.0004	0.0293	32.9	0.0118
2016	2016Trenchers120	Trenchers	120	0.1080	0.4563	0.6653	0.0008	0.0551	64.9	0.0097
2016	2016Trenchers175	Trenchers	175	0.1678	0.8496	1.2809	0.0016	0.0700	144	0.0151
2016	2016Trenchers250	Trenchers	250	0.1991	0.6260	1.8052	0.0025	0.0691	223	0.0180
2016	2016Trenchers500	Trenchers	500	0.2560	1.0680	2.2757	0.0031	0.0874	311	0.0231
2016	2016Trenchers750	Trenchers	750	0.4852	2.0082	4.3873	0.0059	0.1665	587	0.0438
2016	2016Trenchers Composite	Trenchers Composite		0.1200	0.4479	0.5719	0.0007	0.0453	58.7	0.0108
2016	2016Welders15	Welders	15	0.0089	0.0396	0.0551	0.0001	0.0032	6.2	0.0008
2016	2016Welders25	Welders	25	0.0171	0.0519	0.0956	0.0001	0.0051	11.3	0.0015
2016	2016Welders50	Welders	50	0.0717	0.2483	0.2262	0.0003	0.0181	26.0	0.0065
2016	2016Welders120	Welders	120	0.0494	0.2581	0.3291	0.0005	0.0265	39.5	0.0045
2016	2016Welders175	Welders	175	0.0852	0.5411	0.6939	0.0011	0.0362	98.2	0.0077
2016	2016Welders250	Welders	250	0.0700	0.2427	0.7386	0.0013	0.0223	119	0.0063
2016	2016Welders500	Welders	500	0.0912	0.3361	0.9056	0.0016	0.0292	168	0.0082

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2016	2016Welders Composite	Welders Composite		0.0482	0.1951	0.2173	0.0003	0.0168	25.6	0.0044
2017	2017Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2017	2017Aerial Lifts25	Aerial Lifts	25	0.0146	0.0473	0.0873	0.0001	0.0041	11.0	0.0013
2017	2017Aerial Lifts50	Aerial Lifts	50	0.0382	0.1548	0.1580	0.0003	0.0104	19.6	0.0034
2017	2017Aerial Lifts120	Aerial Lifts	120	0.0368	0.2336	0.2787	0.0004	0.0194	38.1	0.0033
2017	2017Aerial Lifts500	Aerial Lifts	500	0.0890	0.3983	0.9891	0.0021	0.0299	213	0.0080
2017	2017Aerial Lifts750	Aerial Lifts	750	0.1647	0.7200	1.8445	0.0039	0.0549	385	0.0149
2017	2017Aerial Lifts Composite	Aerial Lifts Composite		0.0358	0.1768	0.2310	0.0004	0.0134	34.7	0.0032
2017	2017Air Compressors15	Air Compressors	15	0.0101	0.0458	0.0624	0.0001	0.0035	7.2	0.0009
2017	2017Air Compressors25	Air Compressors	25	0.0212	0.0654	0.1205	0.0002	0.0062	14.4	0.0019
2017	2017Air Compressors50	Air Compressors	50	0.0591	0.2209	0.1914	0.0003	0.0148	22.3	0.0053
2017	2017Air Compressors120	Air Compressors	120	0.0562	0.3122	0.3674	0.0006	0.0294	47.0	0.0051
2017	2017Air Compressors175	Air Compressors	175	0.0752	0.4998	0.5700	0.0010	0.0306	88.5	0.0068
2017	2017Air Compressors250	Air Compressors	250	0.0791	0.2692	0.7388	0.0015	0.0230	131	0.0071
2017	2017Air Compressors500	Air Compressors	500	0.1321	0.4598	1.1363	0.0023	0.0381	232	0.0119
2017	2017Air Compressors750	Air Compressors	750	0.2057	0.7106	1.8141	0.0036	0.0600	358	0.0186
2017	2017Air Compressors1000	Air Compressors	1000	0.3127	1.0739	3.9506	0.0049	0.1048	486	0.0282
2017	2017Air Compressors Composite	Air Compressors Composite		0.0641	0.3165	0.4318	0.0007	0.0282	63.6	0.0058
2017	2017Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2017	2017Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2017	2017Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0210	0.2215	0.1992	0.0004	0.0044	31.0	0.0019
2017	2017Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0326	0.4667	0.2962	0.0009	0.0095	77.1	0.0029
2017	2017Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0519	0.7541	0.3589	0.0016	0.0121	141	0.0047
2017	2017Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0580	0.3426	0.3124	0.0021	0.0088	188	0.0052
2017	2017Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0955	0.5511	0.5035	0.0031	0.0145	311	0.0086
2017	2017Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1891	1.0890	1.0018	0.0062	0.0287	615	0.0171
2017	2017Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.3016	1.6457	4.3972	0.0093	0.0855	928	0.0272
2017	2017Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0578	0.5013	0.4692	0.0017	0.0126	165	0.0052
2017	2017Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2017	2017Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0237	0.0762	0.1411	0.0002	0.0067	17.6	0.0021
2017	2017Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0087	0.0417	0.0539	0.0001	0.0022	7.2	0.0008
2017	2017Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2017	2017Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0625	0.2602	0.2473	0.0004	0.0167	30.2	0.0056
2017	2017Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0728	0.4691	0.5331	0.0009	0.0385	74.1	0.0066
2017	2017Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.1116	0.8663	0.9349	0.0018	0.0466	160	0.0101
2017	2017Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0679	0.3892	0.4267	0.0007	0.0298	58.5	0.0061
2017	2017Cranes50	Cranes	50	0.0709	0.2588	0.2087	0.0003	0.0168	23.2	0.0064
2017	2017Cranes120	Cranes	120	0.0690	0.3509	0.4155	0.0006	0.0341	50.1	0.0062
2017	2017Cranes175	Cranes	175	0.0807	0.4774	0.5549	0.0009	0.0314	80.3	0.0073
2017	2017Cranes250	Cranes	250	0.0830	0.2572	0.6832	0.0013	0.0235	112	0.0075
2017	2017Cranes500	Cranes	500	0.1262	0.4243	0.9704	0.0018	0.0351	180	0.0114
2017	2017Cranes750	Cranes	750	0.2137	0.7132	1.6890	0.0030	0.0602	303	0.0193
2017	2017Cranes9999	Cranes	9999	0.7823	2.5343	8.2827	0.0098	0.2344	971	0.0706
2017	2017Cranes Composite	Cranes Composite		0.1073	0.4152	0.8625	0.0014	0.0352	129	0.0097
2017	2017Crawler Tractors50	Crawler Tractors	50	0.0876	0.2947	0.2312	0.0003	0.0197	24.9	0.0079
2017	2017Crawler Tractors120	Crawler Tractors	120	0.1008	0.4707	0.5971	0.0008	0.0489	65.8	0.0091
2017	2017Crawler Tractors175	Crawler Tractors	175	0.1347	0.7342	0.9293	0.0014	0.0522	121	0.0122
2017	2017Crawler Tractors250	Crawler Tractors	250	0.1413	0.4308	1.1399	0.0019	0.0426	166	0.0127
2017	2017Crawler Tractors500	Crawler Tractors	500	0.2069	0.7531	1.5987	0.0025	0.0609	259	0.0187
2017	2017Crawler Tractors750	Crawler Tractors	750	0.3726	1.3475	2.9402	0.0047	0.1106	465	0.0336
2017	2017Crawler Tractors1000	Crawler Tractors	1000	0.5672	2.1186	6.0245	0.0066	0.1793	658	0.0512
2017	2017Crawler Tractors Composite	Crawler Tractors Composite		0.1258	0.5464	0.8617	0.0013	0.0500	114	0.0114
2017	2017Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.1086	0.4355	0.3739	0.0006	0.0274	44.0	0.0098
2017	2017Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0948	0.5547	0.6210	0.0010	0.0484	83.1	0.0086
2017	2017Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.1380	0.9527	1.0155	0.0019	0.0545	167	0.0124
2017	2017Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1466	0.4993	1.2854	0.0028	0.0405	245	0.0132

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2017	2017Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.2135	0.7357	1.7109	0.0037	0.0582	374	0.0193
2017	2017Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.3347	1.1549	2.7641	0.0059	0.0920	589	0.0302
2017	2017Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.8702	2.8310	10.1798	0.0131	0.2693	1,308	0.0785
2017	2017Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.1219	0.6388	0.8113	0.0015	0.0473	132	0.0110
2017	2017Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0585	0.0001	0.0023	7.6	0.0008
2017	2017Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0585	0.0001	0.0023	7.6	0.0008
2017	2017Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2017	2017Excavators50	Excavators	50	0.0521	0.2568	0.2082	0.0003	0.0128	25.0	0.0047
2017	2017Excavators120	Excavators	120	0.0760	0.5042	0.4840	0.0009	0.0340	73.6	0.0069
2017	2017Excavators175	Excavators	175	0.0896	0.6644	0.5783	0.0013	0.0308	112	0.0081
2017	2017Excavators250	Excavators	250	0.0992	0.3354	0.6878	0.0018	0.0231	159	0.0090
2017	2017Excavators500	Excavators	500	0.1415	0.4762	0.8988	0.0023	0.0323	234	0.0128
2017	2017Excavators750	Excavators	750	0.2356	0.7890	1.5359	0.0039	0.0544	387	0.0213
2017	2017Excavators Composite	Excavators Composite		0.0916	0.5184	0.5858	0.0013	0.0289	120	0.0083
2017	2017Forklifts50	Forklifts	50	0.0254	0.1463	0.1228	0.0002	0.0068	14.7	0.0023
2017	2017Forklifts120	Forklifts	120	0.0287	0.2125	0.1926	0.0004	0.0128	31.2	0.0026
2017	2017Forklifts175	Forklifts	175	0.0425	0.3322	0.2685	0.0006	0.0146	56.1	0.0038
2017	2017Forklifts250	Forklifts	250	0.0467	0.1564	0.3057	0.0009	0.0103	77.1	0.0042
2017	2017Forklifts500	Forklifts	500	0.0659	0.2139	0.3937	0.0011	0.0145	111	0.0059
2017	2017Forklifts Composite	Forklifts Composite		0.0399	0.2181	0.2493	0.0006	0.0119	54.4	0.0036
2017	2017Generator Sets15	Generator Sets	15	0.0126	0.0647	0.0874	0.0002	0.0045	10.2	0.0011
2017	2017Generator Sets25	Generator Sets	25	0.0236	0.0799	0.1471	0.0002	0.0073	17.6	0.0021
2017	2017Generator Sets50	Generator Sets	50	0.0559	0.2326	0.2443	0.0004	0.0156	30.6	0.0050
2017	2017Generator Sets120	Generator Sets	120	0.0725	0.4728	0.5629	0.0009	0.0381	77.9	0.0065
2017	2017Generator Sets175	Generator Sets	175	0.0902	0.7328	0.8439	0.0016	0.0383	142	0.0081
2017	2017Generator Sets250	Generator Sets	250	0.0926	0.3988	1.1003	0.0024	0.0307	213	0.0084
2017	2017Generator Sets500	Generator Sets	500	0.1343	0.6237	1.5464	0.0033	0.0459	337	0.0121
2017	2017Generator Sets750	Generator Sets	750	0.2224	1.0068	2.5746	0.0055	0.0754	544	0.0201
2017	2017Generator Sets9999	Generator Sets	9999	0.5622	2.1570	7.9778	0.0105	0.1939	1,049	0.0507
2017	2017Generator Sets Composite	Generator Sets Composite		0.0527	0.2821	0.4052	0.0007	0.0216	61.0	0.0048
2017	2017Graders50	Graders	50	0.0743	0.2932	0.2387	0.0004	0.0176	27.5	0.0067
2017	2017Graders120	Graders	120	0.0928	0.5166	0.5753	0.0009	0.0447	75.0	0.0084
2017	2017Graders175	Graders	175	0.1135	0.7301	0.7781	0.0014	0.0429	124	0.0102
2017	2017Graders250	Graders	250	0.1180	0.3848	0.9383	0.0019	0.0321	172	0.0106
2017	2017Graders500	Graders	500	0.1497	0.5344	1.1139	0.0023	0.0400	229	0.0135
2017	2017Graders750	Graders	750	0.3187	1.1303	2.4323	0.0049	0.0862	486	0.0288
2017	2017Graders Composite	Graders Composite		0.1121	0.5844	0.8008	0.0015	0.0397	133	0.0101
2017	2017Off-Highway Tractors120	Off-Highway Tractors	120	0.1712	0.6931	0.9973	0.0011	0.0834	93.7	0.0154
2017	2017Off-Highway Tractors175	Off-Highway Tractors	175	0.1697	0.8122	1.1987	0.0015	0.0677	130	0.0153
2017	2017Off-Highway Tractors250	Off-Highway Tractors	250	0.1344	0.4001	1.1003	0.0015	0.0446	130	0.0121
2017	2017Off-Highway Tractors750	Off-Highway Tractors	750	0.5434	2.2170	4.4309	0.0057	0.1765	568	0.0490
2017	2017Off-Highway Tractors1000	Off-Highway Tractors	1000	0.8220	3.4738	8.4378	0.0082	0.2696	814	0.0742
2017	2017Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1716	0.6906	1.3177	0.0017	0.0623	151	0.0155
2017	2017Off-Highway Trucks175	Off-Highway Trucks	175	0.1072	0.7547	0.6764	0.0014	0.0363	125	0.0097
2017	2017Off-Highway Trucks250	Off-Highway Trucks	250	0.1109	0.3608	0.7625	0.0019	0.0256	167	0.0100
2017	2017Off-Highway Trucks500	Off-Highway Trucks	500	0.1753	0.5676	1.1034	0.0027	0.0397	272	0.0158
2017	2017Off-Highway Trucks750	Off-Highway Trucks	750	0.2856	0.9204	1.8476	0.0044	0.0655	442	0.0258
2017	2017Off-Highway Trucks1000	Off-Highway Trucks	1000	0.4308	1.3660	4.6014	0.0063	0.1229	625	0.0389
2017	2017Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1712	0.5722	1.1851	0.0027	0.0407	260	0.0154
2017	2017Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2017	2017Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2017	2017Other Construction Equipment50	Other Construction Equipment	50	0.0468	0.2392	0.2185	0.0004	0.0125	28.0	0.0042
2017	2017Other Construction Equipment120	Other Construction Equipment	120	0.0671	0.5141	0.5013	0.0009	0.0329	80.9	0.0061
2017	2017Other Construction Equipment175	Other Construction Equipment	175	0.0665	0.5860	0.5133	0.0012	0.0252	107	0.0060
2017	2017Other Construction Equipment500	Other Construction Equipment	500	0.1181	0.4796	0.9136	0.0025	0.0311	254	0.0107
2017	2017Other Construction Equipment Composite	Other Construction Equipment Composite		0.0675	0.3568	0.5044	0.0013	0.0206	123	0.0061

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2017	2017Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2017	2017Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2017	2017Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0621	0.2377	0.1935	0.0003	0.0152	21.7	0.0056
2017	2017Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0811	0.4307	0.4956	0.0007	0.0404	62.0	0.0073
2017	2017Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0911	0.5665	0.6307	0.0011	0.0351	95.9	0.0082
2017	2017Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0936	0.2900	0.7778	0.0015	0.0249	136	0.0084
2017	2017Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1745	0.5443	1.3258	0.0026	0.0459	265	0.0157
2017	2017Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.2894	0.8971	2.2570	0.0044	0.0770	437	0.0261
2017	2017Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.4068	1.2739	4.6403	0.0056	0.1274	560	0.0367
2017	2017Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.1187	0.4650	0.9138	0.0016	0.0379	152	0.0107
2017	2017Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0860	0.3282	0.2689	0.0004	0.0211	30.3	0.0078
2017	2017Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0786	0.4192	0.4839	0.0007	0.0394	60.7	0.0071
2017	2017Other Material Handling Equipment175	Other Material Handling Equipment	175	0.1146	0.7173	0.8014	0.0014	0.0445	122	0.0103
2017	2017Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0988	0.3087	0.8309	0.0016	0.0266	145	0.0089
2017	2017Other Material Handling Equipment500	Other Material Handling Equipment	500	0.1243	0.3915	0.9560	0.0019	0.0330	192	0.0112
2017	2017Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.5621	1.6821	6.1372	0.0073	0.1681	741	0.0507
2017	2017Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.1123	0.4544	0.8948	0.0015	0.0366	141	0.0101
2017	2017Pavers25	Pavers	25	0.0228	0.0771	0.1440	0.0002	0.0058	18.7	0.0021
2017	2017Pavers50	Pavers	50	0.1040	0.3262	0.2615	0.0004	0.0234	28.0	0.0094
2017	2017Pavers120	Pavers	120	0.1095	0.4895	0.6606	0.0008	0.0548	69.2	0.0099
2017	2017Pavers175	Pavers	175	0.1443	0.7653	1.0437	0.0014	0.0582	128	0.0130
2017	2017Pavers250	Pavers	250	0.1664	0.5174	1.4290	0.0022	0.0537	194	0.0150
2017	2017Pavers500	Pavers	500	0.1858	0.7239	1.5415	0.0023	0.0588	233	0.0168
2017	2017Pavers Composite	Pavers Composite		0.1193	0.5073	0.6672	0.0009	0.0453	77.9	0.0108
2017	2017Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2017	2017Paving Equipment50	Paving Equipment	50	0.0885	0.2760	0.2230	0.0003	0.0200	23.9	0.0080
2017	2017Paving Equipment120	Paving Equipment	120	0.0858	0.3834	0.5187	0.0006	0.0433	54.5	0.0077
2017	2017Paving Equipment175	Paving Equipment	175	0.1124	0.5987	0.8196	0.0011	0.0458	101	0.0101
2017	2017Paving Equipment250	Paving Equipment	250	0.1018	0.3178	0.8949	0.0014	0.0329	122	0.0092
2017	2017Paving Equipment Composite	Paving Equipment Composite		0.0910	0.4165	0.5965	0.0008	0.0404	68.9	0.0082
2017	2017Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2017	2017Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2017	2017Pressure Washers15	Pressure Washers	15	0.0060	0.0310	0.0419	0.0001	0.0022	4.9	0.0005
2017	2017Pressure Washers25	Pressure Washers	25	0.0096	0.0324	0.0596	0.0001	0.0030	7.1	0.0009
2017	2017Pressure Washers50	Pressure Washers	50	0.0195	0.0918	0.1098	0.0002	0.0061	14.3	0.0018
2017	2017Pressure Washers120	Pressure Washers	120	0.0191	0.1393	0.1659	0.0003	0.0100	24.1	0.0017
2017	2017Pressure Washers Composite	Pressure Washers Composite		0.0111	0.0570	0.0733	0.0001	0.0040	9.4	0.0010
2017	2017Pumps15	Pumps	15	0.0103	0.0471	0.0641	0.0001	0.0036	7.4	0.0009
2017	2017Pumps25	Pumps	25	0.0286	0.0883	0.1625	0.0002	0.0084	19.5	0.0026
2017	2017Pumps50	Pumps	50	0.0680	0.2744	0.2773	0.0004	0.0184	34.3	0.0061
2017	2017Pumps120	Pumps	120	0.0760	0.4802	0.5715	0.0009	0.0400	77.9	0.0069
2017	2017Pumps175	Pumps	175	0.0940	0.7342	0.8462	0.0016	0.0398	140	0.0085
2017	2017Pumps250	Pumps	250	0.0932	0.3841	1.0601	0.0023	0.0303	201	0.0084
2017	2017Pumps500	Pumps	500	0.1468	0.6478	1.6054	0.0034	0.0489	345	0.0132
2017	2017Pumps750	Pumps	750	0.2481	1.0709	2.7377	0.0057	0.0823	571	0.0224
2017	2017Pumps9999	Pumps	9999	0.7548	2.8273	10.4295	0.0136	0.2569	1,355	0.0681
2017	2017Pumps Composite	Pumps Composite		0.0508	0.2751	0.3560	0.0006	0.0214	49.6	0.0046
2017	2017Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2017	2017Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2017	2017Rollers50	Rollers	50	0.0729	0.2611	0.2245	0.0003	0.0174	26.0	0.0066
2017	2017Rollers120	Rollers	120	0.0736	0.3944	0.4749	0.0007	0.0378	59.0	0.0066
2017	2017Rollers175	Rollers	175	0.0964	0.6140	0.7248	0.0012	0.0393	108	0.0087
2017	2017Rollers250	Rollers	250	0.0985	0.3375	0.9035	0.0017	0.0302	153	0.0089
2017	2017Rollers500	Rollers	500	0.1323	0.5091	1.1463	0.0022	0.0401	219	0.0119
2017	2017Rollers Composite	Rollers Composite		0.0736	0.3913	0.4866	0.0008	0.0322	67.0	0.0066
2017	2017Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0743	0.3373	0.2846	0.0004	0.0190	33.9	0.0067

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2017	2017Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0660	0.4203	0.4341	0.0007	0.0319	62.4	0.0060
2017	2017Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0993	0.7233	0.6899	0.0014	0.0371	125	0.0090
2017	2017Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.1047	0.3544	0.8098	0.0019	0.0269	171	0.0094
2017	2017Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1514	0.5104	1.0707	0.0025	0.0383	257	0.0137
2017	2017Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0704	0.4522	0.4645	0.0008	0.0323	70.3	0.0064
2017	2017Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1763	0.8232	1.2239	0.0015	0.0692	129	0.0159
2017	2017Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1992	0.5845	1.5954	0.0021	0.0654	183	0.0180
2017	2017Rubber Tired Dozers500	Rubber Tired Dozers	500	0.2660	1.0972	2.0893	0.0026	0.0849	265	0.0240
2017	2017Rubber Tired Dozers750	Rubber Tired Dozers	750	0.4016	1.6469	3.2071	0.0040	0.1289	399	0.0362
2017	2017Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.6276	2.6606	6.2665	0.0060	0.2034	592	0.0566
2017	2017Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.2465	0.9300	1.9508	0.0025	0.0796	239	0.0222
2017	2017Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2017	2017Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0818	0.3270	0.2684	0.0004	0.0195	31.1	0.0074
2017	2017Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0714	0.4038	0.4460	0.0007	0.0346	58.9	0.0064
2017	2017Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0954	0.6234	0.6571	0.0012	0.0362	106	0.0086
2017	2017Rubber Tired Loaders250	Rubber Tired Loaders	250	0.1000	0.3290	0.7984	0.0017	0.0272	149	0.0090
2017	2017Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1514	0.5411	1.1288	0.0023	0.0405	237	0.0137
2017	2017Rubber Tired Loaders750	Rubber Tired Loaders	750	0.3121	1.1077	2.3876	0.0049	0.0844	486	0.0282
2017	2017Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.4149	1.4822	4.7146	0.0060	0.1302	594	0.0374
2017	2017Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0920	0.4510	0.6446	0.0012	0.0336	109	0.0083
2017	2017Scrapers120	Scrapers	120	0.1471	0.6728	0.8712	0.0011	0.0719	93.9	0.0133
2017	2017Scrapers175	Scrapers	175	0.1673	0.8975	1.1638	0.0017	0.0655	148	0.0151
2017	2017Scrapers250	Scrapers	250	0.1805	0.5495	1.4783	0.0024	0.0552	209	0.0163
2017	2017Scrapers500	Scrapers	500	0.2594	0.9602	2.0375	0.0032	0.0777	321	0.0234
2017	2017Scrapers750	Scrapers	750	0.4502	1.6557	3.6101	0.0056	0.1359	555	0.0406
2017	2017Scrapers Composite	Scrapers Composite		0.2257	0.8713	1.7483	0.0027	0.0716	262	0.0204
2017	2017Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2017	2017Signal Boards50	Signal Boards	50	0.0738	0.3047	0.2923	0.0005	0.0195	36.2	0.0067
2017	2017Signal Boards120	Signal Boards	120	0.0781	0.5033	0.5729	0.0009	0.0410	80.2	0.0070
2017	2017Signal Boards175	Signal Boards	175	0.1057	0.8280	0.8988	0.0017	0.0440	155	0.0095
2017	2017Signal Boards250	Signal Boards	250	0.1230	0.4919	1.2834	0.0029	0.0379	255	0.0111
2017	2017Signal Boards Composite	Signal Boards Composite		0.0151	0.0918	0.1098	0.0002	0.0055	16.7	0.0014
2017	2017Skid Steer Loaders25	Skid Steer Loaders	25	0.0179	0.0588	0.1090	0.0002	0.0050	13.8	0.0016
2017	2017Skid Steer Loaders50	Skid Steer Loaders	50	0.0288	0.2057	0.1865	0.0003	0.0079	25.5	0.0026
2017	2017Skid Steer Loaders120	Skid Steer Loaders	120	0.0268	0.2686	0.2172	0.0005	0.0114	42.8	0.0024
2017	2017Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0274	0.2161	0.1912	0.0004	0.0088	30.3	0.0025
2017	2017Surfacing Equipment50	Surfacing Equipment	50	0.0346	0.1270	0.1178	0.0002	0.0085	14.1	0.0031
2017	2017Surfacing Equipment120	Surfacing Equipment	120	0.0722	0.4096	0.4995	0.0007	0.0368	63.8	0.0065
2017	2017Surfacing Equipment175	Surfacing Equipment	175	0.0685	0.4685	0.5589	0.0010	0.0282	85.8	0.0062
2017	2017Surfacing Equipment250	Surfacing Equipment	250	0.0780	0.2927	0.7732	0.0015	0.0253	135	0.0070
2017	2017Surfacing Equipment500	Surfacing Equipment	500	0.1186	0.5248	1.1392	0.0022	0.0385	221	0.0107
2017	2017Surfacing Equipment750	Surfacing Equipment	750	0.1888	0.8224	1.8408	0.0035	0.0614	347	0.0170
2017	2017Surfacing Equipment Composite	Surfacing Equipment Composite		0.0981	0.4333	0.8855	0.0017	0.0321	166	0.0088
2017	2017Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2017	2017Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2017	2017Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0581	0.3019	0.2627	0.0004	0.0158	31.6	0.0052
2017	2017Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0701	0.4996	0.4855	0.0009	0.0336	75.0	0.0063
2017	2017Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.1029	0.8018	0.7099	0.0016	0.0381	139	0.0093
2017	2017Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0936	0.3232	0.6970	0.0018	0.0230	162	0.0084
2017	2017Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0737	0.4962	0.4726	0.0009	0.0288	78.5	0.0067
2017	2017Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0192	0.0653	0.1213	0.0002	0.0047	15.9	0.0017
2017	2017Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0555	0.2889	0.2435	0.0004	0.0141	30.3	0.0050
2017	2017Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0477	0.3442	0.3216	0.0006	0.0217	51.7	0.0043
2017	2017Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0726	0.5847	0.4886	0.0011	0.0254	101	0.0066
2017	2017Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0968	0.3506	0.6887	0.0019	0.0229	172	0.0087
2017	2017Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1886	0.6859	1.2315	0.0039	0.0438	345	0.0170

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2017	2017Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.2842	1.0286	1.9040	0.0058	0.0668	517	0.0256
2017	2017Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0559	0.3666	0.3681	0.0008	0.0222	66.8	0.0050
2017	2017Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2017	2017Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2017	2017Trenchers50	Trenchers	50	0.1222	0.3728	0.3051	0.0004	0.0274	32.9	0.0110
2017	2017Trenchers120	Trenchers	120	0.1018	0.4529	0.6266	0.0008	0.0514	64.9	0.0092
2017	2017Trenchers175	Trenchers	175	0.1590	0.8464	1.1893	0.0016	0.0653	144	0.0143
2017	2017Trenchers250	Trenchers	250	0.1883	0.6031	1.6715	0.0025	0.0635	223	0.0170
2017	2017Trenchers500	Trenchers	500	0.2433	1.0086	2.1048	0.0031	0.0805	311	0.0220
2017	2017Trenchers750	Trenchers	750	0.4610	1.8971	4.0616	0.0059	0.1535	587	0.0416
2017	2017Trenchers Composite	Trenchers Composite		0.1129	0.4422	0.5410	0.0007	0.0423	58.7	0.0102
2017	2017Welders15	Welders	15	0.0086	0.0394	0.0536	0.0001	0.0030	6.2	0.0008
2017	2017Welders25	Welders	25	0.0166	0.0511	0.0941	0.0001	0.0049	11.3	0.0015
2017	2017Welders50	Welders	50	0.0638	0.2408	0.2183	0.0003	0.0162	26.0	0.0058
2017	2017Welders120	Welders	120	0.0444	0.2559	0.3033	0.0005	0.0234	39.5	0.0040
2017	2017Welders175	Welders	175	0.0774	0.5404	0.6214	0.0011	0.0322	98.2	0.0070
2017	2017Welders250	Welders	250	0.0657	0.2384	0.6582	0.0013	0.0200	119	0.0059
2017	2017Welders500	Welders	500	0.0865	0.3263	0.8096	0.0016	0.0264	168	0.0078
2017	2017Welders Composite	Welders Composite		0.0434	0.1912	0.2054	0.0003	0.0150	25.6	0.0039
2018	2018Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2018	2018Aerial Lifts25	Aerial Lifts	25	0.0143	0.0468	0.0865	0.0001	0.0039	11.0	0.0013
2018	2018Aerial Lifts50	Aerial Lifts	50	0.0336	0.1506	0.1525	0.0003	0.0093	19.6	0.0030
2018	2018Aerial Lifts120	Aerial Lifts	120	0.0327	0.2319	0.2565	0.0004	0.0170	38.1	0.0029
2018	2018Aerial Lifts500	Aerial Lifts	500	0.0840	0.3899	0.8852	0.0021	0.0270	213	0.0076
2018	2018Aerial Lifts750	Aerial Lifts	750	0.1545	0.7049	1.6423	0.0039	0.0494	385	0.0139
2018	2018Aerial Lifts Composite	Aerial Lifts Composite		0.0322	0.1740	0.2152	0.0004	0.0119	34.7	0.0029
2018	2018Air Compressors15	Air Compressors	15	0.0098	0.0456	0.0608	0.0001	0.0033	7.2	0.0009
2018	2018Air Compressors25	Air Compressors	25	0.0207	0.0645	0.1187	0.0002	0.0060	14.4	0.0019
2018	2018Air Compressors50	Air Compressors	50	0.0518	0.2142	0.1848	0.0003	0.0131	22.3	0.0047
2018	2018Air Compressors120	Air Compressors	120	0.0504	0.3097	0.3370	0.0006	0.0255	47.0	0.0045
2018	2018Air Compressors175	Air Compressors	175	0.0685	0.4994	0.5069	0.0010	0.0268	88.5	0.0062
2018	2018Air Compressors250	Air Compressors	250	0.0747	0.2653	0.6529	0.0015	0.0206	131	0.0067
2018	2018Air Compressors500	Air Compressors	500	0.1262	0.4504	1.0161	0.0023	0.0345	232	0.0114
2018	2018Air Compressors750	Air Compressors	750	0.1960	0.6961	1.6134	0.0036	0.0540	358	0.0177
2018	2018Air Compressors1000	Air Compressors	1000	0.2958	1.0416	3.7257	0.0049	0.0965	486	0.0267
2018	2018Air Compressors Composite	Air Compressors Composite		0.0582	0.3130	0.3935	0.0007	0.0246	63.6	0.0052
2018	2018Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2018	2018Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2018	2018Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0204	0.2211	0.1897	0.0004	0.0034	31.0	0.0018
2018	2018Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0308	0.4665	0.2710	0.0009	0.0072	77.1	0.0028
2018	2018Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0475	0.7542	0.2910	0.0016	0.0092	141	0.0043
2018	2018Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0538	0.3426	0.2499	0.0021	0.0068	188	0.0049
2018	2018Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0887	0.5512	0.4035	0.0031	0.0112	311	0.0080
2018	2018Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1755	1.0891	0.8022	0.0062	0.0222	615	0.0158
2018	2018Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2789	1.6441	4.2095	0.0093	0.0723	928	0.0252
2018	2018Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0539	0.5011	0.4175	0.0017	0.0099	165	0.0049
2018	2018Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2018	2018Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0232	0.0754	0.1391	0.0002	0.0064	17.6	0.0021
2018	2018Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0087	0.0416	0.0538	0.0001	0.0022	7.2	0.0008
2018	2018Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2018	2018Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0549	0.2534	0.2388	0.0004	0.0148	30.2	0.0050
2018	2018Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0650	0.4661	0.4898	0.0009	0.0335	74.1	0.0059
2018	2018Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.1012	0.8661	0.8304	0.0018	0.0410	160	0.0091
2018	2018Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0605	0.3850	0.3959	0.0007	0.0261	58.5	0.0055
2018	2018Cranes50	Cranes	50	0.0646	0.2527	0.2019	0.0003	0.0151	23.2	0.0058
2018	2018Cranes120	Cranes	120	0.0639	0.3486	0.3857	0.0006	0.0306	50.1	0.0058

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2018	2018Cranes175	Cranes	175	0.0752	0.4766	0.5029	0.0009	0.0283	80.3	0.0068
2018	2018Cranes250	Cranes	250	0.0787	0.2521	0.6168	0.0013	0.0212	112	0.0071
2018	2018Cranes500	Cranes	500	0.1202	0.4085	0.8748	0.0018	0.0317	180	0.0108
2018	2018Cranes750	Cranes	750	0.2034	0.6869	1.5239	0.0030	0.0544	303	0.0184
2018	2018Cranes9999	Cranes	9999	0.7422	2.3933	7.8338	0.0098	0.2146	971	0.0670
2018	2018Cranes Composite	Cranes Composite		0.1012	0.4060	0.7908	0.0014	0.0318	129	0.0091
2018	2018Crawler Tractors50	Crawler Tractors	50	0.0813	0.2884	0.2240	0.0003	0.0181	24.9	0.0073
2018	2018Crawler Tractors120	Crawler Tractors	120	0.0945	0.4679	0.5589	0.0008	0.0448	65.8	0.0085
2018	2018Crawler Tractors175	Crawler Tractors	175	0.1270	0.7327	0.8534	0.0014	0.0479	121	0.0115
2018	2018Crawler Tractors250	Crawler Tractors	250	0.1333	0.4179	1.0430	0.0019	0.0385	166	0.0120
2018	2018Crawler Tractors500	Crawler Tractors	500	0.1959	0.7202	1.4625	0.0025	0.0554	259	0.0177
2018	2018Crawler Tractors750	Crawler Tractors	750	0.3529	1.2889	2.6916	0.0047	0.1006	465	0.0318
2018	2018Crawler Tractors1000	Crawler Tractors	1000	0.5380	2.0171	5.7362	0.0066	0.1663	658	0.0485
2018	2018Crawler Tractors Composite	Crawler Tractors Composite		0.1185	0.5387	0.7960	0.0013	0.0457	114	0.0107
2018	2018Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0949	0.4230	0.3607	0.0006	0.0241	44.0	0.0086
2018	2018Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0849	0.5506	0.5679	0.0010	0.0416	83.1	0.0077
2018	2018Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.1258	0.9520	0.8975	0.0019	0.0475	167	0.0113
2018	2018Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1386	0.4932	1.1284	0.0028	0.0359	245	0.0125
2018	2018Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.2037	0.7231	1.5205	0.0037	0.0524	374	0.0184
2018	2018Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.3193	1.1368	2.4441	0.0059	0.0824	589	0.0288
2018	2018Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.8312	2.7569	9.5902	0.0131	0.2467	1,308	0.0750
2018	2018Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.1109	0.6328	0.7330	0.0015	0.0412	132	0.0100
2018	2018Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0584	0.0001	0.0023	7.6	0.0008
2018	2018Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0584	0.0001	0.0023	7.6	0.0008
2018	2018Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2018	2018Excavators50	Excavators	50	0.0468	0.2521	0.2002	0.0003	0.0111	25.0	0.0042
2018	2018Excavators120	Excavators	120	0.0693	0.5017	0.4425	0.0009	0.0289	73.6	0.0063
2018	2018Excavators175	Excavators	175	0.0824	0.6641	0.5069	0.0013	0.0264	112	0.0074
2018	2018Excavators250	Excavators	250	0.0933	0.3323	0.5984	0.0018	0.0202	159	0.0084
2018	2018Excavators500	Excavators	500	0.1339	0.4689	0.7881	0.0023	0.0284	234	0.0121
2018	2018Excavators750	Excavators	750	0.2224	0.7769	1.3381	0.0039	0.0476	387	0.0201
2018	2018Excavators Composite	Excavators Composite		0.0848	0.5160	0.5181	0.0013	0.0249	120	0.0077
2018	2018Forklifts50	Forklifts	50	0.0229	0.1440	0.1180	0.0002	0.0058	14.7	0.0021
2018	2018Forklifts120	Forklifts	120	0.0265	0.2118	0.1745	0.0004	0.0108	31.2	0.0024
2018	2018Forklifts175	Forklifts	175	0.0394	0.3322	0.2328	0.0006	0.0125	56.1	0.0036
2018	2018Forklifts250	Forklifts	250	0.0440	0.1559	0.2594	0.0009	0.0089	77.1	0.0040
2018	2018Forklifts500	Forklifts	500	0.0623	0.2131	0.3432	0.0011	0.0125	111	0.0056
2018	2018Forklifts Composite	Forklifts Composite		0.0372	0.2173	0.2186	0.0006	0.0101	54.4	0.0034
2018	2018Generator Sets15	Generator Sets	15	0.0123	0.0644	0.0852	0.0002	0.0043	10.2	0.0011
2018	2018Generator Sets25	Generator Sets	25	0.0231	0.0788	0.1449	0.0002	0.0070	17.6	0.0021
2018	2018Generator Sets50	Generator Sets	50	0.0491	0.2265	0.2357	0.0004	0.0138	30.6	0.0044
2018	2018Generator Sets120	Generator Sets	120	0.0642	0.4694	0.5181	0.0009	0.0333	77.9	0.0058
2018	2018Generator Sets175	Generator Sets	175	0.0808	0.7324	0.7528	0.0016	0.0337	142	0.0073
2018	2018Generator Sets250	Generator Sets	250	0.0857	0.3931	0.9756	0.0024	0.0274	213	0.0077
2018	2018Generator Sets500	Generator Sets	500	0.1264	0.6113	1.3836	0.0033	0.0415	337	0.0114
2018	2018Generator Sets750	Generator Sets	750	0.2080	0.9868	2.2918	0.0055	0.0679	544	0.0188
2018	2018Generator Sets9999	Generator Sets	9999	0.5230	2.0948	7.5356	0.0105	0.1778	1,049	0.0472
2018	2018Generator Sets Composite	Generator Sets Composite		0.0477	0.2786	0.3759	0.0007	0.0192	61.0	0.0043
2018	2018Graders50	Graders	50	0.0676	0.2868	0.2305	0.0004	0.0157	27.5	0.0061
2018	2018Graders120	Graders	120	0.0860	0.5138	0.5323	0.0009	0.0398	75.0	0.0078
2018	2018Graders175	Graders	175	0.1059	0.7294	0.7002	0.0014	0.0385	124	0.0096
2018	2018Graders250	Graders	250	0.1115	0.3778	0.8409	0.0019	0.0287	172	0.0101
2018	2018Graders500	Graders	500	0.1420	0.5194	0.9989	0.0023	0.0359	229	0.0128
2018	2018Graders750	Graders	750	0.3024	1.0988	2.1820	0.0049	0.0774	486	0.0273
2018	2018Graders Composite	Graders Composite		0.1049	0.5812	0.7217	0.0015	0.0355	133	0.0095
2018	2018Off-Highway Tractors120	Off-Highway Tractors	120	0.1622	0.6879	0.9427	0.0011	0.0779	93.7	0.0146

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2018	2018Off-Highway Tractors175	Off-Highway Tractors	175	0.1614	0.8085	1.1191	0.0015	0.0632	130	0.0146
2018	2018Off-Highway Tractors250	Off-Highway Tractors	250	0.1275	0.3861	1.0244	0.0015	0.0411	130	0.0115
2018	2018Off-Highway Tractors750	Off-Highway Tractors	750	0.5173	2.0914	4.1264	0.0057	0.1633	568	0.0467
2018	2018Off-Highway Tractors1000	Off-Highway Tractors	1000	0.7842	3.2770	8.0820	0.0082	0.2526	814	0.0708
2018	2018Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1631	0.6762	1.2293	0.0017	0.0579	151	0.0147
2018	2018Off-Highway Trucks175	Off-Highway Trucks	175	0.0983	0.7542	0.5947	0.0014	0.0314	125	0.0089
2018	2018Off-Highway Trucks250	Off-Highway Trucks	250	0.1042	0.3572	0.6660	0.0019	0.0225	167	0.0094
2018	2018Off-Highway Trucks500	Off-Highway Trucks	500	0.1656	0.5578	0.9706	0.0027	0.0351	272	0.0149
2018	2018Off-Highway Trucks750	Off-Highway Trucks	750	0.2693	0.9044	1.6152	0.0044	0.0577	442	0.0243
2018	2018Off-Highway Trucks1000	Off-Highway Trucks	1000	0.4058	1.3339	4.3394	0.0063	0.1110	625	0.0366
2018	2018Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1613	0.5634	1.0525	0.0027	0.0360	260	0.0146
2018	2018Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2018	2018Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2018	2018Other Construction Equipment50	Other Construction Equipment	50	0.0412	0.2342	0.2102	0.0004	0.0108	28.0	0.0037
2018	2018Other Construction Equipment120	Other Construction Equipment	120	0.0604	0.5116	0.4573	0.0009	0.0279	80.9	0.0054
2018	2018Other Construction Equipment175	Other Construction Equipment	175	0.0608	0.5859	0.4478	0.0012	0.0218	107	0.0055
2018	2018Other Construction Equipment500	Other Construction Equipment	500	0.1122	0.4743	0.8004	0.0025	0.0275	254	0.0101
2018	2018Other Construction Equipment Composite	Other Construction Equipment Composite		0.0633	0.3542	0.4478	0.0013	0.0181	123	0.0057
2018	2018Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2018	2018Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2018	2018Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0548	0.2314	0.1869	0.0003	0.0134	21.7	0.0049
2018	2018Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0732	0.4277	0.4544	0.0007	0.0350	62.0	0.0066
2018	2018Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0835	0.5664	0.5608	0.0011	0.0307	95.9	0.0075
2018	2018Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0884	0.2862	0.6866	0.0015	0.0221	136	0.0080
2018	2018Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1664	0.5336	1.1846	0.0026	0.0412	265	0.0150
2018	2018Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.2755	0.8795	2.0057	0.0044	0.0689	437	0.0249
2018	2018Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.3866	1.2370	4.3716	0.0056	0.1169	560	0.0349
2018	2018Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.1113	0.4591	0.8242	0.0016	0.0336	152	0.0100
2018	2018Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0758	0.3192	0.2598	0.0004	0.0186	30.3	0.0068
2018	2018Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0709	0.4162	0.4437	0.0007	0.0341	60.7	0.0064
2018	2018Other Material Handling Equipment175	Other Material Handling Equipment	175	0.1050	0.7171	0.7125	0.0014	0.0389	122	0.0095
2018	2018Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0934	0.3046	0.7336	0.0016	0.0237	145	0.0084
2018	2018Other Material Handling Equipment500	Other Material Handling Equipment	500	0.1186	0.3838	0.8543	0.0019	0.0297	192	0.0107
2018	2018Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.5386	1.6331	5.7822	0.0073	0.1543	741	0.0486
2018	2018Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.1050	0.4495	0.8053	0.0015	0.0324	141	0.0095
2018	2018Pavers25	Pavers	25	0.0226	0.0769	0.1434	0.0002	0.0057	18.7	0.0020
2018	2018Pavers50	Pavers	50	0.0968	0.3188	0.2539	0.0004	0.0217	28.0	0.0087
2018	2018Pavers120	Pavers	120	0.1030	0.4862	0.6205	0.0008	0.0506	69.2	0.0093
2018	2018Pavers175	Pavers	175	0.1365	0.7632	0.9644	0.0014	0.0539	128	0.0123
2018	2018Pavers250	Pavers	250	0.1574	0.5000	1.3162	0.0022	0.0490	194	0.0142
2018	2018Pavers500	Pavers	500	0.1765	0.6885	1.4189	0.0023	0.0539	233	0.0159
2018	2018Pavers Composite	Pavers Composite		0.1121	0.5017	0.6241	0.0009	0.0419	77.9	0.0101
2018	2018Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2018	2018Paving Equipment50	Paving Equipment	50	0.0821	0.2696	0.2165	0.0003	0.0185	23.9	0.0074
2018	2018Paving Equipment120	Paving Equipment	120	0.0805	0.3809	0.4869	0.0006	0.0400	54.5	0.0073
2018	2018Paving Equipment175	Paving Equipment	175	0.1062	0.5971	0.7567	0.0011	0.0424	101	0.0096
2018	2018Paving Equipment250	Paving Equipment	250	0.0962	0.3068	0.8236	0.0014	0.0300	122	0.0087
2018	2018Paving Equipment Composite	Paving Equipment Composite		0.0857	0.4136	0.5558	0.0008	0.0374	68.9	0.0077
2018	2018Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2018	2018Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2018	2018Pressure Washers15	Pressure Washers	15	0.0059	0.0308	0.0408	0.0001	0.0021	4.9	0.0005
2018	2018Pressure Washers25	Pressure Washers	25	0.0094	0.0319	0.0587	0.0001	0.0028	7.1	0.0008
2018	2018Pressure Washers50	Pressure Washers	50	0.0170	0.0895	0.1059	0.0002	0.0054	14.3	0.0015
2018	2018Pressure Washers120	Pressure Washers	120	0.0167	0.1383	0.1528	0.0003	0.0087	24.1	0.0015
2018	2018Pressure Washers Composite	Pressure Washers Composite		0.0101	0.0562	0.0703	0.0001	0.0036	9.4	0.0009
2018	2018Pumps15	Pumps	15	0.0101	0.0468	0.0625	0.0001	0.0034	7.4	0.0009

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2018	2018Pumps25	Pumps	25	0.0279	0.0871	0.1601	0.0002	0.0080	19.5	0.0025
2018	2018Pumps50	Pumps	50	0.0599	0.2670	0.2677	0.0004	0.0164	34.3	0.0054
2018	2018Pumps120	Pumps	120	0.0676	0.4767	0.5260	0.0009	0.0350	77.9	0.0061
2018	2018Pumps175	Pumps	175	0.0845	0.7338	0.7548	0.0016	0.0350	140	0.0076
2018	2018Pumps250	Pumps	250	0.0866	0.3786	0.9399	0.0023	0.0271	201	0.0078
2018	2018Pumps500	Pumps	500	0.1387	0.6343	1.4367	0.0034	0.0442	345	0.0125
2018	2018Pumps750	Pumps	750	0.2330	1.0487	2.4376	0.0057	0.0741	571	0.0210
2018	2018Pumps9999	Pumps	9999	0.7050	2.7434	9.8509	0.0136	0.2358	1,355	0.0636
2018	2018Pumps Composite	Pumps Composite		0.0458	0.2722	0.3306	0.0006	0.0189	49.6	0.0041
2018	2018Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2018	2018Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2018	2018Rollers50	Rollers	50	0.0662	0.2547	0.2171	0.0003	0.0158	26.0	0.0060
2018	2018Rollers120	Rollers	120	0.0680	0.3919	0.4411	0.0007	0.0341	59.0	0.0061
2018	2018Rollers175	Rollers	175	0.0897	0.6130	0.6569	0.0012	0.0356	108	0.0081
2018	2018Rollers250	Rollers	250	0.0934	0.3306	0.8164	0.0017	0.0274	153	0.0084
2018	2018Rollers500	Rollers	500	0.1262	0.4902	1.0345	0.0022	0.0365	219	0.0114
2018	2018Rollers Composite	Rollers Composite		0.0683	0.3885	0.4485	0.0008	0.0291	67.0	0.0062
2018	2018Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0655	0.3294	0.2744	0.0004	0.0166	33.9	0.0059
2018	2018Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0596	0.4179	0.3967	0.0007	0.0273	62.4	0.0054
2018	2018Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0911	0.7231	0.6072	0.0014	0.0322	125	0.0082
2018	2018Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0988	0.3504	0.7075	0.0019	0.0237	171	0.0089
2018	2018Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1441	0.5029	0.9468	0.0025	0.0341	257	0.0130
2018	2018Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0638	0.4499	0.4219	0.0008	0.0277	70.3	0.0058
2018	2018Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1676	0.8191	1.1443	0.0015	0.0646	129	0.0151
2018	2018Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1890	0.5640	1.4879	0.0021	0.0605	183	0.0171
2018	2018Rubber Tired Dozers500	Rubber Tired Dozers	500	0.2531	1.0338	1.9476	0.0026	0.0787	265	0.0228
2018	2018Rubber Tired Dozers750	Rubber Tired Dozers	750	0.3821	1.5520	2.9917	0.0040	0.1195	399	0.0345
2018	2018Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.5986	2.5082	6.0072	0.0060	0.1906	592	0.0540
2018	2018Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.2343	0.8819	1.8194	0.0025	0.0737	239	0.0211
2018	2018Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2018	2018Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0742	0.3198	0.2591	0.0004	0.0174	31.1	0.0067
2018	2018Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0660	0.4016	0.4121	0.0007	0.0307	58.9	0.0060
2018	2018Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0888	0.6227	0.5902	0.0012	0.0323	106	0.0080
2018	2018Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0946	0.3237	0.7142	0.0017	0.0244	149	0.0085
2018	2018Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1440	0.5256	1.0103	0.0023	0.0363	237	0.0130
2018	2018Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2966	1.0762	2.1374	0.0049	0.0758	486	0.0268
2018	2018Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.3912	1.4170	4.4558	0.0060	0.1188	594	0.0353
2018	2018Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0861	0.4470	0.5831	0.0012	0.0300	109	0.0078
2018	2018Scrapers120	Scrapers	120	0.1382	0.6686	0.8165	0.0011	0.0661	93.9	0.0125
2018	2018Scrapers175	Scrapers	175	0.1579	0.8954	1.0712	0.0017	0.0603	148	0.0142
2018	2018Scrapers250	Scrapers	250	0.1704	0.5324	1.3558	0.0024	0.0501	209	0.0154
2018	2018Scrapers500	Scrapers	500	0.2458	0.9165	1.8678	0.0032	0.0707	321	0.0222
2018	2018Scrapers750	Scrapers	750	0.4267	1.5807	3.3123	0.0056	0.1238	555	0.0385
2018	2018Scrapers Composite	Scrapers Composite		0.2135	0.8418	1.6042	0.0027	0.0653	262	0.0193
2018	2018Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2018	2018Signal Boards50	Signal Boards	50	0.0649	0.2966	0.2820	0.0005	0.0172	36.2	0.0059
2018	2018Signal Boards120	Signal Boards	120	0.0695	0.4999	0.5256	0.0009	0.0356	80.2	0.0063
2018	2018Signal Boards175	Signal Boards	175	0.0955	0.8276	0.7968	0.0017	0.0385	155	0.0086
2018	2018Signal Boards250	Signal Boards	250	0.1151	0.4857	1.1305	0.0029	0.0337	255	0.0104
2018	2018Signal Boards Composite	Signal Boards Composite		0.0143	0.0916	0.1029	0.0002	0.0050	16.7	0.0013
2018	2018Skid Steer Loaders25	Skid Steer Loaders	25	0.0176	0.0582	0.1081	0.0002	0.0048	13.8	0.0016
2018	2018Skid Steer Loaders50	Skid Steer Loaders	50	0.0263	0.2035	0.1787	0.0003	0.0065	25.5	0.0024
2018	2018Skid Steer Loaders120	Skid Steer Loaders	120	0.0248	0.2680	0.1970	0.0005	0.0095	42.8	0.0022
2018	2018Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0253	0.2146	0.1799	0.0004	0.0074	30.3	0.0023
2018	2018Surfacing Equipment50	Surfacing Equipment	50	0.0317	0.1242	0.1139	0.0002	0.0077	14.1	0.0029
2018	2018Surfacing Equipment120	Surfacing Equipment	120	0.0668	0.4072	0.4651	0.0007	0.0334	63.8	0.0060

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2018	2018Surfacing Equipment175	Surfacing Equipment	175	0.0637	0.4677	0.5082	0.0010	0.0257	85.8	0.0058
2018	2018Surfacing Equipment250	Surfacing Equipment	250	0.0733	0.2858	0.7013	0.0015	0.0230	135	0.0066
2018	2018Surfacing Equipment500	Surfacing Equipment	500	0.1120	0.5047	1.0316	0.0022	0.0350	221	0.0101
2018	2018Surfacing Equipment750	Surfacing Equipment	750	0.1782	0.7911	1.6685	0.0035	0.0558	347	0.0161
2018	2018Surfacing Equipment Composite	Surfacing Equipment Composite		0.0923	0.4187	0.8043	0.0017	0.0291	166	0.0083
2018	2018Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2018	2018Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2018	2018Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0522	0.2974	0.2539	0.0004	0.0137	31.6	0.0047
2018	2018Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0647	0.4983	0.4442	0.0009	0.0291	75.0	0.0058
2018	2018Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0966	0.8030	0.6280	0.0016	0.0337	139	0.0087
2018	2018Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0894	0.3218	0.6073	0.0018	0.0204	162	0.0081
2018	2018Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0681	0.4946	0.4308	0.0009	0.0251	78.5	0.0061
2018	2018Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1211	0.0002	0.0046	15.9	0.0017
2018	2018Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0497	0.2839	0.2342	0.0004	0.0121	30.3	0.0045
2018	2018Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0435	0.3426	0.2937	0.0006	0.0184	51.7	0.0039
2018	2018Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0669	0.5845	0.4264	0.0011	0.0218	101	0.0060
2018	2018Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0914	0.3483	0.5964	0.0019	0.0200	172	0.0082
2018	2018Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1788	0.6771	1.0736	0.0039	0.0385	345	0.0161
2018	2018Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.2691	1.0154	1.6525	0.0058	0.0585	517	0.0243
2018	2018Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0513	0.3647	0.3331	0.0008	0.0189	66.8	0.0046
2018	2018Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2018	2018Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2018	2018Trenchers50	Trenchers	50	0.1142	0.3647	0.2965	0.0004	0.0255	32.9	0.0103
2018	2018Trenchers120	Trenchers	120	0.0959	0.4498	0.5899	0.0008	0.0477	64.9	0.0087
2018	2018Trenchers175	Trenchers	175	0.1505	0.8436	1.1021	0.0016	0.0607	144	0.0136
2018	2018Trenchers250	Trenchers	250	0.1783	0.5823	1.5446	0.0025	0.0582	223	0.0161
2018	2018Trenchers500	Trenchers	500	0.2312	0.9564	1.9434	0.0031	0.0740	311	0.0209
2018	2018Trenchers750	Trenchers	750	0.4382	1.7994	3.7533	0.0059	0.1413	587	0.0395
2018	2018Trenchers Composite	Trenchers Composite		0.1061	0.4368	0.5117	0.0007	0.0393	58.7	0.0096
2018	2018Welders15	Welders	15	0.0084	0.0392	0.0522	0.0001	0.0028	6.2	0.0008
2018	2018Welders25	Welders	25	0.0161	0.0504	0.0927	0.0001	0.0047	11.3	0.0015
2018	2018Welders50	Welders	50	0.0563	0.2339	0.2108	0.0003	0.0144	26.0	0.0051
2018	2018Welders120	Welders	120	0.0398	0.2540	0.2787	0.0005	0.0205	39.5	0.0036
2018	2018Welders175	Welders	175	0.0703	0.5400	0.5536	0.0011	0.0283	98.2	0.0063
2018	2018Welders250	Welders	250	0.0617	0.2348	0.5828	0.0013	0.0179	119	0.0056
2018	2018Welders500	Welders	500	0.0825	0.3196	0.7244	0.0016	0.0239	168	0.0074
2018	2018Welders Composite	Welders Composite		0.0388	0.1876	0.1941	0.0003	0.0133	25.6	0.0035
2019	2019Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2019	2019Aerial Lifts25	Aerial Lifts	25	0.0140	0.0463	0.0859	0.0001	0.0037	11.0	0.0013
2019	2019Aerial Lifts50	Aerial Lifts	50	0.0293	0.1466	0.1471	0.0003	0.0081	19.6	0.0026
2019	2019Aerial Lifts120	Aerial Lifts	120	0.0288	0.2304	0.2354	0.0004	0.0146	38.1	0.0026
2019	2019Aerial Lifts500	Aerial Lifts	500	0.0794	0.3843	0.7878	0.0021	0.0243	213	0.0072
2019	2019Aerial Lifts750	Aerial Lifts	750	0.1455	0.6947	1.4582	0.0039	0.0444	385	0.0131
2019	2019Aerial Lifts Composite	Aerial Lifts Composite		0.0288	0.1715	0.2002	0.0004	0.0104	34.7	0.0026
2019	2019Air Compressors15	Air Compressors	15	0.0096	0.0453	0.0593	0.0001	0.0031	7.2	0.0009
2019	2019Air Compressors25	Air Compressors	25	0.0201	0.0638	0.1170	0.0002	0.0057	14.4	0.0018
2019	2019Air Compressors50	Air Compressors	50	0.0450	0.2078	0.1784	0.0003	0.0114	22.3	0.0041
2019	2019Air Compressors120	Air Compressors	120	0.0450	0.3075	0.3081	0.0006	0.0218	47.0	0.0041
2019	2019Air Compressors175	Air Compressors	175	0.0631	0.4991	0.4511	0.0010	0.0237	88.5	0.0057
2019	2019Air Compressors250	Air Compressors	250	0.0707	0.2619	0.5761	0.0015	0.0183	131	0.0064
2019	2019Air Compressors500	Air Compressors	500	0.1203	0.4440	0.9034	0.0023	0.0310	232	0.0109
2019	2019Air Compressors750	Air Compressors	750	0.1867	0.6861	1.4307	0.0036	0.0485	358	0.0168
2019	2019Air Compressors1000	Air Compressors	1000	0.2796	1.0167	3.5067	0.0049	0.0884	486	0.0252
2019	2019Air Compressors Composite	Air Compressors Composite		0.0526	0.3100	0.3577	0.0007	0.0213	63.6	0.0047
2019	2019Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2019	2019Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0045	16.0	0.0017

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2019	2019Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0199	0.2207	0.1818	0.0004	0.0026	31.0	0.0018
2019	2019Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0293	0.4663	0.2501	0.0009	0.0054	77.1	0.0026
2019	2019Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0436	0.7542	0.2336	0.0016	0.0068	141	0.0039
2019	2019Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0502	0.3426	0.2000	0.0021	0.0054	188	0.0045
2019	2019Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0829	0.5512	0.3237	0.0031	0.0088	311	0.0075
2019	2019Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1640	1.0891	0.6432	0.0062	0.0174	615	0.0148
2019	2019Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2597	1.6436	4.0728	0.0093	0.0615	928	0.0234
2019	2019Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0506	0.5009	0.3760	0.0017	0.0078	165	0.0046
2019	2019Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2019	2019Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0227	0.0747	0.1381	0.0002	0.0061	17.6	0.0021
2019	2019Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0086	0.0416	0.0537	0.0001	0.0022	7.2	0.0008
2019	2019Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2019	2019Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0478	0.2469	0.2306	0.0004	0.0129	30.2	0.0043
2019	2019Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0579	0.4633	0.4490	0.0009	0.0288	74.1	0.0052
2019	2019Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0931	0.8661	0.7382	0.0018	0.0363	160	0.0084
2019	2019Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0536	0.3812	0.3669	0.0007	0.0225	58.5	0.0048
2019	2019Cranes50	Cranes	50	0.0587	0.2472	0.1955	0.0003	0.0136	23.2	0.0053
2019	2019Cranes120	Cranes	120	0.0589	0.3465	0.3579	0.0006	0.0272	50.1	0.0053
2019	2019Cranes175	Cranes	175	0.0699	0.4760	0.4536	0.0009	0.0252	80.3	0.0063
2019	2019Cranes250	Cranes	250	0.0745	0.2478	0.5539	0.0013	0.0190	112	0.0067
2019	2019Cranes500	Cranes	500	0.1143	0.3951	0.7861	0.0018	0.0286	180	0.0103
2019	2019Cranes750	Cranes	750	0.1934	0.6644	1.3678	0.0030	0.0490	303	0.0174
2019	2019Cranes9999	Cranes	9999	0.7049	2.2802	7.4207	0.0098	0.1963	971	0.0636
2019	2019Cranes Composite	Cranes Composite		0.0954	0.3982	0.7236	0.0014	0.0286	129	0.0086
2019	2019Crawler Tractors50	Crawler Tractors	50	0.0754	0.2825	0.2172	0.0003	0.0165	24.9	0.0068
2019	2019Crawler Tractors120	Crawler Tractors	120	0.0887	0.4652	0.5230	0.0008	0.0408	65.8	0.0080
2019	2019Crawler Tractors175	Crawler Tractors	175	0.1194	0.7313	0.7820	0.0014	0.0437	121	0.0108
2019	2019Crawler Tractors250	Crawler Tractors	250	0.1258	0.4065	0.9524	0.0019	0.0349	166	0.0114
2019	2019Crawler Tractors500	Crawler Tractors	500	0.1856	0.6914	1.3353	0.0025	0.0502	259	0.0167
2019	2019Crawler Tractors750	Crawler Tractors	750	0.3343	1.2378	2.4593	0.0047	0.0913	465	0.0302
2019	2019Crawler Tractors1000	Crawler Tractors	1000	0.5101	1.9264	5.4669	0.0066	0.1540	658	0.0460
2019	2019Crawler Tractors Composite	Crawler Tractors Composite		0.1115	0.5319	0.7346	0.0013	0.0416	114	0.0101
2019	2019Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0825	0.4118	0.3482	0.0006	0.0209	44.0	0.0074
2019	2019Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0760	0.5471	0.5185	0.0010	0.0353	83.1	0.0069
2019	2019Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.1161	0.9518	0.7948	0.0019	0.0417	167	0.0105
2019	2019Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1312	0.4883	0.9900	0.0028	0.0319	245	0.0118
2019	2019Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1943	0.7148	1.3454	0.0037	0.0468	374	0.0175
2019	2019Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.3049	1.1248	2.1610	0.0059	0.0737	589	0.0275
2019	2019Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.7943	2.7001	9.0361	0.0131	0.2254	1,308	0.0717
2019	2019Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.1011	0.6280	0.6619	0.0015	0.0356	132	0.0091
2019	2019Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0583	0.0001	0.0022	7.6	0.0008
2019	2019Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0583	0.0001	0.0022	7.6	0.0008
2019	2019Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2019	2019Excavators50	Excavators	50	0.0422	0.2480	0.1928	0.0003	0.0094	25.0	0.0038
2019	2019Excavators120	Excavators	120	0.0633	0.4996	0.4050	0.0009	0.0244	73.6	0.0057
2019	2019Excavators175	Excavators	175	0.0759	0.6638	0.4429	0.0013	0.0227	112	0.0068
2019	2019Excavators250	Excavators	250	0.0878	0.3298	0.5187	0.0018	0.0176	159	0.0079
2019	2019Excavators500	Excavators	500	0.1266	0.4632	0.6900	0.0023	0.0250	234	0.0114
2019	2019Excavators750	Excavators	750	0.2100	0.7674	1.1653	0.0039	0.0417	387	0.0189
2019	2019Excavators Composite	Excavators Composite		0.0787	0.5140	0.4575	0.0013	0.0214	120	0.0071
2019	2019Forklifts50	Forklifts	50	0.0207	0.1418	0.1131	0.0002	0.0047	14.7	0.0019
2019	2019Forklifts120	Forklifts	120	0.0243	0.2109	0.1572	0.0004	0.0089	31.2	0.0022
2019	2019Forklifts175	Forklifts	175	0.0364	0.3319	0.2037	0.0006	0.0105	56.1	0.0033
2019	2019Forklifts250	Forklifts	250	0.0412	0.1556	0.2222	0.0009	0.0075	77.1	0.0037
2019	2019Forklifts500	Forklifts	500	0.0586	0.2128	0.2968	0.0011	0.0106	111	0.0053
2019	2019Forklifts Composite	Forklifts Composite		0.0345	0.2166	0.1924	0.0006	0.0085	54.4	0.0031

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2019	2019Generator Sets15	Generator Sets	15	0.0119	0.0641	0.0832	0.0002	0.0041	10.2	0.0011
2019	2019Generator Sets25	Generator Sets	25	0.0228	0.0778	0.1428	0.0002	0.0067	17.6	0.0021
2019	2019Generator Sets50	Generator Sets	50	0.0428	0.2206	0.2274	0.0004	0.0121	30.6	0.0039
2019	2019Generator Sets120	Generator Sets	120	0.0564	0.4663	0.4757	0.0009	0.0287	77.9	0.0051
2019	2019Generator Sets175	Generator Sets	175	0.0734	0.7323	0.6719	0.0016	0.0299	142	0.0066
2019	2019Generator Sets250	Generator Sets	250	0.0798	0.3883	0.8633	0.0024	0.0245	213	0.0072
2019	2019Generator Sets500	Generator Sets	500	0.1192	0.6027	1.2312	0.0033	0.0373	337	0.0108
2019	2019Generator Sets750	Generator Sets	750	0.1955	0.9730	2.0345	0.0055	0.0609	544	0.0176
2019	2019Generator Sets9999	Generator Sets	9999	0.4857	2.0464	7.1075	0.0105	0.1624	1,049	0.0438
2019	2019Generator Sets Composite	Generator Sets Composite		0.0431	0.2755	0.3483	0.0007	0.0169	61.0	0.0039
2019	2019Graders50	Graders	50	0.0617	0.2812	0.2228	0.0004	0.0140	27.5	0.0056
2019	2019Graders120	Graders	120	0.0796	0.5112	0.4929	0.0009	0.0353	75.0	0.0072
2019	2019Graders175	Graders	175	0.0987	0.7288	0.6283	0.0014	0.0343	124	0.0089
2019	2019Graders250	Graders	250	0.1055	0.3726	0.7518	0.0019	0.0257	172	0.0095
2019	2019Graders500	Graders	500	0.1350	0.5072	0.8940	0.0023	0.0322	229	0.0122
2019	2019Graders750	Graders	750	0.2873	1.0731	1.9527	0.0049	0.0694	486	0.0259
2019	2019Graders Composite	Graders Composite		0.0982	0.5787	0.6490	0.0015	0.0316	133	0.0089
2019	2019Off-Highway Tractors120	Off-Highway Tractors	120	0.1537	0.6832	0.8910	0.0011	0.0726	93.7	0.0139
2019	2019Off-Highway Tractors175	Off-Highway Tractors	175	0.1533	0.8053	1.0433	0.0015	0.0588	130	0.0138
2019	2019Off-Highway Tractors250	Off-Highway Tractors	250	0.1210	0.3732	0.9525	0.0015	0.0379	130	0.0109
2019	2019Off-Highway Tractors750	Off-Highway Tractors	750	0.4923	1.9813	3.8379	0.0057	0.1508	568	0.0444
2019	2019Off-Highway Tractors1000	Off-Highway Tractors	1000	0.7478	3.1026	7.7459	0.0082	0.2366	814	0.0675
2019	2019Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1549	0.6634	1.1454	0.0017	0.0537	151	0.0140
2019	2019Off-Highway Trucks175	Off-Highway Trucks	175	0.0904	0.7539	0.5208	0.0014	0.0270	125	0.0082
2019	2019Off-Highway Trucks250	Off-Highway Trucks	250	0.0981	0.3540	0.5797	0.0019	0.0198	167	0.0089
2019	2019Off-Highway Trucks500	Off-Highway Trucks	500	0.1568	0.5502	0.8530	0.0027	0.0310	272	0.0142
2019	2019Off-Highway Trucks750	Off-Highway Trucks	750	0.2547	0.8921	1.4118	0.0044	0.0507	442	0.0230
2019	2019Off-Highway Trucks1000	Off-Highway Trucks	1000	0.3824	1.3098	4.1038	0.0063	0.1001	625	0.0345
2019	2019Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1524	0.5565	0.9348	0.0027	0.0318	260	0.0137
2019	2019Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2019	2019Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2019	2019Other Construction Equipment50	Other Construction Equipment	50	0.0363	0.2299	0.2025	0.0004	0.0092	28.0	0.0033
2019	2019Other Construction Equipment120	Other Construction Equipment	120	0.0545	0.5095	0.4176	0.0009	0.0235	80.9	0.0049
2019	2019Other Construction Equipment175	Other Construction Equipment	175	0.0562	0.5859	0.3912	0.0012	0.0189	107	0.0051
2019	2019Other Construction Equipment500	Other Construction Equipment	500	0.1066	0.4705	0.6985	0.0025	0.0243	254	0.0096
2019	2019Other Construction Equipment Composite	Other Construction Equipment Composite		0.0596	0.3522	0.3972	0.0013	0.0159	123	0.0054
2019	2019Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2019	2019Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2019	2019Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0481	0.2255	0.1804	0.0003	0.0117	21.7	0.0043
2019	2019Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0658	0.4250	0.4154	0.0007	0.0298	62.0	0.0059
2019	2019Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0772	0.5666	0.4991	0.0011	0.0269	95.9	0.0070
2019	2019Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0836	0.2830	0.6051	0.0015	0.0196	136	0.0075
2019	2019Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1584	0.5265	1.0524	0.0026	0.0368	265	0.0143
2019	2019Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.2620	0.8678	1.7772	0.0044	0.0614	437	0.0236
2019	2019Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.3666	1.2089	4.1118	0.0056	0.1068	560	0.0331
2019	2019Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.1044	0.4549	0.7419	0.0016	0.0297	152	0.0094
2019	2019Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0664	0.3109	0.2508	0.0004	0.0162	30.3	0.0060
2019	2019Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0637	0.4135	0.4056	0.0007	0.0291	60.7	0.0058
2019	2019Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0972	0.7172	0.6342	0.0014	0.0342	122	0.0088
2019	2019Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0883	0.3011	0.6467	0.0016	0.0209	145	0.0080
2019	2019Other Material Handling Equipment500	Other Material Handling Equipment	500	0.1130	0.3786	0.7591	0.0019	0.0265	192	0.0102
2019	2019Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.5150	1.5956	5.4382	0.0073	0.1409	741	0.0465
2019	2019Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0983	0.4458	0.7239	0.0015	0.0286	141	0.0089
2019	2019Pavers25	Pavers	25	0.0226	0.0768	0.1430	0.0002	0.0056	18.7	0.0020
2019	2019Pavers50	Pavers	50	0.0899	0.3119	0.2467	0.0004	0.0200	28.0	0.0081
2019	2019Pavers120	Pavers	120	0.0969	0.4833	0.5827	0.0008	0.0466	69.2	0.0087

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2019	2019Pavers175	Pavers	175	0.1290	0.7615	0.8894	0.0014	0.0498	128	0.0116
2019	2019Pavers250	Pavers	250	0.1490	0.4846	1.2101	0.0022	0.0447	194	0.0134
2019	2019Pavers500	Pavers	500	0.1677	0.6576	1.3038	0.0023	0.0493	233	0.0151
2019	2019Pavers Composite	Pavers Composite		0.1053	0.4966	0.5833	0.0009	0.0386	77.9	0.0095
2019	2019Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2019	2019Paving Equipment50	Paving Equipment	50	0.0760	0.2634	0.2103	0.0003	0.0171	23.9	0.0069
2019	2019Paving Equipment120	Paving Equipment	120	0.0756	0.3785	0.4566	0.0006	0.0368	54.5	0.0068
2019	2019Paving Equipment175	Paving Equipment	175	0.1002	0.5958	0.6969	0.0011	0.0391	101	0.0090
2019	2019Paving Equipment250	Paving Equipment	250	0.0911	0.2974	0.7562	0.0014	0.0273	122	0.0082
2019	2019Paving Equipment Composite	Paving Equipment Composite		0.0806	0.4109	0.5172	0.0008	0.0344	68.9	0.0073
2019	2019Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2019	2019Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2019	2019Pressure Washers15	Pressure Washers	15	0.0057	0.0307	0.0399	0.0001	0.0019	4.9	0.0005
2019	2019Pressure Washers25	Pressure Washers	25	0.0092	0.0315	0.0579	0.0001	0.0027	7.1	0.0008
2019	2019Pressure Washers50	Pressure Washers	50	0.0146	0.0873	0.1021	0.0002	0.0047	14.3	0.0013
2019	2019Pressure Washers120	Pressure Washers	120	0.0145	0.1374	0.1404	0.0003	0.0075	24.1	0.0013
2019	2019Pressure Washers Composite	Pressure Washers Composite		0.0092	0.0554	0.0675	0.0001	0.0033	9.4	0.0008
2019	2019Pumps15	Pumps	15	0.0098	0.0466	0.0609	0.0001	0.0032	7.4	0.0009
2019	2019Pumps25	Pumps	25	0.0271	0.0860	0.1579	0.0002	0.0077	19.5	0.0024
2019	2019Pumps50	Pumps	50	0.0523	0.2600	0.2583	0.0004	0.0144	34.3	0.0047
2019	2019Pumps120	Pumps	120	0.0596	0.4736	0.4827	0.0009	0.0302	77.9	0.0054
2019	2019Pumps175	Pumps	175	0.0771	0.7336	0.6737	0.0016	0.0311	140	0.0070
2019	2019Pumps250	Pumps	250	0.0809	0.3738	0.8318	0.0023	0.0242	201	0.0073
2019	2019Pumps500	Pumps	500	0.1312	0.6252	1.2788	0.0034	0.0398	345	0.0118
2019	2019Pumps750	Pumps	750	0.2196	1.0336	2.1645	0.0057	0.0666	571	0.0198
2019	2019Pumps9999	Pumps	9999	0.6578	2.6790	9.2901	0.0136	0.2156	1,355	0.0593
2019	2019Pumps Composite	Pumps Composite		0.0412	0.2695	0.3068	0.0006	0.0166	49.6	0.0037
2019	2019Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2019	2019Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2019	2019Rollers50	Rollers	50	0.0600	0.2489	0.2103	0.0003	0.0143	26.0	0.0054
2019	2019Rollers120	Rollers	120	0.0626	0.3895	0.4094	0.0007	0.0305	59.0	0.0057
2019	2019Rollers175	Rollers	175	0.0834	0.6121	0.5929	0.0012	0.0320	108	0.0075
2019	2019Rollers250	Rollers	250	0.0886	0.3249	0.7347	0.0017	0.0248	153	0.0080
2019	2019Rollers500	Rollers	500	0.1205	0.4743	0.9309	0.0022	0.0331	219	0.0109
2019	2019Rollers Composite	Rollers Composite		0.0632	0.3859	0.4127	0.0008	0.0261	67.0	0.0057
2019	2019Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0577	0.3224	0.2646	0.0004	0.0143	33.9	0.0052
2019	2019Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0539	0.4158	0.3625	0.0007	0.0231	62.4	0.0049
2019	2019Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0844	0.7230	0.5350	0.0014	0.0281	125	0.0076
2019	2019Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0933	0.3470	0.6177	0.0019	0.0208	171	0.0084
2019	2019Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1368	0.4976	0.8334	0.0025	0.0302	257	0.0123
2019	2019Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0579	0.4479	0.3832	0.0008	0.0235	70.3	0.0052
2019	2019Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1591	0.8155	1.0684	0.0015	0.0602	129	0.0144
2019	2019Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1792	0.5451	1.3860	0.0021	0.0559	183	0.0162
2019	2019Rubber Tired Dozers500	Rubber Tired Dozers	500	0.2407	0.9773	1.8134	0.0026	0.0728	265	0.0217
2019	2019Rubber Tired Dozers750	Rubber Tired Dozers	750	0.3635	1.4676	2.7876	0.0040	0.1107	399	0.0328
2019	2019Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.5706	2.3715	5.7623	0.0060	0.1786	592	0.0515
2019	2019Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.2227	0.8388	1.6948	0.0025	0.0682	239	0.0201
2019	2019Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2019	2019Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0675	0.3135	0.2504	0.0004	0.0155	31.1	0.0061
2019	2019Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0609	0.3995	0.3812	0.0007	0.0271	58.9	0.0055
2019	2019Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0825	0.6221	0.5283	0.0012	0.0287	106	0.0074
2019	2019Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0896	0.3194	0.6366	0.0017	0.0218	149	0.0081
2019	2019Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1369	0.5126	0.9018	0.0023	0.0326	237	0.0124
2019	2019Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2819	1.0497	1.9070	0.0049	0.0679	486	0.0254
2019	2019Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.3690	1.3618	4.2187	0.0060	0.1081	594	0.0333
2019	2019Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0805	0.4436	0.5265	0.0012	0.0266	109	0.0073

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2019	2019Scrapers120	Scrapers	120	0.1298	0.6648	0.7651	0.0011	0.0604	93.9	0.0117
2019	2019Scrapers175	Scrapers	175	0.1488	0.8936	0.9840	0.0017	0.0552	148	0.0134
2019	2019Scrapers250	Scrapers	250	0.1610	0.5173	1.2413	0.0024	0.0455	209	0.0145
2019	2019Scrapers500	Scrapers	500	0.2330	0.8785	1.7092	0.0032	0.0643	321	0.0210
2019	2019Scrapers750	Scrapers	750	0.4045	1.5154	3.0335	0.0056	0.1126	555	0.0365
2019	2019Scrapers Composite	Scrapers Composite		0.2021	0.8161	1.4693	0.0027	0.0594	262	0.0182
2019	2019Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2019	2019Signal Boards50	Signal Boards	50	0.0565	0.2890	0.2721	0.0005	0.0150	36.2	0.0051
2019	2019Signal Boards120	Signal Boards	120	0.0617	0.4968	0.4813	0.0009	0.0305	80.2	0.0056
2019	2019Signal Boards175	Signal Boards	175	0.0875	0.8275	0.7074	0.0017	0.0340	155	0.0079
2019	2019Signal Boards250	Signal Boards	250	0.1082	0.4806	0.9949	0.0029	0.0300	255	0.0098
2019	2019Signal Boards Composite	Signal Boards Composite		0.0135	0.0913	0.0967	0.0002	0.0046	16.7	0.0012
2019	2019Skid Steer Loaders25	Skid Steer Loaders	25	0.0173	0.0578	0.1075	0.0002	0.0046	13.8	0.0016
2019	2019Skid Steer Loaders50	Skid Steer Loaders	50	0.0245	0.2019	0.1717	0.0003	0.0053	25.5	0.0022
2019	2019Skid Steer Loaders120	Skid Steer Loaders	120	0.0232	0.2676	0.1796	0.0005	0.0079	42.8	0.0021
2019	2019Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0236	0.2134	0.1700	0.0004	0.0061	30.3	0.0021
2019	2019Surfacing Equipment50	Surfacing Equipment	50	0.0290	0.1215	0.1103	0.0002	0.0070	14.1	0.0026
2019	2019Surfacing Equipment120	Surfacing Equipment	120	0.0617	0.4049	0.4331	0.0007	0.0302	63.8	0.0056
2019	2019Surfacing Equipment175	Surfacing Equipment	175	0.0592	0.4670	0.4609	0.0010	0.0233	85.8	0.0053
2019	2019Surfacing Equipment250	Surfacing Equipment	250	0.0691	0.2801	0.6343	0.0015	0.0208	135	0.0062
2019	2019Surfacing Equipment500	Surfacing Equipment	500	0.1061	0.4875	0.9319	0.0022	0.0317	221	0.0096
2019	2019Surfacing Equipment750	Surfacing Equipment	750	0.1686	0.7643	1.5081	0.0035	0.0507	347	0.0152
2019	2019Surfacing Equipment Composite	Surfacing Equipment Composite		0.0871	0.4061	0.7289	0.0017	0.0264	166	0.0079
2019	2019Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2019	2019Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2019	2019Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0474	0.2937	0.2454	0.0004	0.0117	31.6	0.0043
2019	2019Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0600	0.4973	0.4064	0.0009	0.0250	75.0	0.0054
2019	2019Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0904	0.8041	0.5513	0.0016	0.0295	139	0.0082
2019	2019Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0850	0.3207	0.5231	0.0018	0.0178	162	0.0077
2019	2019Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0632	0.4933	0.3919	0.0009	0.0217	78.5	0.0057
2019	2019Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1210	0.0002	0.0046	15.9	0.0017
2019	2019Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0448	0.2796	0.2257	0.0004	0.0103	30.3	0.0040
2019	2019Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0398	0.3413	0.2687	0.0006	0.0154	51.7	0.0036
2019	2019Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0617	0.5843	0.3708	0.0011	0.0187	101	0.0056
2019	2019Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0861	0.3462	0.5143	0.0019	0.0174	172	0.0078
2019	2019Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1694	0.6700	0.9349	0.0039	0.0337	345	0.0153
2019	2019Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.2545	1.0047	1.4302	0.0058	0.0510	517	0.0230
2019	2019Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0472	0.3630	0.3019	0.0008	0.0160	66.8	0.0043
2019	2019Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2019	2019Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2019	2019Trenchers50	Trenchers	50	0.1064	0.3569	0.2883	0.0004	0.0236	32.9	0.0096
2019	2019Trenchers120	Trenchers	120	0.0903	0.4470	0.5551	0.0008	0.0442	64.9	0.0081
2019	2019Trenchers175	Trenchers	175	0.1424	0.8413	1.0194	0.0016	0.0563	144	0.0128
2019	2019Trenchers250	Trenchers	250	0.1688	0.5637	1.4248	0.0025	0.0533	223	0.0152
2019	2019Trenchers500	Trenchers	500	0.2199	0.9107	1.7915	0.0031	0.0680	311	0.0198
2019	2019Trenchers750	Trenchers	750	0.4166	1.7139	3.4627	0.0059	0.1298	587	0.0376
2019	2019Trenchers Composite	Trenchers Composite		0.0995	0.4317	0.4838	0.0007	0.0364	58.7	0.0090
2019	2019Welders15	Welders	15	0.0082	0.0390	0.0509	0.0001	0.0027	6.2	0.0007
2019	2019Welders25	Welders	25	0.0157	0.0498	0.0914	0.0001	0.0044	11.3	0.0014
2019	2019Welders50	Welders	50	0.0490	0.2271	0.2035	0.0003	0.0126	26.0	0.0044
2019	2019Welders120	Welders	120	0.0354	0.2522	0.2552	0.0005	0.0176	39.5	0.0032
2019	2019Welders175	Welders	175	0.0646	0.5398	0.4934	0.0011	0.0251	98.2	0.0058
2019	2019Welders250	Welders	250	0.0582	0.2319	0.5150	0.0013	0.0159	119	0.0053
2019	2019Welders500	Welders	500	0.0786	0.3149	0.6445	0.0016	0.0215	168	0.0071
2019	2019Welders Composite	Welders Composite		0.0344	0.1843	0.1832	0.0003	0.0117	25.6	0.0031
2020	2020Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009

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2020	2020Aerial Lifts25	Aerial Lifts	25	0.0138	0.0459	0.0854	0.0001	0.0035	11.0	0.0012
2020	2020Aerial Lifts50	Aerial Lifts	50	0.0261	0.1436	0.1422	0.0003	0.0071	19.6	0.0024
2020	2020Aerial Lifts120	Aerial Lifts	120	0.0259	0.2292	0.2166	0.0004	0.0127	38.1	0.0023
2020	2020Aerial Lifts500	Aerial Lifts	500	0.0751	0.3804	0.6959	0.0021	0.0217	213	0.0068
2020	2020Aerial Lifts750	Aerial Lifts	750	0.1373	0.6877	1.2876	0.0039	0.0396	385	0.0124
2020	2020Aerial Lifts Composite	Aerial Lifts Composite		0.0261	0.1696	0.1866	0.0004	0.0092	34.7	0.0024
2020	2020Air Compressors15	Air Compressors	15	0.0093	0.0451	0.0579	0.0001	0.0029	7.2	0.0008
2020	2020Air Compressors25	Air Compressors	25	0.0196	0.0630	0.1155	0.0002	0.0054	14.4	0.0018
2020	2020Air Compressors50	Air Compressors	50	0.0398	0.2030	0.1725	0.0003	0.0099	22.3	0.0036
2020	2020Air Compressors120	Air Compressors	120	0.0408	0.3058	0.2826	0.0006	0.0188	47.0	0.0037
2020	2020Air Compressors175	Air Compressors	175	0.0587	0.4989	0.4013	0.0010	0.0210	88.5	0.0053
2020	2020Air Compressors250	Air Compressors	250	0.0669	0.2592	0.5067	0.0015	0.0163	131	0.0060
2020	2020Air Compressors500	Air Compressors	500	0.1146	0.4395	0.7970	0.0023	0.0276	232	0.0103
2020	2020Air Compressors750	Air Compressors	750	0.1777	0.6792	1.2615	0.0036	0.0432	358	0.0160
2020	2020Air Compressors1000	Air Compressors	1000	0.2641	0.9959	3.2946	0.0049	0.0804	486	0.0238
2020	2020Air Compressors Composite	Air Compressors Composite		0.0483	0.3077	0.3255	0.0007	0.0185	63.6	0.0044
2020	2020Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2020	2020Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2020	2020Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0196	0.2205	0.1756	0.0004	0.0020	31.0	0.0018
2020	2020Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0280	0.4662	0.2329	0.0009	0.0040	77.1	0.0025
2020	2020Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0402	0.7542	0.1862	0.0016	0.0051	141	0.0036
2020	2020Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0474	0.3426	0.1617	0.0021	0.0044	188	0.0043
2020	2020Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0784	0.5512	0.2622	0.0031	0.0072	311	0.0071
2020	2020Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1549	1.0891	0.5202	0.0062	0.0143	615	0.0140
2020	2020Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2442	1.6437	3.9853	0.0093	0.0530	928	0.0220
2020	2020Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0480	0.5008	0.3439	0.0017	0.0062	165	0.0043
2020	2020Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2020	2020Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0223	0.0741	0.1372	0.0002	0.0058	17.6	0.0020
2020	2020Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0086	0.0415	0.0536	0.0001	0.0021	7.2	0.0008
2020	2020Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2020	2020Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0424	0.2420	0.2231	0.0004	0.0113	30.2	0.0038
2020	2020Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0524	0.4613	0.4128	0.0009	0.0249	74.1	0.0047
2020	2020Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0865	0.8662	0.6554	0.0018	0.0323	160	0.0078
2020	2020Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0484	0.3783	0.3410	0.0007	0.0196	58.5	0.0044
2020	2020Cranes50	Cranes	50	0.0532	0.2423	0.1894	0.0003	0.0121	23.2	0.0048
2020	2020Cranes120	Cranes	120	0.0542	0.3446	0.3317	0.0006	0.0240	50.1	0.0049
2020	2020Cranes175	Cranes	175	0.0648	0.4754	0.4071	0.0009	0.0223	80.3	0.0058
2020	2020Cranes250	Cranes	250	0.0704	0.2440	0.4949	0.0013	0.0170	112	0.0064
2020	2020Cranes500	Cranes	500	0.1087	0.3839	0.7047	0.0018	0.0257	180	0.0098
2020	2020Cranes750	Cranes	750	0.1837	0.6455	1.2225	0.0030	0.0439	303	0.0166
2020	2020Cranes9999	Cranes	9999	0.6702	2.1934	7.0436	0.0098	0.1797	971	0.0605
2020	2020Cranes Composite	Cranes Composite		0.0898	0.3917	0.6610	0.0014	0.0256	129	0.0081
2020	2020Crawler Tractors50	Crawler Tractors	50	0.0699	0.2771	0.2107	0.0003	0.0150	24.9	0.0063
2020	2020Crawler Tractors120	Crawler Tractors	120	0.0831	0.4628	0.4896	0.0008	0.0371	65.8	0.0075
2020	2020Crawler Tractors175	Crawler Tractors	175	0.1123	0.7302	0.7150	0.0014	0.0398	121	0.0101
2020	2020Crawler Tractors250	Crawler Tractors	250	0.1188	0.3966	0.8681	0.0019	0.0315	166	0.0107
2020	2020Crawler Tractors500	Crawler Tractors	500	0.1759	0.6665	1.2170	0.0025	0.0455	259	0.0159
2020	2020Crawler Tractors750	Crawler Tractors	750	0.3168	1.1935	2.2429	0.0047	0.0828	465	0.0286
2020	2020Crawler Tractors1000	Crawler Tractors	1000	0.4836	1.8458	5.2162	0.0066	0.1425	658	0.0436
2020	2020Crawler Tractors Composite	Crawler Tractors Composite		0.1049	0.5260	0.6772	0.0013	0.0378	114	0.0095
2020	2020Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0734	0.4036	0.3367	0.0006	0.0181	44.0	0.0066
2020	2020Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0692	0.5446	0.4754	0.0010	0.0302	83.1	0.0062
2020	2020Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.1083	0.9519	0.7042	0.0019	0.0368	167	0.0098
2020	2020Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1245	0.4844	0.8670	0.0028	0.0282	245	0.0112
2020	2020Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1852	0.7092	1.1829	0.0037	0.0416	374	0.0167
2020	2020Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2912	1.1167	1.9026	0.0059	0.0655	589	0.0263

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2020	2020Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.7584	2.6528	8.5119	0.0131	0.2049	1,308	0.0684
2020	2020Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0934	0.6247	0.5983	0.0015	0.0310	132	0.0084
2020	2020Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0582	0.0001	0.0022	7.6	0.0008
2020	2020Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0582	0.0001	0.0022	7.6	0.0008
2020	2020Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2020	2020Excavators50	Excavators	50	0.0384	0.2446	0.1862	0.0003	0.0080	25.0	0.0035
2020	2020Excavators120	Excavators	120	0.0583	0.4979	0.3717	0.0009	0.0206	73.6	0.0053
2020	2020Excavators175	Excavators	175	0.0703	0.6637	0.3868	0.0013	0.0195	112	0.0063
2020	2020Excavators250	Excavators	250	0.0828	0.3276	0.4493	0.0018	0.0154	159	0.0075
2020	2020Excavators500	Excavators	500	0.1198	0.4591	0.6028	0.0023	0.0219	234	0.0108
2020	2020Excavators750	Excavators	750	0.1987	0.7606	1.0153	0.0039	0.0365	387	0.0179
2020	2020Excavators Composite	Excavators Composite		0.0733	0.5124	0.4042	0.0013	0.0184	120	0.0066
2020	2020Forklifts50	Forklifts	50	0.0191	0.1400	0.1084	0.0002	0.0039	14.7	0.0017
2020	2020Forklifts120	Forklifts	120	0.0225	0.2102	0.1443	0.0004	0.0074	31.2	0.0020
2020	2020Forklifts175	Forklifts	175	0.0336	0.3315	0.1772	0.0006	0.0087	56.1	0.0030
2020	2020Forklifts250	Forklifts	250	0.0385	0.1554	0.1887	0.0009	0.0062	77.1	0.0035
2020	2020Forklifts500	Forklifts	500	0.0548	0.2126	0.2528	0.0011	0.0088	111	0.0049
2020	2020Forklifts Composite	Forklifts Composite		0.0320	0.2160	0.1691	0.0006	0.0070	54.4	0.0029
2020	2020Generator Sets15	Generator Sets	15	0.0116	0.0638	0.0814	0.0002	0.0038	10.2	0.0011
2020	2020Generator Sets25	Generator Sets	25	0.0224	0.0769	0.1410	0.0002	0.0064	17.6	0.0020
2020	2020Generator Sets50	Generator Sets	50	0.0379	0.2161	0.2199	0.0004	0.0106	30.6	0.0034
2020	2020Generator Sets120	Generator Sets	120	0.0506	0.4641	0.4378	0.0009	0.0250	77.9	0.0046
2020	2020Generator Sets175	Generator Sets	175	0.0676	0.7323	0.5990	0.0016	0.0266	142	0.0061
2020	2020Generator Sets250	Generator Sets	250	0.0747	0.3844	0.7614	0.0024	0.0218	213	0.0067
2020	2020Generator Sets500	Generator Sets	500	0.1125	0.5968	1.0874	0.0033	0.0333	337	0.0102
2020	2020Generator Sets750	Generator Sets	750	0.1842	0.9634	1.7962	0.0055	0.0544	544	0.0166
2020	2020Generator Sets9999	Generator Sets	9999	0.4502	2.0059	6.6947	0.0105	0.1476	1,049	0.0406
2020	2020Generator Sets Composite	Generator Sets Composite		0.0395	0.2732	0.3232	0.0007	0.0150	61.0	0.0036
2020	2020Graders50	Graders	50	0.0563	0.2762	0.2156	0.0004	0.0124	27.5	0.0051
2020	2020Graders120	Graders	120	0.0738	0.5090	0.4568	0.0009	0.0311	75.0	0.0067
2020	2020Graders175	Graders	175	0.0918	0.7282	0.5622	0.0014	0.0303	124	0.0083
2020	2020Graders250	Graders	250	0.0999	0.3683	0.6701	0.0019	0.0230	172	0.0090
2020	2020Graders500	Graders	500	0.1284	0.4966	0.7982	0.0023	0.0288	229	0.0116
2020	2020Graders750	Graders	750	0.2731	1.0508	1.7425	0.0049	0.0621	486	0.0246
2020	2020Graders Composite	Graders Composite		0.0919	0.5765	0.5823	0.0015	0.0280	133	0.0083
2020	2020Off-Highway Tractors120	Off-Highway Tractors	120	0.1455	0.6789	0.8421	0.0011	0.0674	93.7	0.0131
2020	2020Off-Highway Tractors175	Off-Highway Tractors	175	0.1455	0.8025	0.9712	0.0015	0.0547	130	0.0131
2020	2020Off-Highway Tractors250	Off-Highway Tractors	250	0.1147	0.3614	0.8843	0.0015	0.0348	130	0.0103
2020	2020Off-Highway Tractors750	Off-Highway Tractors	750	0.4683	1.8825	3.5643	0.0057	0.1391	568	0.0423
2020	2020Off-Highway Tractors1000	Off-Highway Tractors	1000	0.7129	2.9445	7.4279	0.0082	0.2214	814	0.0643
2020	2020Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1470	0.6517	1.0657	0.0017	0.0497	151	0.0133
2020	2020Off-Highway Trucks175	Off-Highway Trucks	175	0.0837	0.7538	0.4564	0.0014	0.0234	125	0.0076
2020	2020Off-Highway Trucks250	Off-Highway Trucks	250	0.0927	0.3514	0.5042	0.0019	0.0173	167	0.0084
2020	2020Off-Highway Trucks500	Off-Highway Trucks	500	0.1488	0.5446	0.7481	0.0027	0.0273	272	0.0134
2020	2020Off-Highway Trucks750	Off-Highway Trucks	750	0.2416	0.8831	1.2347	0.0044	0.0446	442	0.0218
2020	2020Off-Highway Trucks1000	Off-Highway Trucks	1000	0.3613	1.2913	3.8920	0.0063	0.0903	625	0.0326
2020	2020Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1443	0.5514	0.8306	0.0027	0.0280	260	0.0130
2020	2020Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2020	2020Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2020	2020Other Construction Equipment50	Other Construction Equipment	50	0.0328	0.2267	0.1956	0.0004	0.0078	28.0	0.0030
2020	2020Other Construction Equipment120	Other Construction Equipment	120	0.0501	0.5080	0.3835	0.0009	0.0199	80.9	0.0045
2020	2020Other Construction Equipment175	Other Construction Equipment	175	0.0524	0.5859	0.3414	0.0012	0.0164	107	0.0047
2020	2020Other Construction Equipment500	Other Construction Equipment	500	0.1012	0.4676	0.6065	0.0025	0.0212	254	0.0091
2020	2020Other Construction Equipment Composite	Other Construction Equipment Composite		0.0563	0.3508	0.3519	0.0013	0.0139	122	0.0051
2020	2020Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2020	2020Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017

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2020	2020Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0431	0.2211	0.1744	0.0003	0.0101	21.7	0.0039
2020	2020Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0602	0.4232	0.3810	0.0007	0.0256	62.0	0.0054
2020	2020Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0721	0.5668	0.4439	0.0011	0.0237	95.9	0.0065
2020	2020Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0791	0.2804	0.5318	0.0015	0.0173	136	0.0071
2020	2020Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1506	0.5217	0.9276	0.0026	0.0326	265	0.0136
2020	2020Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.2490	0.8599	1.5657	0.0044	0.0543	437	0.0225
2020	2020Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.3467	1.1855	3.8628	0.0056	0.0969	560	0.0313
2020	2020Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0983	0.4517	0.6661	0.0016	0.0262	152	0.0089
2020	2020Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0595	0.3049	0.2425	0.0004	0.0141	30.3	0.0054
2020	2020Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0583	0.4117	0.3720	0.0007	0.0250	60.7	0.0053
2020	2020Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0907	0.7176	0.5642	0.0014	0.0301	122	0.0082
2020	2020Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0836	0.2984	0.5684	0.0016	0.0185	145	0.0075
2020	2020Other Material Handling Equipment500	Other Material Handling Equipment	500	0.1074	0.3752	0.6692	0.0019	0.0235	192	0.0097
2020	2020Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.4910	1.5647	5.1082	0.0073	0.1280	741	0.0443
2020	2020Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0924	0.4429	0.6500	0.0015	0.0252	141	0.0083
2020	2020Pavers25	Pavers	25	0.0225	0.0768	0.1427	0.0002	0.0055	18.7	0.0020
2020	2020Pavers50	Pavers	50	0.0834	0.3055	0.2398	0.0004	0.0184	28.0	0.0075
2020	2020Pavers120	Pavers	120	0.0910	0.4805	0.5471	0.0008	0.0428	69.2	0.0082
2020	2020Pavers175	Pavers	175	0.1217	0.7599	0.8187	0.0014	0.0459	128	0.0110
2020	2020Pavers250	Pavers	250	0.1411	0.4713	1.1106	0.0022	0.0407	194	0.0127
2020	2020Pavers500	Pavers	500	0.1595	0.6305	1.1959	0.0023	0.0450	233	0.0144
2020	2020Pavers Composite	Pavers Composite		0.0989	0.4920	0.5450	0.0009	0.0355	77.9	0.0089
2020	2020Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2020	2020Paving Equipment50	Paving Equipment	50	0.0702	0.2577	0.2043	0.0003	0.0157	23.9	0.0063
2020	2020Paving Equipment120	Paving Equipment	120	0.0708	0.3762	0.4280	0.0006	0.0337	54.5	0.0064
2020	2020Paving Equipment175	Paving Equipment	175	0.0944	0.5945	0.6403	0.0011	0.0360	101	0.0085
2020	2020Paving Equipment250	Paving Equipment	250	0.0864	0.2894	0.6928	0.0014	0.0249	122	0.0078
2020	2020Paving Equipment Composite	Paving Equipment Composite		0.0757	0.4084	0.4807	0.0008	0.0315	68.9	0.0068
2020	2020Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2020	2020Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2020	2020Pressure Washers15	Pressure Washers	15	0.0056	0.0305	0.0390	0.0001	0.0018	4.9	0.0005
2020	2020Pressure Washers25	Pressure Washers	25	0.0091	0.0312	0.0572	0.0001	0.0026	7.1	0.0008
2020	2020Pressure Washers50	Pressure Washers	50	0.0128	0.0856	0.0986	0.0002	0.0041	14.3	0.0012
2020	2020Pressure Washers120	Pressure Washers	120	0.0128	0.1367	0.1293	0.0003	0.0065	24.1	0.0012
2020	2020Pressure Washers Composite	Pressure Washers Composite		0.0085	0.0549	0.0650	0.0001	0.0030	9.4	0.0008
2020	2020Pumps15	Pumps	15	0.0096	0.0464	0.0595	0.0001	0.0030	7.4	0.0009
2020	2020Pumps25	Pumps	25	0.0265	0.0850	0.1558	0.0002	0.0073	19.5	0.0024
2020	2020Pumps50	Pumps	50	0.0465	0.2546	0.2497	0.0004	0.0126	34.3	0.0042
2020	2020Pumps120	Pumps	120	0.0537	0.4713	0.4442	0.0009	0.0263	77.9	0.0048
2020	2020Pumps175	Pumps	175	0.0712	0.7336	0.6007	0.0016	0.0277	140	0.0064
2020	2020Pumps250	Pumps	250	0.0760	0.3700	0.7338	0.0023	0.0215	201	0.0069
2020	2020Pumps500	Pumps	500	0.1241	0.6189	1.1297	0.0034	0.0355	345	0.0112
2020	2020Pumps750	Pumps	750	0.2075	1.0232	1.9114	0.0057	0.0594	571	0.0187
2020	2020Pumps9999	Pumps	9999	0.6127	2.6255	8.7489	0.0136	0.1961	1,355	0.0553
2020	2020Pumps Composite	Pumps Composite		0.0376	0.2674	0.2854	0.0006	0.0147	49.6	0.0034
2020	2020Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2020	2020Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2020	2020Rollers50	Rollers	50	0.0543	0.2436	0.2039	0.0003	0.0128	26.0	0.0049
2020	2020Rollers120	Rollers	120	0.0576	0.3873	0.3799	0.0007	0.0270	59.0	0.0052
2020	2020Rollers175	Rollers	175	0.0774	0.6114	0.5331	0.0012	0.0286	108	0.0070
2020	2020Rollers250	Rollers	250	0.0842	0.3201	0.6581	0.0017	0.0223	153	0.0076
2020	2020Rollers500	Rollers	500	0.1151	0.4607	0.8354	0.0022	0.0299	219	0.0104
2020	2020Rollers Composite	Rollers Composite		0.0584	0.3837	0.3793	0.0008	0.0232	67.0	0.0053
2020	2020Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0520	0.3171	0.2556	0.0004	0.0122	33.9	0.0047
2020	2020Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0495	0.4142	0.3326	0.0007	0.0197	62.4	0.0045
2020	2020Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0788	0.7229	0.4710	0.0014	0.0245	125	0.0071

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2020	2020Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0881	0.3442	0.5378	0.0019	0.0182	171	0.0079
2020	2020Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1296	0.4936	0.7287	0.0025	0.0265	257	0.0117
2020	2020Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0533	0.4464	0.3494	0.0008	0.0201	70.3	0.0048
2020	2020Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1509	0.8124	0.9962	0.0015	0.0561	129	0.0136
2020	2020Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1701	0.5279	1.2898	0.0021	0.0516	183	0.0153
2020	2020Rubber Tired Dozers500	Rubber Tired Dozers	500	0.2291	0.9276	1.6868	0.0026	0.0673	265	0.0207
2020	2020Rubber Tired Dozers750	Rubber Tired Dozers	750	0.3461	1.3934	2.5948	0.0040	0.1024	399	0.0312
2020	2020Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.5438	2.2500	5.5311	0.0060	0.1672	592	0.0491
2020	2020Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.2118	0.8006	1.5773	0.0025	0.0630	239	0.0191
2020	2020Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2020	2020Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0615	0.3080	0.2424	0.0004	0.0137	31.1	0.0055
2020	2020Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0563	0.3977	0.3529	0.0007	0.0237	58.9	0.0051
2020	2020Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0767	0.6215	0.4713	0.0012	0.0253	106	0.0069
2020	2020Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0848	0.3159	0.5655	0.0017	0.0194	149	0.0077
2020	2020Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1302	0.5016	0.8032	0.0023	0.0291	237	0.0118
2020	2020Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2680	1.0271	1.6958	0.0049	0.0606	486	0.0242
2020	2020Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.3484	1.3166	4.0040	0.0060	0.0983	594	0.0314
2020	2020Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0753	0.4406	0.4747	0.0012	0.0235	109	0.0068
2020	2020Scrapers120	Scrapers	120	0.1218	0.6612	0.7170	0.0011	0.0551	93.9	0.0110
2020	2020Scrapers175	Scrapers	175	0.1400	0.8921	0.9020	0.0017	0.0505	148	0.0126
2020	2020Scrapers250	Scrapers	250	0.1522	0.5044	1.1344	0.0024	0.0412	209	0.0137
2020	2020Scrapers500	Scrapers	500	0.2211	0.8455	1.5615	0.0032	0.0584	321	0.0200
2020	2020Scrapers750	Scrapers	750	0.3839	1.4588	2.7734	0.0056	0.1024	555	0.0346
2020	2020Scrapers Composite	Scrapers Composite		0.1914	0.7938	1.3434	0.0027	0.0541	262	0.0173
2020	2020Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2020	2020Signal Boards50	Signal Boards	50	0.0502	0.2833	0.2631	0.0005	0.0131	36.2	0.0045
2020	2020Signal Boards120	Signal Boards	120	0.0558	0.4946	0.4424	0.0009	0.0264	80.2	0.0050
2020	2020Signal Boards175	Signal Boards	175	0.0811	0.8276	0.6279	0.0017	0.0302	155	0.0073
2020	2020Signal Boards250	Signal Boards	250	0.1022	0.4765	0.8737	0.0029	0.0266	255	0.0092
2020	2020Signal Boards Composite	Signal Boards Composite		0.0129	0.0912	0.0912	0.0002	0.0042	16.7	0.0012
2020	2020Skid Steer Loaders25	Skid Steer Loaders	25	0.0171	0.0575	0.1070	0.0002	0.0044	13.8	0.0015
2020	2020Skid Steer Loaders50	Skid Steer Loaders	50	0.0230	0.2006	0.1655	0.0003	0.0043	25.5	0.0021
2020	2020Skid Steer Loaders120	Skid Steer Loaders	120	0.0218	0.2673	0.1647	0.0005	0.0064	42.8	0.0020
2020	2020Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0222	0.2125	0.1614	0.0004	0.0050	30.3	0.0020
2020	2020Surfacing Equipment50	Surfacing Equipment	50	0.0265	0.1191	0.1069	0.0002	0.0063	14.1	0.0024
2020	2020Surfacing Equipment120	Surfacing Equipment	120	0.0570	0.4028	0.4035	0.0007	0.0271	63.8	0.0051
2020	2020Surfacing Equipment175	Surfacing Equipment	175	0.0550	0.4663	0.4168	0.0010	0.0210	85.8	0.0050
2020	2020Surfacing Equipment250	Surfacing Equipment	250	0.0652	0.2754	0.5719	0.0015	0.0188	135	0.0059
2020	2020Surfacing Equipment500	Surfacing Equipment	500	0.1008	0.4728	0.8400	0.0022	0.0288	221	0.0091
2020	2020Surfacing Equipment750	Surfacing Equipment	750	0.1599	0.7413	1.3593	0.0035	0.0459	347	0.0144
2020	2020Surfacing Equipment Composite	Surfacing Equipment Composite		0.0823	0.3953	0.6593	0.0017	0.0239	166	0.0074
2020	2020Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2020	2020Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2020	2020Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0430	0.2898	0.2365	0.0004	0.0098	31.6	0.0039
2020	2020Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0555	0.4959	0.3694	0.0009	0.0210	75.0	0.0050
2020	2020Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0845	0.8043	0.4869	0.0016	0.0253	139	0.0076
2020	2020Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0803	0.3198	0.4530	0.0018	0.0152	162	0.0072
2020	2020Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0584	0.4916	0.3563	0.0009	0.0183	78.5	0.0053
2020	2020Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0046	15.9	0.0017
2020	2020Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0407	0.2760	0.2179	0.0004	0.0087	30.3	0.0037
2020	2020Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0366	0.3402	0.2466	0.0006	0.0129	51.7	0.0033
2020	2020Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0571	0.5841	0.3220	0.0011	0.0159	101	0.0052
2020	2020Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0813	0.3445	0.4427	0.0019	0.0151	172	0.0073
2020	2020Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1606	0.6642	0.8132	0.0039	0.0294	345	0.0145
2020	2020Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.2409	0.9959	1.2387	0.0058	0.0443	517	0.0217
2020	2020Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0436	0.3616	0.2744	0.0008	0.0134	66.8	0.0039

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2020	2020Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2020	2020Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2020	2020Trenchers50	Trenchers	50	0.0990	0.3495	0.2804	0.0004	0.0218	32.9	0.0089
2020	2020Trenchers120	Trenchers	120	0.0849	0.4443	0.5223	0.0008	0.0408	64.9	0.0077
2020	2020Trenchers175	Trenchers	175	0.1346	0.8393	0.9412	0.0016	0.0521	144	0.0121
2020	2020Trenchers250	Trenchers	250	0.1600	0.5472	1.3120	0.0025	0.0487	223	0.0144
2020	2020Trenchers500	Trenchers	500	0.2092	0.8710	1.6487	0.0031	0.0623	311	0.0189
2020	2020Trenchers750	Trenchers	750	0.3964	1.6395	3.1894	0.0059	0.1191	587	0.0358
2020	2020Trenchers Composite	Trenchers Composite		0.0933	0.4270	0.4575	0.0007	0.0336	58.7	0.0084
2020	2020Welders15	Welders	15	0.0080	0.0388	0.0498	0.0001	0.0025	6.2	0.0007
2020	2020Welders25	Welders	25	0.0153	0.0492	0.0903	0.0001	0.0042	11.3	0.0014
2020	2020Welders50	Welders	50	0.0435	0.2219	0.1968	0.0003	0.0110	26.0	0.0039
2020	2020Welders120	Welders	120	0.0321	0.2508	0.2344	0.0005	0.0153	39.5	0.0029
2020	2020Welders175	Welders	175	0.0600	0.5396	0.4393	0.0011	0.0223	98.2	0.0054
2020	2020Welders250	Welders	250	0.0551	0.2294	0.4536	0.0013	0.0142	119	0.0050
2020	2020Welders500	Welders	500	0.0748	0.3117	0.5690	0.0016	0.0192	168	0.0067
2020	2020Welders Composite	Welders Composite		0.0310	0.1816	0.1735	0.0003	0.0102	25.6	0.0028
2021	2021Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2021	2021Aerial Lifts25	Aerial Lifts	25	0.0136	0.0456	0.0849	0.0001	0.0034	11.0	0.0012
2021	2021Aerial Lifts50	Aerial Lifts	50	0.0233	0.1405	0.1369	0.0003	0.0061	19.6	0.0021
2021	2021Aerial Lifts120	Aerial Lifts	120	0.0234	0.2280	0.1978	0.0004	0.0110	38.1	0.0021
2021	2021Aerial Lifts500	Aerial Lifts	500	0.0703	0.3769	0.6021	0.0021	0.0189	213	0.0063
2021	2021Aerial Lifts750	Aerial Lifts	750	0.1283	0.6813	1.1121	0.0039	0.0346	385	0.0116
2021	2021Aerial Lifts Composite	Aerial Lifts Composite		0.0238	0.1677	0.1726	0.0004	0.0080	34.7	0.0021
2021	2021Air Compressors15	Air Compressors	15	0.0092	0.0449	0.0569	0.0001	0.0027	7.2	0.0008
2021	2021Air Compressors25	Air Compressors	25	0.0192	0.0623	0.1145	0.0002	0.0052	14.4	0.0017
2021	2021Air Compressors50	Air Compressors	50	0.0355	0.1979	0.1659	0.0003	0.0085	22.3	0.0032
2021	2021Air Compressors120	Air Compressors	120	0.0371	0.3037	0.2570	0.0006	0.0160	47.0	0.0033
2021	2021Air Compressors175	Air Compressors	175	0.0541	0.4975	0.3498	0.0010	0.0183	88.5	0.0049
2021	2021Air Compressors250	Air Compressors	250	0.0626	0.2564	0.4359	0.0015	0.0141	131	0.0056
2021	2021Air Compressors500	Air Compressors	500	0.1075	0.4350	0.6881	0.0023	0.0240	232	0.0097
2021	2021Air Compressors750	Air Compressors	750	0.1667	0.6723	1.0871	0.0036	0.0376	358	0.0150
2021	2021Air Compressors1000	Air Compressors	1000	0.2459	0.9751	3.0739	0.0049	0.0717	486	0.0222
2021	2021Air Compressors Composite	Air Compressors Composite		0.0442	0.3051	0.2928	0.0007	0.0158	63.6	0.0040
2021	2021Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2021	2021Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2021	2021Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0193	0.2202	0.1710	0.0004	0.0015	31.0	0.0017
2021	2021Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0269	0.4661	0.2191	0.0009	0.0030	77.1	0.0024
2021	2021Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0373	0.7542	0.1473	0.0016	0.0039	141	0.0034
2021	2021Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0456	0.3426	0.1364	0.0021	0.0041	188	0.0041
2021	2021Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0753	0.5512	0.2223	0.0031	0.0068	311	0.0068
2021	2021Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1488	1.0889	0.4398	0.0062	0.0134	615	0.0134
2021	2021Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2329	1.6434	3.9539	0.0093	0.0472	928	0.0210
2021	2021Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0460	0.5007	0.3219	0.0017	0.0053	165	0.0042
2021	2021Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2021	2021Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0220	0.0736	0.1365	0.0002	0.0056	17.6	0.0020
2021	2021Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0086	0.0415	0.0535	0.0001	0.0021	7.2	0.0008
2021	2021Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2021	2021Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0384	0.2382	0.2160	0.0004	0.0098	30.2	0.0035
2021	2021Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0483	0.4598	0.3802	0.0009	0.0217	74.1	0.0044
2021	2021Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0808	0.8662	0.5793	0.0018	0.0286	160	0.0073
2021	2021Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0444	0.3761	0.3176	0.0007	0.0171	58.5	0.0040
2021	2021Cranes50	Cranes	50	0.0483	0.2377	0.1837	0.0003	0.0107	23.2	0.0044
2021	2021Cranes120	Cranes	120	0.0499	0.3428	0.3072	0.0006	0.0210	50.1	0.0045
2021	2021Cranes175	Cranes	175	0.0601	0.4750	0.3641	0.0009	0.0197	80.3	0.0054
2021	2021Cranes250	Cranes	250	0.0667	0.2407	0.4404	0.0013	0.0152	112	0.0060

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2021	2021Cranes500	Cranes	500	0.1035	0.3747	0.6303	0.0018	0.0231	180	0.0093
2021	2021Cranes750	Cranes	750	0.1746	0.6301	1.0891	0.0030	0.0393	303	0.0158
2021	2021Cranes9999	Cranes	9999	0.6375	2.1272	6.6964	0.0098	0.1645	971	0.0575
2021	2021Cranes Composite	Cranes Composite		0.0846	0.3865	0.6033	0.0014	0.0229	129	0.0076
2021	2021Crawler Tractors50	Crawler Tractors	50	0.0649	0.2722	0.2046	0.0003	0.0136	24.9	0.0059
2021	2021Crawler Tractors120	Crawler Tractors	120	0.0780	0.4606	0.4585	0.0008	0.0336	65.8	0.0070
2021	2021Crawler Tractors175	Crawler Tractors	175	0.1054	0.7292	0.6524	0.0014	0.0362	121	0.0095
2021	2021Crawler Tractors250	Crawler Tractors	250	0.1123	0.3881	0.7899	0.0019	0.0285	166	0.0101
2021	2021Crawler Tractors500	Crawler Tractors	500	0.1669	0.6452	1.1075	0.0025	0.0412	259	0.0151
2021	2021Crawler Tractors750	Crawler Tractors	750	0.3006	1.1555	2.0421	0.0047	0.0750	465	0.0271
2021	2021Crawler Tractors1000	Crawler Tractors	1000	0.4584	1.7742	4.9834	0.0066	0.1317	658	0.0414
2021	2021Crawler Tractors Composite	Crawler Tractors Composite		0.0988	0.5208	0.6239	0.0013	0.0343	114	0.0089
2021	2021Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0668	0.3978	0.3262	0.0006	0.0156	44.0	0.0060
2021	2021Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0641	0.5430	0.4374	0.0010	0.0261	83.1	0.0058
2021	2021Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.1015	0.9522	0.6223	0.0019	0.0324	167	0.0092
2021	2021Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1182	0.4815	0.7556	0.0028	0.0248	245	0.0107
2021	2021Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1765	0.7050	1.0353	0.0037	0.0366	374	0.0159
2021	2021Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2779	1.1108	1.6653	0.0059	0.0578	589	0.0251
2021	2021Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.7241	2.6136	8.0264	0.0131	0.1854	1,308	0.0653
2021	2021Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0872	0.6224	0.5412	0.0015	0.0270	132	0.0079
2021	2021Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2021	2021Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2021	2021Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2021	2021Excavators50	Excavators	50	0.0356	0.2421	0.1802	0.0003	0.0068	25.0	0.0032
2021	2021Excavators120	Excavators	120	0.0543	0.4967	0.3429	0.0009	0.0174	73.6	0.0049
2021	2021Excavators175	Excavators	175	0.0655	0.6637	0.3377	0.0013	0.0168	112	0.0059
2021	2021Excavators250	Excavators	250	0.0783	0.3258	0.3891	0.0018	0.0134	159	0.0071
2021	2021Excavators500	Excavators	500	0.1137	0.4561	0.5254	0.0023	0.0191	234	0.0103
2021	2021Excavators750	Excavators	750	0.1885	0.7559	0.8840	0.0039	0.0319	387	0.0170
2021	2021Excavators Composite	Excavators Composite		0.0687	0.5113	0.3577	0.0013	0.0158	120	0.0062
2021	2021Forklifts50	Forklifts	50	0.0175	0.1376	0.1034	0.0002	0.0032	14.7	0.0016
2021	2021Forklifts120	Forklifts	120	0.0207	0.2091	0.1321	0.0004	0.0059	31.2	0.0019
2021	2021Forklifts175	Forklifts	175	0.0305	0.3303	0.1503	0.0006	0.0069	56.1	0.0027
2021	2021Forklifts250	Forklifts	250	0.0354	0.1548	0.1554	0.0009	0.0050	77.1	0.0032
2021	2021Forklifts500	Forklifts	500	0.0506	0.2120	0.2091	0.0011	0.0070	111	0.0046
2021	2021Forklifts Composite	Forklifts Composite		0.0294	0.2148	0.1459	0.0006	0.0056	54.4	0.0027
2021	2021Generator Sets15	Generator Sets	15	0.0114	0.0635	0.0800	0.0002	0.0036	10.2	0.0010
2021	2021Generator Sets25	Generator Sets	25	0.0221	0.0761	0.1397	0.0002	0.0061	17.6	0.0020
2021	2021Generator Sets50	Generator Sets	50	0.0338	0.2115	0.2116	0.0004	0.0091	30.6	0.0030
2021	2021Generator Sets120	Generator Sets	120	0.0456	0.4617	0.3996	0.0009	0.0215	77.9	0.0041
2021	2021Generator Sets175	Generator Sets	175	0.0617	0.7313	0.5233	0.0016	0.0233	142	0.0056
2021	2021Generator Sets250	Generator Sets	250	0.0694	0.3807	0.6568	0.0024	0.0190	213	0.0063
2021	2021Generator Sets500	Generator Sets	500	0.1052	0.5913	0.9401	0.0033	0.0291	337	0.0095
2021	2021Generator Sets750	Generator Sets	750	0.1717	0.9545	1.5502	0.0055	0.0475	544	0.0155
2021	2021Generator Sets9999	Generator Sets	9999	0.4120	1.9665	6.2664	0.0105	0.1316	1,049	0.0372
2021	2021Generator Sets Composite	Generator Sets Composite		0.0363	0.2708	0.2978	0.0007	0.0131	61.0	0.0033
2021	2021Graders50	Graders	50	0.0516	0.2718	0.2089	0.0004	0.0109	27.5	0.0047
2021	2021Graders120	Graders	120	0.0684	0.5069	0.4241	0.0009	0.0272	75.0	0.0062
2021	2021Graders175	Graders	175	0.0854	0.7277	0.5015	0.0014	0.0267	124	0.0077
2021	2021Graders250	Graders	250	0.0947	0.3647	0.5955	0.0019	0.0205	172	0.0085
2021	2021Graders500	Graders	500	0.1222	0.4875	0.7112	0.0023	0.0258	229	0.0110
2021	2021Graders750	Graders	750	0.2598	1.0314	1.5507	0.0049	0.0555	486	0.0234
2021	2021Graders Composite	Graders Composite		0.0861	0.5747	0.5213	0.0015	0.0247	133	0.0078
2021	2021Off-Highway Tractors120	Off-Highway Tractors	120	0.1378	0.6749	0.7959	0.0011	0.0626	93.7	0.0124
2021	2021Off-Highway Tractors175	Off-Highway Tractors	175	0.1379	0.8000	0.9027	0.0015	0.0507	130	0.0124
2021	2021Off-Highway Tractors250	Off-Highway Tractors	250	0.1087	0.3507	0.8198	0.0015	0.0320	130	0.0098

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2021	2021Off-Highway Tractors750	Off-Highway Tractors	750	0.4454	1.7945	3.3054	0.0057	0.1282	568	0.0402
2021	2021Off-Highway Tractors1000	Off-Highway Tractors	1000	0.6794	2.8019	7.1274	0.0082	0.2070	814	0.0613
2021	2021Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1394	0.6413	0.9902	0.0017	0.0459	151	0.0126
2021	2021Off-Highway Trucks175	Off-Highway Trucks	175	0.0782	0.7537	0.4000	0.0014	0.0203	125	0.0071
2021	2021Off-Highway Trucks250	Off-Highway Trucks	250	0.0879	0.3493	0.4383	0.0019	0.0151	167	0.0079
2021	2021Off-Highway Trucks500	Off-Highway Trucks	500	0.1415	0.5407	0.6543	0.0027	0.0240	272	0.0128
2021	2021Off-Highway Trucks750	Off-Highway Trucks	750	0.2297	0.8769	1.0788	0.0044	0.0391	442	0.0207
2021	2021Off-Highway Trucks1000	Off-Highway Trucks	1000	0.3421	1.2771	3.7016	0.0063	0.0814	625	0.0309
2021	2021Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1370	0.5476	0.7382	0.0027	0.0246	260	0.0124
2021	2021Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2021	2021Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2021	2021Other Construction Equipment50	Other Construction Equipment	50	0.0303	0.2243	0.1893	0.0004	0.0067	28.0	0.0027
2021	2021Other Construction Equipment120	Other Construction Equipment	120	0.0468	0.5069	0.3537	0.0009	0.0169	80.9	0.0042
2021	2021Other Construction Equipment175	Other Construction Equipment	175	0.0491	0.5858	0.2972	0.0012	0.0142	107	0.0044
2021	2021Other Construction Equipment500	Other Construction Equipment	500	0.0961	0.4654	0.5253	0.0025	0.0185	254	0.0087
2021	2021Other Construction Equipment Composite	Other Construction Equipment Composite		0.0534	0.3497	0.3120	0.0013	0.0121	122	0.0048
2021	2021Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2021	2021Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2021	2021Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0388	0.2161	0.1676	0.0003	0.0086	21.7	0.0035
2021	2021Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0551	0.4205	0.3467	0.0007	0.0218	62.0	0.0050
2021	2021Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0664	0.5654	0.3871	0.0011	0.0205	95.9	0.0060
2021	2021Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0739	0.2775	0.4574	0.0015	0.0149	136	0.0067
2021	2021Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1411	0.5167	0.8006	0.0026	0.0282	265	0.0127
2021	2021Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.2333	0.8515	1.3488	0.0044	0.0470	437	0.0210
2021	2021Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.3231	1.1617	3.6053	0.0056	0.0863	560	0.0292
2021	2021Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0915	0.4479	0.5887	0.0016	0.0227	152	0.0083
2021	2021Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0535	0.2980	0.2331	0.0004	0.0120	30.3	0.0048
2021	2021Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0533	0.4091	0.3386	0.0007	0.0213	60.7	0.0048
2021	2021Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0837	0.7158	0.4921	0.0014	0.0261	122	0.0075
2021	2021Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0781	0.2953	0.4889	0.0016	0.0159	145	0.0070
2021	2021Other Material Handling Equipment500	Other Material Handling Equipment	500	0.1007	0.3715	0.5777	0.0019	0.0203	192	0.0091
2021	2021Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.4606	1.5333	4.7673	0.0073	0.1140	741	0.0416
2021	2021Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0860	0.4392	0.5748	0.0015	0.0218	141	0.0078
2021	2021Pavers25	Pavers	25	0.0225	0.0768	0.1425	0.0002	0.0055	18.7	0.0020
2021	2021Pavers50	Pavers	50	0.0774	0.2996	0.2332	0.0004	0.0168	28.0	0.0070
2021	2021Pavers120	Pavers	120	0.0855	0.4780	0.5137	0.0008	0.0391	69.2	0.0077
2021	2021Pavers175	Pavers	175	0.1148	0.7586	0.7520	0.0014	0.0421	128	0.0104
2021	2021Pavers250	Pavers	250	0.1338	0.4598	1.0174	0.0022	0.0371	194	0.0121
2021	2021Pavers500	Pavers	500	0.1518	0.6069	1.0951	0.0023	0.0410	233	0.0137
2021	2021Pavers Composite	Pavers Composite		0.0928	0.4878	0.5089	0.0009	0.0325	77.9	0.0084
2021	2021Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2021	2021Paving Equipment50	Paving Equipment	50	0.0648	0.2524	0.1987	0.0003	0.0143	23.9	0.0058
2021	2021Paving Equipment120	Paving Equipment	120	0.0662	0.3741	0.4010	0.0006	0.0307	54.5	0.0060
2021	2021Paving Equipment175	Paving Equipment	175	0.0888	0.5934	0.5867	0.0011	0.0329	101	0.0080
2021	2021Paving Equipment250	Paving Equipment	250	0.0820	0.2827	0.6331	0.0014	0.0227	122	0.0074
2021	2021Paving Equipment Composite	Paving Equipment Composite		0.0710	0.4062	0.4462	0.0008	0.0288	68.9	0.0064
2021	2021Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2021	2021Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2021	2021Pressure Washers15	Pressure Washers	15	0.0055	0.0304	0.0383	0.0001	0.0017	4.9	0.0005
2021	2021Pressure Washers25	Pressure Washers	25	0.0090	0.0308	0.0566	0.0001	0.0025	7.1	0.0008
2021	2021Pressure Washers50	Pressure Washers	50	0.0113	0.0841	0.0949	0.0002	0.0035	14.3	0.0010
2021	2021Pressure Washers120	Pressure Washers	120	0.0114	0.1362	0.1182	0.0003	0.0056	24.1	0.0010
2021	2021Pressure Washers Composite	Pressure Washers Composite		0.0079	0.0543	0.0625	0.0001	0.0027	9.4	0.0007
2021	2021Pumps15	Pumps	15	0.0094	0.0462	0.0585	0.0001	0.0028	7.4	0.0008
2021	2021Pumps25	Pumps	25	0.0259	0.0841	0.1544	0.0002	0.0070	19.5	0.0023
2021	2021Pumps50	Pumps	50	0.0415	0.2490	0.2404	0.0004	0.0108	34.3	0.0037

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2021	2021Pumps120	Pumps	120	0.0484	0.4687	0.4054	0.0009	0.0227	77.9	0.0044
2021	2021Pumps175	Pumps	175	0.0652	0.7325	0.5249	0.0016	0.0242	140	0.0059
2021	2021Pumps250	Pumps	250	0.0707	0.3662	0.6331	0.0023	0.0187	201	0.0064
2021	2021Pumps500	Pumps	500	0.1162	0.6131	0.9769	0.0034	0.0310	345	0.0105
2021	2021Pumps750	Pumps	750	0.1939	1.0135	1.6500	0.0057	0.0519	571	0.0175
2021	2021Pumps9999	Pumps	9999	0.5635	2.5731	8.1862	0.0136	0.1751	1,355	0.0508
2021	2021Pumps Composite	Pumps Composite		0.0344	0.2652	0.2637	0.0006	0.0128	49.6	0.0031
2021	2021Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2021	2021Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2021	2021Rollers50	Rollers	50	0.0491	0.2389	0.1979	0.0003	0.0114	26.0	0.0044
2021	2021Rollers120	Rollers	120	0.0529	0.3854	0.3524	0.0007	0.0238	59.0	0.0048
2021	2021Rollers175	Rollers	175	0.0719	0.6108	0.4775	0.0012	0.0254	108	0.0065
2021	2021Rollers250	Rollers	250	0.0800	0.3158	0.5870	0.0017	0.0201	153	0.0072
2021	2021Rollers500	Rollers	500	0.1100	0.4490	0.7481	0.0022	0.0270	219	0.0099
2021	2021Rollers Composite	Rollers Composite		0.0540	0.3816	0.3483	0.0008	0.0206	67.0	0.0049
2021	2021Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0479	0.3133	0.2472	0.0004	0.0105	33.9	0.0043
2021	2021Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0461	0.4131	0.3062	0.0007	0.0168	62.4	0.0042
2021	2021Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0736	0.7229	0.4132	0.0014	0.0213	125	0.0066
2021	2021Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0832	0.3419	0.4658	0.0019	0.0158	171	0.0075
2021	2021Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1228	0.4904	0.6343	0.0025	0.0231	257	0.0111
2021	2021Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0497	0.4454	0.3193	0.0008	0.0172	70.3	0.0045
2021	2021Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1432	0.8097	0.9278	0.0015	0.0522	129	0.0129
2021	2021Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1616	0.5121	1.1988	0.0021	0.0475	183	0.0146
2021	2021Rubber Tired Dozers500	Rubber Tired Dozers	500	0.2182	0.8829	1.5670	0.0026	0.0622	265	0.0197
2021	2021Rubber Tired Dozers750	Rubber Tired Dozers	750	0.3297	1.3266	2.4124	0.0040	0.0946	399	0.0297
2021	2021Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.5186	2.1395	5.3122	0.0060	0.1566	592	0.0468
2021	2021Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.2015	0.7661	1.4661	0.0025	0.0582	239	0.0182
2021	2021Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2021	2021Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0561	0.3032	0.2349	0.0004	0.0120	31.1	0.0051
2021	2021Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0520	0.3960	0.3271	0.0007	0.0206	58.9	0.0047
2021	2021Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0712	0.6211	0.4192	0.0012	0.0222	106	0.0064
2021	2021Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0804	0.3129	0.5008	0.0017	0.0173	149	0.0073
2021	2021Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1240	0.4920	0.7143	0.0023	0.0260	237	0.0112
2021	2021Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2549	1.0075	1.5039	0.0049	0.0540	486	0.0230
2021	2021Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.3298	1.2808	3.8115	0.0060	0.0894	594	0.0298
2021	2021Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0705	0.4381	0.4275	0.0012	0.0206	109	0.0064
2021	2021Scrapers120	Scrapers	120	0.1142	0.6580	0.6720	0.0011	0.0501	93.9	0.0103
2021	2021Scrapers175	Scrapers	175	0.1316	0.8907	0.8250	0.0017	0.0460	148	0.0119
2021	2021Scrapers250	Scrapers	250	0.1442	0.4935	1.0349	0.0024	0.0374	209	0.0130
2021	2021Scrapers500	Scrapers	500	0.2102	0.8168	1.4242	0.0032	0.0531	321	0.0190
2021	2021Scrapers750	Scrapers	750	0.3649	1.4095	2.5312	0.0056	0.0932	555	0.0329
2021	2021Scrapers Composite	Scrapers Composite		0.1815	0.7745	1.2263	0.0027	0.0492	262	0.0164
2021	2021Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2021	2021Signal Boards50	Signal Boards	50	0.0455	0.2789	0.2549	0.0005	0.0114	36.2	0.0041
2021	2021Signal Boards120	Signal Boards	120	0.0513	0.4930	0.4078	0.0009	0.0230	80.2	0.0046
2021	2021Signal Boards175	Signal Boards	175	0.0757	0.8277	0.5557	0.0017	0.0267	155	0.0068
2021	2021Signal Boards250	Signal Boards	250	0.0968	0.4734	0.7633	0.0029	0.0235	255	0.0087
2021	2021Signal Boards Composite	Signal Boards Composite		0.0125	0.0911	0.0863	0.0002	0.0039	16.7	0.0011
2021	2021Skid Steer Loaders25	Skid Steer Loaders	25	0.0169	0.0572	0.1065	0.0002	0.0042	13.8	0.0015
2021	2021Skid Steer Loaders50	Skid Steer Loaders	50	0.0220	0.1998	0.1600	0.0003	0.0036	25.5	0.0020
2021	2021Skid Steer Loaders120	Skid Steer Loaders	120	0.0207	0.2671	0.1538	0.0005	0.0053	42.8	0.0019
2021	2021Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0212	0.2119	0.1544	0.0004	0.0042	30.3	0.0019
2021	2021Surfacing Equipment50	Surfacing Equipment	50	0.0242	0.1170	0.1037	0.0002	0.0057	14.1	0.0022
2021	2021Surfacing Equipment120	Surfacing Equipment	120	0.0525	0.4008	0.3760	0.0007	0.0242	63.8	0.0047
2021	2021Surfacing Equipment175	Surfacing Equipment	175	0.0511	0.4658	0.3757	0.0010	0.0189	85.8	0.0046
2021	2021Surfacing Equipment250	Surfacing Equipment	250	0.0617	0.2715	0.5141	0.0015	0.0170	135	0.0056

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2021	2021Surfacing Equipment500	Surfacing Equipment	500	0.0959	0.4602	0.7556	0.0022	0.0261	221	0.0087
2021	2021Surfacing Equipment750	Surfacing Equipment	750	0.1520	0.7215	1.2216	0.0035	0.0416	347	0.0137
2021	2021Surfacing Equipment Composite	Surfacing Equipment Composite		0.0779	0.3860	0.5953	0.0017	0.0216	166	0.0070
2021	2021Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2021	2021Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2021	2021Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0391	0.2844	0.2261	0.0004	0.0081	31.6	0.0035
2021	2021Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0510	0.4931	0.3380	0.0009	0.0173	75.0	0.0046
2021	2021Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0774	0.8017	0.4205	0.0016	0.0208	139	0.0070
2021	2021Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0744	0.3184	0.3827	0.0018	0.0125	162	0.0067
2021	2021Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0536	0.4882	0.3225	0.0009	0.0151	78.5	0.0048
2021	2021Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2021	2021Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0376	0.2733	0.2108	0.0004	0.0073	30.3	0.0034
2021	2021Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0340	0.3394	0.2275	0.0006	0.0108	51.7	0.0031
2021	2021Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0533	0.5841	0.2798	0.0011	0.0135	101	0.0048
2021	2021Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0769	0.3430	0.3814	0.0019	0.0131	172	0.0069
2021	2021Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1523	0.6596	0.7068	0.0039	0.0255	345	0.0137
2021	2021Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.2284	0.9891	1.0736	0.0058	0.0385	517	0.0206
2021	2021Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0407	0.3606	0.2506	0.0008	0.0113	66.8	0.0037
2021	2021Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2021	2021Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2021	2021Trenchers50	Trenchers	50	0.0921	0.3425	0.2729	0.0004	0.0201	32.9	0.0083
2021	2021Trenchers120	Trenchers	120	0.0799	0.4419	0.4914	0.0008	0.0375	64.9	0.0072
2021	2021Trenchers175	Trenchers	175	0.1272	0.8376	0.8675	0.0016	0.0481	144	0.0115
2021	2021Trenchers250	Trenchers	250	0.1517	0.5327	1.2061	0.0025	0.0445	223	0.0137
2021	2021Trenchers500	Trenchers	500	0.1992	0.8364	1.5150	0.0031	0.0571	311	0.0180
2021	2021Trenchers750	Trenchers	750	0.3775	1.5747	2.9328	0.0059	0.1091	587	0.0341
2021	2021Trenchers Composite	Trenchers Composite		0.0874	0.4226	0.4327	0.0007	0.0309	58.7	0.0079
2021	2021Welders15	Welders	15	0.0079	0.0386	0.0489	0.0001	0.0024	6.2	0.0007
2021	2021Welders25	Welders	25	0.0150	0.0487	0.0894	0.0001	0.0040	11.3	0.0014
2021	2021Welders50	Welders	50	0.0387	0.2163	0.1893	0.0003	0.0094	26.0	0.0035
2021	2021Welders120	Welders	120	0.0291	0.2492	0.2134	0.0005	0.0131	39.5	0.0026
2021	2021Welders175	Welders	175	0.0552	0.5383	0.3833	0.0011	0.0194	98.2	0.0050
2021	2021Welders250	Welders	250	0.0515	0.2269	0.3907	0.0013	0.0123	119	0.0046
2021	2021Welders500	Welders	500	0.0703	0.3086	0.4915	0.0016	0.0167	168	0.0063
2021	2021Welders Composite	Welders Composite		0.0280	0.1788	0.1635	0.0003	0.0088	25.6	0.0025
2022	2022Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2022	2022Aerial Lifts25	Aerial Lifts	25	0.0134	0.0454	0.0845	0.0001	0.0033	11.0	0.0012
2022	2022Aerial Lifts50	Aerial Lifts	50	0.0213	0.1388	0.1328	0.0003	0.0053	19.6	0.0019
2022	2022Aerial Lifts120	Aerial Lifts	120	0.0216	0.2275	0.1829	0.0004	0.0096	38.1	0.0020
2022	2022Aerial Lifts500	Aerial Lifts	500	0.0668	0.3746	0.5339	0.0021	0.0167	213	0.0060
2022	2022Aerial Lifts750	Aerial Lifts	750	0.1217	0.6772	0.9849	0.0039	0.0305	385	0.0110
2022	2022Aerial Lifts Composite	Aerial Lifts Composite		0.0222	0.1667	0.1619	0.0004	0.0071	34.7	0.0020
2022	2022Air Compressors15	Air Compressors	15	0.0090	0.0448	0.0562	0.0001	0.0026	7.2	0.0008
2022	2022Air Compressors25	Air Compressors	25	0.0189	0.0618	0.1138	0.0002	0.0049	14.4	0.0017
2022	2022Air Compressors50	Air Compressors	50	0.0326	0.1954	0.1609	0.0003	0.0073	22.3	0.0029
2022	2022Air Compressors120	Air Compressors	120	0.0346	0.3031	0.2371	0.0006	0.0139	47.0	0.0031
2022	2022Air Compressors175	Air Compressors	175	0.0508	0.4979	0.3093	0.0010	0.0161	88.5	0.0046
2022	2022Air Compressors250	Air Compressors	250	0.0595	0.2550	0.3794	0.0015	0.0124	131	0.0054
2022	2022Air Compressors500	Air Compressors	500	0.1026	0.4326	0.6095	0.0023	0.0211	232	0.0093
2022	2022Air Compressors750	Air Compressors	750	0.1590	0.6685	0.9614	0.0036	0.0330	358	0.0143
2022	2022Air Compressors1000	Air Compressors	1000	0.2330	0.9602	2.9122	0.0049	0.0651	486	0.0210
2022	2022Air Compressors Composite	Air Compressors Composite		0.0414	0.3041	0.2677	0.0007	0.0138	63.6	0.0037
2022	2022Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2022	2022Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2022	2022Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0192	0.2200	0.1680	0.0004	0.0011	31.0	0.0017
2022	2022Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0262	0.4660	0.2091	0.0009	0.0025	77.1	0.0024

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2022	2022Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0353	0.7541	0.1179	0.0016	0.0035	141	0.0032
2022	2022Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0442	0.3426	0.1180	0.0021	0.0039	188	0.0040
2022	2022Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0731	0.5511	0.1932	0.0031	0.0065	311	0.0066
2022	2022Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1444	1.0889	0.3821	0.0062	0.0128	615	0.0130
2022	2022Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2241	1.6434	3.9312	0.0093	0.0428	928	0.0202
2022	2022Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0446	0.5007	0.3059	0.0017	0.0048	165	0.0040
2022	2022Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2022	2022Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0218	0.0731	0.1359	0.0002	0.0054	17.6	0.0020
2022	2022Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0535	0.0001	0.0021	7.2	0.0008
2022	2022Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2022	2022Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0351	0.2351	0.2093	0.0004	0.0084	30.2	0.0032
2022	2022Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0448	0.4586	0.3505	0.0009	0.0188	74.1	0.0040
2022	2022Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0755	0.8662	0.5091	0.0018	0.0251	160	0.0068
2022	2022Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0411	0.3743	0.2962	0.0007	0.0148	58.5	0.0037
2022	2022Cranes50	Cranes	50	0.0439	0.2338	0.1783	0.0003	0.0094	23.2	0.0040
2022	2022Cranes120	Cranes	120	0.0459	0.3413	0.2846	0.0006	0.0182	50.1	0.0041
2022	2022Cranes175	Cranes	175	0.0559	0.4747	0.3248	0.0009	0.0174	80.3	0.0050
2022	2022Cranes250	Cranes	250	0.0632	0.2378	0.3906	0.0013	0.0135	112	0.0057
2022	2022Cranes500	Cranes	500	0.0985	0.3670	0.5626	0.0018	0.0207	180	0.0089
2022	2022Cranes750	Cranes	750	0.1661	0.6173	0.9687	0.0030	0.0352	303	0.0150
2022	2022Cranes9999	Cranes	9999	0.6059	2.0738	6.3749	0.0098	0.1504	971	0.0547
2022	2022Cranes Composite	Cranes Composite		0.0798	0.3822	0.5505	0.0014	0.0203	129	0.0072
2022	2022Crawler Tractors50	Crawler Tractors	50	0.0603	0.2677	0.1989	0.0003	0.0123	24.9	0.0054
2022	2022Crawler Tractors120	Crawler Tractors	120	0.0731	0.4586	0.4297	0.0008	0.0304	65.8	0.0066
2022	2022Crawler Tractors175	Crawler Tractors	175	0.0989	0.7284	0.5941	0.0014	0.0328	121	0.0089
2022	2022Crawler Tractors250	Crawler Tractors	250	0.1065	0.3809	0.7177	0.0019	0.0258	166	0.0096
2022	2022Crawler Tractors500	Crawler Tractors	500	0.1588	0.6271	1.0067	0.0025	0.0374	259	0.0143
2022	2022Crawler Tractors750	Crawler Tractors	750	0.2860	1.1231	1.8570	0.0047	0.0680	465	0.0258
2022	2022Crawler Tractors1000	Crawler Tractors	1000	0.4347	1.7108	4.7678	0.0066	0.1216	658	0.0392
2022	2022Crawler Tractors Composite	Crawler Tractors Composite		0.0931	0.5163	0.5746	0.0013	0.0310	114	0.0084
2022	2022Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0616	0.3936	0.3162	0.0006	0.0134	44.0	0.0056
2022	2022Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0600	0.5420	0.4035	0.0010	0.0225	83.1	0.0054
2022	2022Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0952	0.9528	0.5479	0.0019	0.0282	167	0.0086
2022	2022Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1123	0.4795	0.6546	0.0028	0.0216	245	0.0101
2022	2022Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1682	0.7020	0.9136	0.0037	0.0319	374	0.0152
2022	2022Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2652	1.1064	1.4690	0.0059	0.0505	589	0.0239
2022	2022Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6919	2.5793	7.6191	0.0131	0.1680	1,308	0.0624
2022	2022Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0820	0.6208	0.4911	0.0015	0.0234	132	0.0074
2022	2022Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2022	2022Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2022	2022Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2022	2022Excavators50	Excavators	50	0.0336	0.2402	0.1748	0.0003	0.0058	25.0	0.0030
2022	2022Excavators120	Excavators	120	0.0512	0.4958	0.3181	0.0009	0.0148	73.6	0.0046
2022	2022Excavators175	Excavators	175	0.0614	0.6636	0.2947	0.0013	0.0145	112	0.0055
2022	2022Excavators250	Excavators	250	0.0743	0.3243	0.3366	0.0018	0.0116	159	0.0067
2022	2022Excavators500	Excavators	500	0.1081	0.4540	0.4583	0.0023	0.0166	234	0.0098
2022	2022Excavators750	Excavators	750	0.1793	0.7525	0.7705	0.0039	0.0277	387	0.0162
2022	2022Excavators Composite	Excavators Composite		0.0648	0.5104	0.3171	0.0013	0.0136	120	0.0059
2022	2022Forklifts50	Forklifts	50	0.0166	0.1368	0.0992	0.0002	0.0026	14.7	0.0015
2022	2022Forklifts120	Forklifts	120	0.0194	0.2087	0.1222	0.0004	0.0046	31.2	0.0018
2022	2022Forklifts175	Forklifts	175	0.0281	0.3303	0.1276	0.0006	0.0054	56.1	0.0025
2022	2022Forklifts250	Forklifts	250	0.0331	0.1548	0.1276	0.0009	0.0039	77.1	0.0030
2022	2022Forklifts500	Forklifts	500	0.0474	0.2120	0.1726	0.0011	0.0055	111	0.0043
2022	2022Forklifts Composite	Forklifts Composite		0.0274	0.2146	0.1265	0.0006	0.0044	54.4	0.0025
2022	2022Generator Sets15	Generator Sets	15	0.0113	0.0633	0.0791	0.0002	0.0035	10.2	0.0010
2022	2022Generator Sets25	Generator Sets	25	0.0220	0.0754	0.1389	0.0002	0.0059	17.6	0.0020

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2022	2022Generator Sets50	Generator Sets	50	0.0309	0.2089	0.2052	0.0004	0.0079	30.6	0.0028
2022	2022Generator Sets120	Generator Sets	120	0.0421	0.4606	0.3697	0.0009	0.0188	77.9	0.0038
2022	2022Generator Sets175	Generator Sets	175	0.0574	0.7315	0.4635	0.0016	0.0206	142	0.0052
2022	2022Generator Sets250	Generator Sets	250	0.0654	0.3784	0.5732	0.0024	0.0167	213	0.0059
2022	2022Generator Sets500	Generator Sets	500	0.0998	0.5878	0.8334	0.0033	0.0256	337	0.0090
2022	2022Generator Sets750	Generator Sets	750	0.1627	0.9489	1.3725	0.0055	0.0419	544	0.0147
2022	2022Generator Sets9999	Generator Sets	9999	0.3853	1.9364	5.9490	0.0105	0.1195	1,049	0.0348
2022	2022Generator Sets Composite	Generator Sets Composite		0.0340	0.2694	0.2783	0.0007	0.0117	61.0	0.0031
2022	2022Graders50	Graders	50	0.0474	0.2681	0.2028	0.0004	0.0096	27.5	0.0043
2022	2022Graders120	Graders	120	0.0635	0.5051	0.3943	0.0009	0.0237	75.0	0.0057
2022	2022Graders175	Graders	175	0.0794	0.7272	0.4462	0.0014	0.0234	124	0.0072
2022	2022Graders250	Graders	250	0.0899	0.3617	0.5278	0.0019	0.0183	172	0.0081
2022	2022Graders500	Graders	500	0.1165	0.4796	0.6329	0.0023	0.0231	229	0.0105
2022	2022Graders750	Graders	750	0.2474	1.0147	1.3769	0.0049	0.0496	486	0.0223
2022	2022Graders Composite	Graders Composite		0.0807	0.5732	0.4657	0.0015	0.0218	133	0.0073
2022	2022Off-Highway Tractors120	Off-Highway Tractors	120	0.1304	0.6712	0.7522	0.0011	0.0580	93.7	0.0118
2022	2022Off-Highway Tractors175	Off-Highway Tractors	175	0.1306	0.7979	0.8376	0.0015	0.0470	130	0.0118
2022	2022Off-Highway Tractors250	Off-Highway Tractors	250	0.1032	0.3410	0.7591	0.0015	0.0294	130	0.0093
2022	2022Off-Highway Tractors750	Off-Highway Tractors	750	0.4240	1.7168	3.0614	0.0057	0.1180	568	0.0383
2022	2022Off-Highway Tractors1000	Off-Highway Tractors	1000	0.6473	2.6737	6.8441	0.0082	0.1935	814	0.0584
2022	2022Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1322	0.6320	0.9188	0.0017	0.0424	151	0.0119
2022	2022Off-Highway Trucks175	Off-Highway Trucks	175	0.0734	0.7537	0.3503	0.0014	0.0176	125	0.0066
2022	2022Off-Highway Trucks250	Off-Highway Trucks	250	0.0836	0.3474	0.3804	0.0019	0.0132	167	0.0075
2022	2022Off-Highway Trucks500	Off-Highway Trucks	500	0.1348	0.5379	0.5724	0.0027	0.0209	272	0.0122
2022	2022Off-Highway Trucks750	Off-Highway Trucks	750	0.2189	0.8725	0.9428	0.0044	0.0342	442	0.0198
2022	2022Off-Highway Trucks1000	Off-Highway Trucks	1000	0.3246	1.2658	3.5349	0.0063	0.0734	625	0.0293
2022	2022Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1303	0.5447	0.6574	0.0027	0.0216	260	0.0118
2022	2022Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2022	2022Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2022	2022Other Construction Equipment50	Other Construction Equipment	50	0.0284	0.2225	0.1835	0.0004	0.0056	28.0	0.0026
2022	2022Other Construction Equipment120	Other Construction Equipment	120	0.0440	0.5061	0.3277	0.0009	0.0144	80.9	0.0040
2022	2022Other Construction Equipment175	Other Construction Equipment	175	0.0460	0.5858	0.2580	0.0012	0.0122	107	0.0041
2022	2022Other Construction Equipment500	Other Construction Equipment	500	0.0913	0.4635	0.4587	0.0025	0.0159	254	0.0082
2022	2022Other Construction Equipment Composite	Other Construction Equipment Composite		0.0507	0.3488	0.2785	0.0013	0.0106	123	0.0046
2022	2022Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2022	2022Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2022	2022Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0360	0.2140	0.1625	0.0003	0.0074	21.7	0.0032
2022	2022Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0516	0.4198	0.3199	0.0007	0.0189	62.0	0.0047
2022	2022Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0623	0.5661	0.3419	0.0011	0.0179	95.9	0.0056
2022	2022Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0701	0.2762	0.3977	0.0015	0.0130	136	0.0063
2022	2022Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1344	0.5141	0.7082	0.0026	0.0247	265	0.0121
2022	2022Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.2221	0.8474	1.1914	0.0044	0.0411	437	0.0200
2022	2022Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.3060	1.1450	3.4169	0.0056	0.0781	560	0.0276
2022	2022Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0867	0.4464	0.5301	0.0016	0.0199	152	0.0078
2022	2022Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0496	0.2950	0.2260	0.0004	0.0103	30.3	0.0045
2022	2022Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0499	0.4085	0.3124	0.0007	0.0185	60.7	0.0045
2022	2022Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0785	0.7167	0.4349	0.0014	0.0228	122	0.0071
2022	2022Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0741	0.2939	0.4252	0.0016	0.0139	145	0.0067
2022	2022Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0959	0.3697	0.5110	0.0019	0.0178	192	0.0087
2022	2022Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.4384	1.5111	4.5177	0.0073	0.1032	741	0.0396
2022	2022Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0813	0.4378	0.5158	0.0015	0.0191	141	0.0073
2022	2022Pavers25	Pavers	25	0.0225	0.0768	0.1424	0.0002	0.0054	18.7	0.0020
2022	2022Pavers50	Pavers	50	0.0718	0.2941	0.2269	0.0004	0.0154	28.0	0.0065
2022	2022Pavers120	Pavers	120	0.0802	0.4756	0.4824	0.0008	0.0357	69.2	0.0072
2022	2022Pavers175	Pavers	175	0.1081	0.7573	0.6894	0.0014	0.0385	128	0.0098
2022	2022Pavers250	Pavers	250	0.1271	0.4502	0.9303	0.0022	0.0337	194	0.0115

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2022	2022Pavers500	Pavers	500	0.1447	0.5863	1.0011	0.0023	0.0374	233	0.0131
2022	2022Pavers Composite	Pavers Composite		0.0870	0.4840	0.4750	0.0009	0.0296	77.9	0.0078
2022	2022Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2022	2022Paving Equipment50	Paving Equipment	50	0.0598	0.2475	0.1933	0.0003	0.0130	23.9	0.0054
2022	2022Paving Equipment120	Paving Equipment	120	0.0619	0.3722	0.3757	0.0006	0.0279	54.5	0.0056
2022	2022Paving Equipment175	Paving Equipment	175	0.0834	0.5924	0.5361	0.0011	0.0299	101	0.0075
2022	2022Paving Equipment250	Paving Equipment	250	0.0779	0.2771	0.5769	0.0014	0.0206	122	0.0070
2022	2022Paving Equipment Composite	Paving Equipment Composite		0.0666	0.4042	0.4137	0.0008	0.0261	68.9	0.0060
2022	2022Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2022	2022Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2022	2022Pressure Washers15	Pressure Washers	15	0.0054	0.0303	0.0379	0.0001	0.0017	4.9	0.0005
2022	2022Pressure Washers25	Pressure Washers	25	0.0089	0.0306	0.0563	0.0001	0.0024	7.1	0.0008
2022	2022Pressure Washers50	Pressure Washers	50	0.0103	0.0831	0.0920	0.0002	0.0030	14.3	0.0009
2022	2022Pressure Washers120	Pressure Washers	120	0.0104	0.1358	0.1094	0.0003	0.0049	24.1	0.0009
2022	2022Pressure Washers Composite	Pressure Washers Composite		0.0075	0.0539	0.0606	0.0001	0.0024	9.4	0.0007
2022	2022Pumps15	Pumps	15	0.0093	0.0460	0.0577	0.0001	0.0027	7.4	0.0008
2022	2022Pumps25	Pumps	25	0.0255	0.0834	0.1535	0.0002	0.0067	19.5	0.0023
2022	2022Pumps50	Pumps	50	0.0380	0.2459	0.2331	0.0004	0.0094	34.3	0.0034
2022	2022Pumps120	Pumps	120	0.0449	0.4676	0.3749	0.0009	0.0199	77.9	0.0040
2022	2022Pumps175	Pumps	175	0.0608	0.7328	0.4650	0.0016	0.0214	140	0.0055
2022	2022Pumps250	Pumps	250	0.0668	0.3640	0.5526	0.0023	0.0165	201	0.0060
2022	2022Pumps500	Pumps	500	0.1105	0.6094	0.8662	0.0034	0.0274	345	0.0100
2022	2022Pumps750	Pumps	750	0.1841	1.0074	1.4611	0.0057	0.0458	571	0.0166
2022	2022Pumps9999	Pumps	9999	0.5293	2.5333	7.7698	0.0136	0.1590	1,355	0.0478
2022	2022Pumps Composite	Pumps Composite		0.0322	0.2640	0.2467	0.0006	0.0114	49.6	0.0029
2022	2022Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2022	2022Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2022	2022Rollers50	Rollers	50	0.0444	0.2347	0.1923	0.0003	0.0101	26.0	0.0040
2022	2022Rollers120	Rollers	120	0.0486	0.3836	0.3270	0.0007	0.0207	59.0	0.0044
2022	2022Rollers175	Rollers	175	0.0669	0.6103	0.4265	0.0012	0.0225	108	0.0060
2022	2022Rollers250	Rollers	250	0.0760	0.3121	0.5217	0.0017	0.0180	153	0.0069
2022	2022Rollers500	Rollers	500	0.1052	0.4391	0.6689	0.0022	0.0243	219	0.0095
2022	2022Rollers Composite	Rollers Composite		0.0500	0.3799	0.3198	0.0008	0.0181	67.0	0.0045
2022	2022Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0447	0.3102	0.2394	0.0004	0.0088	33.9	0.0040
2022	2022Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0433	0.4122	0.2827	0.0007	0.0144	62.4	0.0039
2022	2022Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0689	0.7228	0.3608	0.0014	0.0184	125	0.0062
2022	2022Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0786	0.3401	0.4010	0.0019	0.0137	171	0.0071
2022	2022Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1164	0.4879	0.5561	0.0025	0.0200	257	0.0105
2022	2022Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0467	0.4445	0.2924	0.0008	0.0148	70.3	0.0042
2022	2022Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1359	0.8073	0.8630	0.0015	0.0485	129	0.0123
2022	2022Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1536	0.4976	1.1128	0.0021	0.0437	183	0.0139
2022	2022Rubber Tired Dozers500	Rubber Tired Dozers	500	0.2081	0.8431	1.4541	0.0026	0.0573	265	0.0188
2022	2022Rubber Tired Dozers750	Rubber Tired Dozers	750	0.3144	1.2669	2.2402	0.0040	0.0873	399	0.0284
2022	2022Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4949	2.0395	5.1053	0.0060	0.1466	592	0.0447
2022	2022Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1919	0.7353	1.3612	0.0025	0.0536	239	0.0173
2022	2022Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2022	2022Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0515	0.2990	0.2280	0.0004	0.0105	31.1	0.0046
2022	2022Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0482	0.3946	0.3036	0.0007	0.0178	58.9	0.0043
2022	2022Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0662	0.6207	0.3719	0.0012	0.0194	106	0.0060
2022	2022Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0763	0.3102	0.4423	0.0017	0.0154	149	0.0069
2022	2022Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1181	0.4837	0.6348	0.0023	0.0232	237	0.0107
2022	2022Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2426	0.9905	1.3313	0.0049	0.0481	486	0.0219
2022	2022Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.3127	1.2515	3.6383	0.0060	0.0813	594	0.0282
2022	2022Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0661	0.4359	0.3849	0.0012	0.0181	109	0.0060
2022	2022Scrapers120	Scrapers	120	0.1071	0.6549	0.6300	0.0011	0.0454	93.9	0.0097
2022	2022Scrapers175	Scrapers	175	0.1235	0.8895	0.7529	0.0017	0.0417	148	0.0111

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2022	2022Scrapers250	Scrapers	250	0.1369	0.4844	0.9425	0.0024	0.0340	209	0.0123
2022	2022Scrapers500	Scrapers	500	0.2003	0.7920	1.2973	0.0032	0.0483	321	0.0181
2022	2022Scrapers750	Scrapers	750	0.3476	1.3669	2.3064	0.0056	0.0848	555	0.0314
2022	2022Scrapers Composite	Scrapers Composite		0.1724	0.7579	1.1177	0.0027	0.0447	262	0.0156
2022	2022Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2022	2022Signal Boards50	Signal Boards	50	0.0417	0.2755	0.2471	0.0005	0.0098	36.2	0.0038
2022	2022Signal Boards120	Signal Boards	120	0.0477	0.4918	0.3767	0.0009	0.0200	80.2	0.0043
2022	2022Signal Boards175	Signal Boards	175	0.0707	0.8279	0.4898	0.0017	0.0235	155	0.0064
2022	2022Signal Boards250	Signal Boards	250	0.0919	0.4710	0.6627	0.0029	0.0206	255	0.0083
2022	2022Signal Boards Composite	Signal Boards Composite		0.0121	0.0910	0.0818	0.0002	0.0036	16.7	0.0011
2022	2022Skid Steer Loaders25	Skid Steer Loaders	25	0.0168	0.0570	0.1062	0.0002	0.0042	13.8	0.0015
2022	2022Skid Steer Loaders50	Skid Steer Loaders	50	0.0211	0.1991	0.1551	0.0003	0.0029	25.5	0.0019
2022	2022Skid Steer Loaders120	Skid Steer Loaders	120	0.0197	0.2669	0.1446	0.0005	0.0043	42.8	0.0018
2022	2022Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0204	0.2114	0.1485	0.0004	0.0034	30.3	0.0018
2022	2022Surfacing Equipment50	Surfacing Equipment	50	0.0221	0.1150	0.1008	0.0002	0.0051	14.1	0.0020
2022	2022Surfacing Equipment120	Surfacing Equipment	120	0.0484	0.3991	0.3507	0.0007	0.0215	63.8	0.0044
2022	2022Surfacing Equipment175	Surfacing Equipment	175	0.0474	0.4653	0.3377	0.0010	0.0169	85.8	0.0043
2022	2022Surfacing Equipment250	Surfacing Equipment	250	0.0585	0.2682	0.4607	0.0015	0.0154	135	0.0053
2022	2022Surfacing Equipment500	Surfacing Equipment	500	0.0915	0.4491	0.6786	0.0022	0.0236	221	0.0083
2022	2022Surfacing Equipment750	Surfacing Equipment	750	0.1447	0.7042	1.0950	0.0035	0.0376	347	0.0131
2022	2022Surfacing Equipment Composite	Surfacing Equipment Composite		0.0739	0.3778	0.5368	0.0017	0.0195	166	0.0067
2022	2022Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2022	2022Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2022	2022Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0362	0.2815	0.2173	0.0004	0.0067	31.6	0.0033
2022	2022Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0475	0.4919	0.3133	0.0009	0.0141	75.0	0.0043
2022	2022Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0716	0.8013	0.3643	0.0016	0.0169	139	0.0065
2022	2022Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0696	0.3182	0.3224	0.0018	0.0101	162	0.0063
2022	2022Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0498	0.4867	0.2947	0.0009	0.0124	78.5	0.0045
2022	2022Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2022	2022Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0354	0.2713	0.2045	0.0004	0.0062	30.3	0.0032
2022	2022Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0320	0.3388	0.2113	0.0006	0.0090	51.7	0.0029
2022	2022Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0499	0.5840	0.2431	0.0011	0.0116	101	0.0045
2022	2022Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0728	0.3417	0.3287	0.0019	0.0113	172	0.0066
2022	2022Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1447	0.6562	0.6144	0.0039	0.0221	345	0.0131
2022	2022Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.2170	0.9841	0.9320	0.0058	0.0334	517	0.0196
2022	2022Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0384	0.3599	0.2302	0.0008	0.0095	66.8	0.0035
2022	2022Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2022	2022Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2022	2022Trenchers50	Trenchers	50	0.0856	0.3361	0.2658	0.0004	0.0185	32.9	0.0077
2022	2022Trenchers120	Trenchers	120	0.0751	0.4397	0.4624	0.0008	0.0344	64.9	0.0068
2022	2022Trenchers175	Trenchers	175	0.1201	0.8361	0.7981	0.0016	0.0442	144	0.0108
2022	2022Trenchers250	Trenchers	250	0.1441	0.5202	1.1070	0.0025	0.0407	223	0.0130
2022	2022Trenchers500	Trenchers	500	0.1899	0.8063	1.3903	0.0031	0.0523	311	0.0171
2022	2022Trenchers750	Trenchers	750	0.3599	1.5183	2.6930	0.0059	0.0999	587	0.0325
2022	2022Trenchers Composite	Trenchers Composite		0.0819	0.4186	0.4094	0.0007	0.0284	58.7	0.0074
2022	2022Welders15	Welders	15	0.0078	0.0385	0.0483	0.0001	0.0022	6.2	0.0007
2022	2022Welders25	Welders	25	0.0147	0.0483	0.0889	0.0001	0.0039	11.3	0.0013
2022	2022Welders50	Welders	50	0.0354	0.2134	0.1836	0.0003	0.0082	26.0	0.0032
2022	2022Welders120	Welders	120	0.0270	0.2486	0.1970	0.0005	0.0114	39.5	0.0024
2022	2022Welders175	Welders	175	0.0517	0.5385	0.3390	0.0011	0.0171	98.2	0.0047
2022	2022Welders250	Welders	250	0.0489	0.2256	0.3404	0.0013	0.0108	119	0.0044
2022	2022Welders500	Welders	500	0.0671	0.3068	0.4355	0.0016	0.0147	168	0.0061
2022	2022Welders Composite	Welders Composite		0.0260	0.1773	0.1557	0.0003	0.0078	25.6	0.0023
2023	2023Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2023	2023Aerial Lifts25	Aerial Lifts	25	0.0133	0.0452	0.0842	0.0001	0.0033	11.0	0.0012
2023	2023Aerial Lifts50	Aerial Lifts	50	0.0196	0.1373	0.1289	0.0003	0.0046	19.6	0.0018

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2023	2023Aerial Lifts120	Aerial Lifts	120	0.0201	0.2271	0.1697	0.0004	0.0084	38.1	0.0018
2023	2023Aerial Lifts500	Aerial Lifts	500	0.0637	0.3732	0.4746	0.0021	0.0146	213	0.0058
2023	2023Aerial Lifts750	Aerial Lifts	750	0.1160	0.6746	0.8754	0.0039	0.0268	385	0.0105
2023	2023Aerial Lifts Composite	Aerial Lifts Composite		0.0208	0.1658	0.1525	0.0004	0.0062	34.7	0.0019
2023	2023Air Compressors15	Air Compressors	15	0.0089	0.0446	0.0555	0.0001	0.0025	7.2	0.0008
2023	2023Air Compressors25	Air Compressors	25	0.0186	0.0613	0.1132	0.0002	0.0048	14.4	0.0017
2023	2023Air Compressors50	Air Compressors	50	0.0301	0.1936	0.1563	0.0003	0.0063	22.3	0.0027
2023	2023Air Compressors120	Air Compressors	120	0.0325	0.3027	0.2194	0.0006	0.0121	47.0	0.0029
2023	2023Air Compressors175	Air Compressors	175	0.0478	0.4985	0.2761	0.0010	0.0141	88.5	0.0043
2023	2023Air Compressors250	Air Compressors	250	0.0567	0.2542	0.3336	0.0015	0.0108	131	0.0051
2023	2023Air Compressors500	Air Compressors	500	0.0981	0.4312	0.5407	0.0023	0.0184	232	0.0089
2023	2023Air Compressors750	Air Compressors	750	0.1520	0.6663	0.8527	0.0036	0.0288	358	0.0137
2023	2023Air Compressors1000	Air Compressors	1000	0.2215	0.9472	2.7762	0.0049	0.0592	486	0.0200
2023	2023Air Compressors Composite	Air Compressors Composite		0.0390	0.3035	0.2459	0.0007	0.0119	63.6	0.0035
2023	2023Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2023	2023Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2023	2023Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0191	0.2200	0.1672	0.0004	0.0010	31.0	0.0017
2023	2023Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0256	0.4660	0.2018	0.0009	0.0023	77.1	0.0023
2023	2023Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0337	0.7541	0.0966	0.0016	0.0033	141	0.0030
2023	2023Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0432	0.3426	0.1058	0.0021	0.0038	188	0.0039
2023	2023Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0716	0.5512	0.1739	0.0031	0.0062	311	0.0065
2023	2023Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1414	1.0890	0.3438	0.0062	0.0123	615	0.0128
2023	2023Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2174	1.6434	3.9139	0.0093	0.0395	928	0.0196
2023	2023Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0436	0.5007	0.2949	0.0017	0.0045	165	0.0039
2023	2023Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2023	2023Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0216	0.0728	0.1354	0.0002	0.0053	17.6	0.0019
2023	2023Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2023	2023Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2023	2023Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0322	0.2324	0.2028	0.0004	0.0072	30.2	0.0029
2023	2023Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0418	0.4576	0.3234	0.0009	0.0162	74.1	0.0038
2023	2023Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0707	0.8662	0.4509	0.0018	0.0219	160	0.0064
2023	2023Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0382	0.3728	0.2767	0.0007	0.0127	58.5	0.0034
2023	2023Cranes50	Cranes	50	0.0402	0.2305	0.1733	0.0003	0.0082	23.2	0.0036
2023	2023Cranes120	Cranes	120	0.0426	0.3401	0.2642	0.0006	0.0158	50.1	0.0038
2023	2023Cranes175	Cranes	175	0.0522	0.4746	0.2894	0.0009	0.0153	80.3	0.0047
2023	2023Cranes250	Cranes	250	0.0600	0.2354	0.3458	0.0013	0.0120	112	0.0054
2023	2023Cranes500	Cranes	500	0.0940	0.3610	0.5013	0.0018	0.0185	180	0.0085
2023	2023Cranes750	Cranes	750	0.1583	0.6073	0.8613	0.0030	0.0314	303	0.0143
2023	2023Cranes9999	Cranes	9999	0.5757	2.0307	6.0792	0.0098	0.1373	971	0.0519
2023	2023Cranes Composite	Cranes Composite		0.0754	0.3786	0.5028	0.0014	0.0181	129	0.0068
2023	2023Crawler Tractors50	Crawler Tractors	50	0.0560	0.2636	0.1936	0.0003	0.0111	24.9	0.0051
2023	2023Crawler Tractors120	Crawler Tractors	120	0.0687	0.4568	0.4030	0.0008	0.0274	65.8	0.0062
2023	2023Crawler Tractors175	Crawler Tractors	175	0.0929	0.7277	0.5402	0.0014	0.0297	121	0.0084
2023	2023Crawler Tractors250	Crawler Tractors	250	0.1013	0.3749	0.6513	0.0019	0.0233	166	0.0091
2023	2023Crawler Tractors500	Crawler Tractors	500	0.1515	0.6117	0.9142	0.0025	0.0339	259	0.0137
2023	2023Crawler Tractors750	Crawler Tractors	750	0.2728	1.0957	1.6867	0.0047	0.0617	465	0.0246
2023	2023Crawler Tractors1000	Crawler Tractors	1000	0.4130	1.6547	4.5686	0.0066	0.1123	658	0.0373
2023	2023Crawler Tractors Composite	Crawler Tractors Composite		0.0879	0.5125	0.5291	0.0013	0.0280	114	0.0079
2023	2023Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0573	0.3903	0.3069	0.0006	0.0114	44.0	0.0052
2023	2023Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0564	0.5413	0.3734	0.0010	0.0193	83.1	0.0051
2023	2023Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0897	0.9538	0.4869	0.0019	0.0245	167	0.0081
2023	2023Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1068	0.4783	0.5727	0.0028	0.0186	245	0.0096
2023	2023Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1605	0.7002	0.8070	0.0037	0.0276	374	0.0145
2023	2023Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2534	1.1039	1.2978	0.0059	0.0437	589	0.0229
2023	2023Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6617	2.5491	7.2745	0.0131	0.1522	1,308	0.0597
2023	2023Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0773	0.6199	0.4479	0.0015	0.0201	132	0.0070

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2023	2023Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2023	2023Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2023	2023Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2023	2023Excavators50	Excavators	50	0.0320	0.2387	0.1699	0.0003	0.0049	25.0	0.0029
2023	2023Excavators120	Excavators	120	0.0487	0.4952	0.2967	0.0009	0.0126	73.6	0.0044
2023	2023Excavators175	Excavators	175	0.0578	0.6636	0.2573	0.0013	0.0125	112	0.0052
2023	2023Excavators250	Excavators	250	0.0707	0.3230	0.2915	0.0018	0.0100	159	0.0064
2023	2023Excavators500	Excavators	500	0.1031	0.4522	0.4014	0.0023	0.0144	234	0.0093
2023	2023Excavators750	Excavators	750	0.1710	0.7495	0.6744	0.0039	0.0240	387	0.0154
2023	2023Excavators Composite	Excavators Composite		0.0615	0.5097	0.2821	0.0013	0.0117	120	0.0055
2023	2023Forklifts50	Forklifts	50	0.0159	0.1363	0.0954	0.0002	0.0020	14.7	0.0014
2023	2023Forklifts120	Forklifts	120	0.0183	0.2086	0.1134	0.0004	0.0035	31.2	0.0017
2023	2023Forklifts175	Forklifts	175	0.0260	0.3305	0.1074	0.0006	0.0040	56.1	0.0023
2023	2023Forklifts250	Forklifts	250	0.0315	0.1549	0.1069	0.0009	0.0033	77.1	0.0028
2023	2023Forklifts500	Forklifts	500	0.0451	0.2120	0.1455	0.0011	0.0047	111	0.0041
2023	2023Forklifts Composite	Forklifts Composite		0.0259	0.2146	0.1108	0.0006	0.0035	54.4	0.0023
2023	2023Generator Sets15	Generator Sets	15	0.0111	0.0631	0.0782	0.0002	0.0034	10.2	0.0010
2023	2023Generator Sets25	Generator Sets	25	0.0218	0.0748	0.1381	0.0002	0.0057	17.6	0.0020
2023	2023Generator Sets50	Generator Sets	50	0.0284	0.2068	0.1992	0.0004	0.0068	30.6	0.0026
2023	2023Generator Sets120	Generator Sets	120	0.0390	0.4597	0.3429	0.0009	0.0164	77.9	0.0035
2023	2023Generator Sets175	Generator Sets	175	0.0536	0.7319	0.4144	0.0016	0.0181	142	0.0048
2023	2023Generator Sets250	Generator Sets	250	0.0620	0.3769	0.5050	0.0024	0.0146	213	0.0056
2023	2023Generator Sets500	Generator Sets	500	0.0951	0.5855	0.7401	0.0033	0.0225	337	0.0086
2023	2023Generator Sets750	Generator Sets	750	0.1548	0.9452	1.2186	0.0055	0.0367	544	0.0140
2023	2023Generator Sets9999	Generator Sets	9999	0.3628	1.9093	5.6803	0.0105	0.1086	1,049	0.0327
2023	2023Generator Sets Composite	Generator Sets Composite		0.0321	0.2683	0.2612	0.0007	0.0103	61.0	0.0029
2023	2023Graders50	Graders	50	0.0438	0.2649	0.1973	0.0004	0.0083	27.5	0.0040
2023	2023Graders120	Graders	120	0.0592	0.5035	0.3674	0.0009	0.0205	75.0	0.0053
2023	2023Graders175	Graders	175	0.0740	0.7268	0.3960	0.0014	0.0205	124	0.0067
2023	2023Graders250	Graders	250	0.0856	0.3591	0.4670	0.0019	0.0163	172	0.0077
2023	2023Graders500	Graders	500	0.1113	0.4726	0.5631	0.0023	0.0207	229	0.0100
2023	2023Graders750	Graders	750	0.2361	0.9999	1.2212	0.0049	0.0443	486	0.0213
2023	2023Graders Composite	Graders Composite		0.0758	0.5718	0.4156	0.0015	0.0191	133	0.0068
2023	2023Off-Highway Tractors120	Off-Highway Tractors	120	0.1235	0.6678	0.7110	0.0011	0.0536	93.7	0.0111
2023	2023Off-Highway Tractors175	Off-Highway Tractors	175	0.1237	0.7961	0.7762	0.0015	0.0435	130	0.0112
2023	2023Off-Highway Tractors250	Off-Highway Tractors	250	0.0980	0.3323	0.7020	0.0015	0.0269	130	0.0088
2023	2023Off-Highway Tractors750	Off-Highway Tractors	750	0.4042	1.6484	2.8322	0.0057	0.1085	568	0.0365
2023	2023Off-Highway Tractors1000	Off-Highway Tractors	1000	0.6171	2.5586	6.5771	0.0082	0.1808	814	0.0557
2023	2023Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1255	0.6238	0.8516	0.0017	0.0391	151	0.0113
2023	2023Off-Highway Trucks175	Off-Highway Trucks	175	0.0692	0.7536	0.3068	0.0014	0.0152	125	0.0062
2023	2023Off-Highway Trucks250	Off-Highway Trucks	250	0.0796	0.3458	0.3302	0.0019	0.0114	167	0.0072
2023	2023Off-Highway Trucks500	Off-Highway Trucks	500	0.1287	0.5355	0.5023	0.0027	0.0182	272	0.0116
2023	2023Off-Highway Trucks750	Off-Highway Trucks	750	0.2090	0.8685	0.8270	0.0044	0.0297	442	0.0189
2023	2023Off-Highway Trucks1000	Off-Highway Trucks	1000	0.3089	1.2561	3.3947	0.0063	0.0663	625	0.0279
2023	2023Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1243	0.5422	0.5881	0.0027	0.0188	260	0.0112
2023	2023Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2023	2023Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2023	2023Other Construction Equipment50	Other Construction Equipment	50	0.0267	0.2209	0.1783	0.0004	0.0047	28.0	0.0024
2023	2023Other Construction Equipment120	Other Construction Equipment	120	0.0416	0.5054	0.3051	0.0009	0.0122	80.9	0.0038
2023	2023Other Construction Equipment175	Other Construction Equipment	175	0.0432	0.5857	0.2259	0.0012	0.0105	107	0.0039
2023	2023Other Construction Equipment500	Other Construction Equipment	500	0.0869	0.4622	0.4007	0.0025	0.0137	254	0.0078
2023	2023Other Construction Equipment Composite	Other Construction Equipment Composite		0.0483	0.3482	0.2497	0.0013	0.0092	123	0.0044
2023	2023Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2023	2023Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2023	2023Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0336	0.2124	0.1578	0.0003	0.0063	21.7	0.0030
2023	2023Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0486	0.4194	0.2962	0.0007	0.0164	62.0	0.0044

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2023	2023Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0585	0.5669	0.3049	0.0011	0.0156	95.9	0.0053
2023	2023Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0668	0.2755	0.3496	0.0015	0.0113	136	0.0060
2023	2023Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1284	0.5127	0.6281	0.0026	0.0215	265	0.0116
2023	2023Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.2122	0.8450	1.0564	0.0044	0.0358	437	0.0191
2023	2023Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2905	1.1303	3.2598	0.0056	0.0709	560	0.0262
2023	2023Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0824	0.4454	0.4807	0.0016	0.0174	152	0.0074
2023	2023Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0463	0.2927	0.2194	0.0004	0.0088	30.3	0.0042
2023	2023Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0470	0.4081	0.2892	0.0007	0.0160	60.7	0.0042
2023	2023Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0738	0.7178	0.3878	0.0014	0.0199	122	0.0067
2023	2023Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0706	0.2931	0.3737	0.0016	0.0121	145	0.0064
2023	2023Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0916	0.3687	0.4532	0.0019	0.0155	192	0.0083
2023	2023Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.4172	1.4917	4.3096	0.0073	0.0937	741	0.0376
2023	2023Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0771	0.4369	0.4671	0.0015	0.0167	141	0.0070
2023	2023Pavers25	Pavers	25	0.0225	0.0768	0.1423	0.0002	0.0054	18.7	0.0020
2023	2023Pavers50	Pavers	50	0.0666	0.2890	0.2210	0.0004	0.0140	28.0	0.0060
2023	2023Pavers120	Pavers	120	0.0753	0.4735	0.4531	0.0008	0.0323	69.2	0.0068
2023	2023Pavers175	Pavers	175	0.1017	0.7562	0.6305	0.0014	0.0350	128	0.0092
2023	2023Pavers250	Pavers	250	0.1208	0.4419	0.8488	0.0022	0.0307	194	0.0109
2023	2023Pavers500	Pavers	500	0.1380	0.5680	0.9135	0.0023	0.0341	233	0.0125
2023	2023Pavers Composite	Pavers Composite		0.0815	0.4805	0.4432	0.0009	0.0269	77.9	0.0074
2023	2023Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2023	2023Paving Equipment50	Paving Equipment	50	0.0551	0.2431	0.1882	0.0003	0.0118	23.9	0.0050
2023	2023Paving Equipment120	Paving Equipment	120	0.0578	0.3703	0.3520	0.0006	0.0251	54.5	0.0052
2023	2023Paving Equipment175	Paving Equipment	175	0.0782	0.5915	0.4884	0.0011	0.0271	101	0.0071
2023	2023Paving Equipment250	Paving Equipment	250	0.0741	0.2724	0.5241	0.0014	0.0187	122	0.0067
2023	2023Paving Equipment Composite	Paving Equipment Composite		0.0624	0.4024	0.3832	0.0008	0.0236	68.9	0.0056
2023	2023Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2023	2023Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2023	2023Pressure Washers15	Pressure Washers	15	0.0053	0.0302	0.0375	0.0001	0.0016	4.9	0.0005
2023	2023Pressure Washers25	Pressure Washers	25	0.0088	0.0303	0.0560	0.0001	0.0023	7.1	0.0008
2023	2023Pressure Washers50	Pressure Washers	50	0.0093	0.0823	0.0893	0.0002	0.0026	14.3	0.0008
2023	2023Pressure Washers120	Pressure Washers	120	0.0096	0.1355	0.1015	0.0003	0.0042	24.1	0.0009
2023	2023Pressure Washers Composite	Pressure Washers Composite		0.0072	0.0536	0.0589	0.0001	0.0022	9.4	0.0006
2023	2023Pumps15	Pumps	15	0.0091	0.0459	0.0571	0.0001	0.0026	7.4	0.0008
2023	2023Pumps25	Pumps	25	0.0251	0.0827	0.1527	0.0002	0.0064	19.5	0.0023
2023	2023Pumps50	Pumps	50	0.0350	0.2434	0.2263	0.0004	0.0081	34.3	0.0032
2023	2023Pumps120	Pumps	120	0.0417	0.4668	0.3476	0.0009	0.0174	77.9	0.0038
2023	2023Pumps175	Pumps	175	0.0569	0.7333	0.4157	0.0016	0.0189	140	0.0051
2023	2023Pumps250	Pumps	250	0.0635	0.3626	0.4870	0.0023	0.0145	201	0.0057
2023	2023Pumps500	Pumps	500	0.1054	0.6070	0.7693	0.0034	0.0240	345	0.0095
2023	2023Pumps750	Pumps	750	0.1755	1.0035	1.2976	0.0057	0.0401	571	0.0158
2023	2023Pumps9999	Pumps	9999	0.5003	2.4976	7.4174	0.0136	0.1447	1,355	0.0451
2023	2023Pumps Composite	Pumps Composite		0.0302	0.2631	0.2319	0.0006	0.0101	49.6	0.0027
2023	2023Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2023	2023Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2023	2023Rollers50	Rollers	50	0.0404	0.2311	0.1870	0.0003	0.0088	26.0	0.0036
2023	2023Rollers120	Rollers	120	0.0449	0.3822	0.3039	0.0007	0.0180	59.0	0.0041
2023	2023Rollers175	Rollers	175	0.0625	0.6100	0.3806	0.0012	0.0199	108	0.0056
2023	2023Rollers250	Rollers	250	0.0723	0.3089	0.4627	0.0017	0.0161	153	0.0065
2023	2023Rollers500	Rollers	500	0.1005	0.4310	0.5973	0.0022	0.0219	219	0.0091
2023	2023Rollers Composite	Rollers Composite		0.0465	0.3784	0.2939	0.0008	0.0159	67.0	0.0042
2023	2023Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0420	0.3076	0.2321	0.0004	0.0074	33.9	0.0038
2023	2023Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0408	0.4115	0.2618	0.0007	0.0122	62.4	0.0037
2023	2023Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0645	0.7228	0.3175	0.0014	0.0158	125	0.0058
2023	2023Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0744	0.3388	0.3483	0.0019	0.0117	171	0.0067
2023	2023Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1103	0.4861	0.4872	0.0025	0.0172	257	0.0100

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2023	2023Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0439	0.4439	0.2688	0.0008	0.0125	70.3	0.0040
2023	2023Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1290	0.8053	0.8018	0.0015	0.0450	129	0.0116
2023	2023Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1461	0.4845	1.0318	0.0021	0.0402	183	0.0132
2023	2023Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1986	0.8077	1.3478	0.0026	0.0528	265	0.0179
2023	2023Rubber Tired Dozers750	Rubber Tired Dozers	750	0.3001	1.2140	2.0778	0.0040	0.0805	399	0.0271
2023	2023Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4726	1.9494	4.9100	0.0060	0.1372	592	0.0426
2023	2023Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1830	0.7078	1.2624	0.0025	0.0494	239	0.0165
2023	2023Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2023	2023Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0475	0.2955	0.2217	0.0004	0.0091	31.1	0.0043
2023	2023Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0449	0.3934	0.2826	0.0007	0.0154	58.9	0.0040
2023	2023Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0618	0.6203	0.3296	0.0012	0.0169	106	0.0056
2023	2023Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0725	0.3079	0.3901	0.0017	0.0136	149	0.0065
2023	2023Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1127	0.4766	0.5638	0.0023	0.0207	237	0.0102
2023	2023Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2313	0.9758	1.1789	0.0049	0.0428	486	0.0209
2023	2023Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2970	1.2278	3.4839	0.0060	0.0740	594	0.0268
2023	2023Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0622	0.4340	0.3467	0.0012	0.0158	109	0.0056
2023	2023Scrapers120	Scrapers	120	0.1005	0.6522	0.5911	0.0011	0.0410	93.9	0.0091
2023	2023Scrapers175	Scrapers	175	0.1160	0.8884	0.6857	0.0017	0.0378	148	0.0105
2023	2023Scrapers250	Scrapers	250	0.1302	0.4766	0.8568	0.0024	0.0308	209	0.0117
2023	2023Scrapers500	Scrapers	500	0.1912	0.7700	1.1799	0.0032	0.0440	321	0.0173
2023	2023Scrapers750	Scrapers	750	0.3318	1.3291	2.0977	0.0056	0.0772	555	0.0299
2023	2023Scrapers Composite	Scrapers Composite		0.1641	0.7432	1.0171	0.0027	0.0406	262	0.0148
2023	2023Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2023	2023Signal Boards50	Signal Boards	50	0.0384	0.2727	0.2399	0.0005	0.0084	36.2	0.0035
2023	2023Signal Boards120	Signal Boards	120	0.0445	0.4910	0.3489	0.0009	0.0173	80.2	0.0040
2023	2023Signal Boards175	Signal Boards	175	0.0664	0.8282	0.4356	0.0017	0.0205	155	0.0060
2023	2023Signal Boards250	Signal Boards	250	0.0875	0.4696	0.5809	0.0029	0.0179	255	0.0079
2023	2023Signal Boards Composite	Signal Boards Composite		0.0117	0.0909	0.0780	0.0002	0.0033	16.7	0.0011
2023	2023Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0569	0.1059	0.0002	0.0041	13.8	0.0015
2023	2023Skid Steer Loaders50	Skid Steer Loaders	50	0.0204	0.1985	0.1509	0.0003	0.0024	25.5	0.0018
2023	2023Skid Steer Loaders120	Skid Steer Loaders	120	0.0188	0.2667	0.1364	0.0005	0.0034	42.8	0.0017
2023	2023Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0196	0.2110	0.1433	0.0004	0.0028	30.3	0.0018
2023	2023Surfacing Equipment50	Surfacing Equipment	50	0.0202	0.1133	0.0981	0.0002	0.0045	14.1	0.0018
2023	2023Surfacing Equipment120	Surfacing Equipment	120	0.0447	0.3975	0.3274	0.0007	0.0190	63.8	0.0040
2023	2023Surfacing Equipment175	Surfacing Equipment	175	0.0441	0.4649	0.3028	0.0010	0.0150	85.8	0.0040
2023	2023Surfacing Equipment250	Surfacing Equipment	250	0.0556	0.2653	0.4118	0.0015	0.0138	135	0.0050
2023	2023Surfacing Equipment500	Surfacing Equipment	500	0.0874	0.4395	0.6089	0.0022	0.0214	221	0.0079
2023	2023Surfacing Equipment750	Surfacing Equipment	750	0.1379	0.6891	0.9797	0.0035	0.0339	347	0.0124
2023	2023Surfacing Equipment Composite	Surfacing Equipment Composite		0.0703	0.3707	0.4836	0.0017	0.0176	166	0.0063
2023	2023Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2023	2023Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2023	2023Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0340	0.2791	0.2089	0.0004	0.0055	31.6	0.0031
2023	2023Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0444	0.4909	0.2906	0.0009	0.0112	75.0	0.0040
2023	2023Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0660	0.8008	0.3115	0.0016	0.0134	139	0.0060
2023	2023Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0650	0.3180	0.2671	0.0018	0.0080	162	0.0059
2023	2023Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0464	0.4855	0.2689	0.0009	0.0099	78.5	0.0042
2023	2023Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2023	2023Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0338	0.2698	0.1988	0.0004	0.0052	30.3	0.0030
2023	2023Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0304	0.3384	0.1974	0.0006	0.0076	51.7	0.0027
2023	2023Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0469	0.5840	0.2114	0.0011	0.0099	101	0.0042
2023	2023Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0693	0.3406	0.2840	0.0019	0.0098	172	0.0062
2023	2023Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1378	0.6538	0.5358	0.0039	0.0192	345	0.0124
2023	2023Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.2067	0.9806	0.8121	0.0058	0.0289	517	0.0186
2023	2023Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0365	0.3593	0.2127	0.0008	0.0081	66.8	0.0033
2023	2023Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2023	2023Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036

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2023	2023Trenchers50	Trenchers	50	0.0795	0.3301	0.2590	0.0004	0.0169	32.9	0.0072
2023	2023Trenchers120	Trenchers	120	0.0706	0.4377	0.4353	0.0008	0.0314	64.9	0.0064
2023	2023Trenchers175	Trenchers	175	0.1133	0.8348	0.7330	0.0016	0.0406	144	0.0102
2023	2023Trenchers250	Trenchers	250	0.1371	0.5094	1.0145	0.0025	0.0371	223	0.0124
2023	2023Trenchers500	Trenchers	500	0.1814	0.7801	1.2742	0.0031	0.0478	311	0.0164
2023	2023Trenchers750	Trenchers	750	0.3437	1.4692	2.4692	0.0059	0.0915	587	0.0310
2023	2023Trenchers Composite	Trenchers Composite		0.0767	0.4150	0.3876	0.0007	0.0260	58.7	0.0069
2023	2023Welders15	Welders	15	0.0076	0.0383	0.0477	0.0001	0.0021	6.2	0.0007
2023	2023Welders25	Welders	25	0.0145	0.0479	0.0884	0.0001	0.0037	11.3	0.0013
2023	2023Welders50	Welders	50	0.0325	0.2111	0.1783	0.0003	0.0070	26.0	0.0029
2023	2023Welders120	Welders	120	0.0253	0.2482	0.1823	0.0005	0.0099	39.5	0.0023
2023	2023Welders175	Welders	175	0.0486	0.5390	0.3026	0.0011	0.0150	98.2	0.0044
2023	2023Welders250	Welders	250	0.0466	0.2248	0.2994	0.0013	0.0095	119	0.0042
2023	2023Welders500	Welders	500	0.0641	0.3056	0.3864	0.0016	0.0129	168	0.0058
2023	2023Welders Composite	Welders Composite		0.0242	0.1762	0.1487	0.0003	0.0068	25.6	0.0022
2024	2024Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2024	2024Aerial Lifts25	Aerial Lifts	25	0.0133	0.0452	0.0840	0.0001	0.0032	11.0	0.0012
2024	2024Aerial Lifts50	Aerial Lifts	50	0.0181	0.1362	0.1253	0.0003	0.0040	19.6	0.0016
2024	2024Aerial Lifts120	Aerial Lifts	120	0.0188	0.2268	0.1590	0.0004	0.0073	38.1	0.0017
2024	2024Aerial Lifts500	Aerial Lifts	500	0.0608	0.3720	0.4189	0.0021	0.0127	213	0.0055
2024	2024Aerial Lifts750	Aerial Lifts	750	0.1106	0.6724	0.7727	0.0039	0.0232	385	0.0100
2024	2024Aerial Lifts Composite	Aerial Lifts Composite		0.0195	0.1652	0.1442	0.0004	0.0055	34.7	0.0018
2024	2024Air Compressors15	Air Compressors	15	0.0088	0.0445	0.0550	0.0001	0.0024	7.2	0.0008
2024	2024Air Compressors25	Air Compressors	25	0.0183	0.0609	0.1126	0.0002	0.0046	14.4	0.0017
2024	2024Air Compressors50	Air Compressors	50	0.0280	0.1922	0.1519	0.0003	0.0054	22.3	0.0025
2024	2024Air Compressors120	Air Compressors	120	0.0306	0.3025	0.2052	0.0006	0.0104	47.0	0.0028
2024	2024Air Compressors175	Air Compressors	175	0.0451	0.4992	0.2467	0.0010	0.0122	88.5	0.0041
2024	2024Air Compressors250	Air Compressors	250	0.0540	0.2536	0.2931	0.0015	0.0092	131	0.0049
2024	2024Air Compressors500	Air Compressors	500	0.0937	0.4300	0.4761	0.0023	0.0158	232	0.0085
2024	2024Air Compressors750	Air Compressors	750	0.1452	0.6646	0.7508	0.0036	0.0248	358	0.0131
2024	2024Air Compressors1000	Air Compressors	1000	0.2105	0.9360	2.6550	0.0049	0.0536	486	0.0190
2024	2024Air Compressors Composite	Air Compressors Composite		0.0369	0.3031	0.2272	0.0007	0.0103	63.6	0.0033
2024	2024Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2024	2024Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2024	2024Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1666	0.0004	0.0009	31.0	0.0017
2024	2024Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0253	0.4660	0.1970	0.0009	0.0021	77.1	0.0023
2024	2024Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0327	0.7542	0.0827	0.0016	0.0031	141	0.0030
2024	2024Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0429	0.3426	0.1014	0.0021	0.0036	188	0.0039
2024	2024Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0710	0.5512	0.1671	0.0031	0.0060	311	0.0064
2024	2024Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1404	1.0890	0.3303	0.0062	0.0119	615	0.0127
2024	2024Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2130	1.6436	3.9011	0.0093	0.0372	928	0.0192
2024	2024Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0431	0.5007	0.2892	0.0017	0.0043	165	0.0039
2024	2024Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2024	2024Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0214	0.0726	0.1350	0.0002	0.0053	17.6	0.0019
2024	2024Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2024	2024Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2024	2024Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0299	0.2302	0.1967	0.0004	0.0062	30.2	0.0027
2024	2024Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0392	0.4568	0.3021	0.0009	0.0138	74.1	0.0035
2024	2024Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0664	0.8662	0.3998	0.0018	0.0189	160	0.0060
2024	2024Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0358	0.3716	0.2608	0.0007	0.0109	58.5	0.0032
2024	2024Cranes50	Cranes	50	0.0373	0.2278	0.1687	0.0003	0.0072	23.2	0.0034
2024	2024Cranes120	Cranes	120	0.0399	0.3391	0.2459	0.0006	0.0138	50.1	0.0036
2024	2024Cranes175	Cranes	175	0.0490	0.4745	0.2579	0.0009	0.0136	80.3	0.0044
2024	2024Cranes250	Cranes	250	0.0571	0.2333	0.3059	0.0013	0.0107	112	0.0051
2024	2024Cranes500	Cranes	500	0.0897	0.3566	0.4464	0.0018	0.0165	180	0.0081
2024	2024Cranes750	Cranes	750	0.1512	0.5999	0.7661	0.0030	0.0280	303	0.0136

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2024	2024Cranes9999	Cranes	9999	0.5477	1.9971	5.8122	0.0098	0.1254	971	0.0494
2024	2024Cranes Composite	Cranes Composite		0.0715	0.3759	0.4601	0.0014	0.0161	129	0.0065
2024	2024Crawler Tractors50	Crawler Tractors	50	0.0522	0.2599	0.1887	0.0003	0.0100	24.9	0.0047
2024	2024Crawler Tractors120	Crawler Tractors	120	0.0646	0.4552	0.3786	0.0008	0.0246	65.8	0.0058
2024	2024Crawler Tractors175	Crawler Tractors	175	0.0874	0.7271	0.4904	0.0014	0.0268	121	0.0079
2024	2024Crawler Tractors250	Crawler Tractors	250	0.0966	0.3701	0.5904	0.0019	0.0211	166	0.0087
2024	2024Crawler Tractors500	Crawler Tractors	500	0.1450	0.5986	0.8297	0.0025	0.0308	259	0.0131
2024	2024Crawler Tractors750	Crawler Tractors	750	0.2611	1.0724	1.5305	0.0047	0.0561	465	0.0236
2024	2024Crawler Tractors1000	Crawler Tractors	1000	0.3931	1.6052	4.3851	0.0066	0.1037	658	0.0355
2024	2024Crawler Tractors Composite	Crawler Tractors Composite		0.0832	0.5092	0.4874	0.0013	0.0252	114	0.0075
2024	2024Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0538	0.3879	0.2983	0.0006	0.0097	44.0	0.0049
2024	2024Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0533	0.5409	0.3495	0.0010	0.0165	83.1	0.0048
2024	2024Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0845	0.9548	0.4334	0.0019	0.0210	167	0.0076
2024	2024Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1016	0.4774	0.5013	0.0028	0.0159	245	0.0092
2024	2024Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1531	0.6988	0.7082	0.0037	0.0236	374	0.0138
2024	2024Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2419	1.1018	1.1389	0.0059	0.0374	589	0.0218
2024	2024Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6320	2.5232	6.9713	0.0131	0.1376	1,308	0.0570
2024	2024Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0731	0.6193	0.4104	0.0015	0.0172	132	0.0066
2024	2024Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2024	2024Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2024	2024Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2024	2024Excavators50	Excavators	50	0.0307	0.2374	0.1655	0.0003	0.0041	25.0	0.0028
2024	2024Excavators120	Excavators	120	0.0466	0.4946	0.2785	0.0009	0.0108	73.6	0.0042
2024	2024Excavators175	Excavators	175	0.0546	0.6636	0.2257	0.0013	0.0107	112	0.0049
2024	2024Excavators250	Excavators	250	0.0675	0.3218	0.2539	0.0018	0.0086	159	0.0061
2024	2024Excavators500	Excavators	500	0.0985	0.4507	0.3521	0.0023	0.0124	234	0.0089
2024	2024Excavators750	Excavators	750	0.1635	0.7470	0.5916	0.0039	0.0207	387	0.0148
2024	2024Excavators Composite	Excavators Composite		0.0585	0.5091	0.2524	0.0013	0.0101	120	0.0053
2024	2024Forklifts50	Forklifts	50	0.0154	0.1361	0.0920	0.0002	0.0015	14.7	0.0014
2024	2024Forklifts120	Forklifts	120	0.0175	0.2086	0.1060	0.0004	0.0027	31.2	0.0016
2024	2024Forklifts175	Forklifts	175	0.0243	0.3307	0.0892	0.0006	0.0033	56.1	0.0022
2024	2024Forklifts250	Forklifts	250	0.0301	0.1550	0.0895	0.0009	0.0030	77.1	0.0027
2024	2024Forklifts500	Forklifts	500	0.0432	0.2122	0.1230	0.0011	0.0042	111	0.0039
2024	2024Forklifts Composite	Forklifts Composite		0.0246	0.2146	0.0974	0.0006	0.0029	54.4	0.0022
2024	2024Generator Sets15	Generator Sets	15	0.0110	0.0629	0.0775	0.0002	0.0033	10.2	0.0010
2024	2024Generator Sets25	Generator Sets	25	0.0217	0.0743	0.1375	0.0002	0.0056	17.6	0.0020
2024	2024Generator Sets50	Generator Sets	50	0.0262	0.2050	0.1936	0.0004	0.0059	30.6	0.0024
2024	2024Generator Sets120	Generator Sets	120	0.0364	0.4591	0.3212	0.0009	0.0142	77.9	0.0033
2024	2024Generator Sets175	Generator Sets	175	0.0502	0.7324	0.3708	0.0016	0.0158	142	0.0045
2024	2024Generator Sets250	Generator Sets	250	0.0588	0.3756	0.4449	0.0024	0.0127	213	0.0053
2024	2024Generator Sets500	Generator Sets	500	0.0905	0.5835	0.6525	0.0033	0.0195	337	0.0082
2024	2024Generator Sets750	Generator Sets	750	0.1473	0.9420	1.0745	0.0055	0.0318	544	0.0133
2024	2024Generator Sets9999	Generator Sets	9999	0.3426	1.8853	5.4399	0.0105	0.0985	1,049	0.0309
2024	2024Generator Sets Composite	Generator Sets Composite		0.0303	0.2674	0.2464	0.0007	0.0092	61.0	0.0027
2024	2024Graders50	Graders	50	0.0407	0.2621	0.1922	0.0004	0.0073	27.5	0.0037
2024	2024Graders120	Graders	120	0.0554	0.5021	0.3433	0.0009	0.0177	75.0	0.0050
2024	2024Graders175	Graders	175	0.0693	0.7264	0.3512	0.0014	0.0179	124	0.0063
2024	2024Graders250	Graders	250	0.0816	0.3568	0.4129	0.0019	0.0145	172	0.0074
2024	2024Graders500	Graders	500	0.1065	0.4665	0.5014	0.0023	0.0185	229	0.0096
2024	2024Graders750	Graders	750	0.2259	0.9869	1.0831	0.0049	0.0395	486	0.0204
2024	2024Graders Composite	Graders Composite		0.0714	0.5706	0.3709	0.0015	0.0168	133	0.0064
2024	2024Off-Highway Tractors120	Off-Highway Tractors	120	0.1169	0.6647	0.6724	0.0011	0.0494	93.7	0.0106
2024	2024Off-Highway Tractors175	Off-Highway Tractors	175	0.1172	0.7945	0.7183	0.0015	0.0402	130	0.0106
2024	2024Off-Highway Tractors250	Off-Highway Tractors	250	0.0933	0.3246	0.6484	0.0015	0.0247	130	0.0084
2024	2024Off-Highway Tractors750	Off-Highway Tractors	750	0.3859	1.5884	2.6171	0.0057	0.0998	568	0.0348
2024	2024Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5888	2.4551	6.3258	0.0082	0.1689	814	0.0531

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2024	2024Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1192	0.6165	0.7884	0.0017	0.0360	151	0.0108
2024	2024Off-Highway Trucks175	Off-Highway Trucks	175	0.0655	0.7536	0.2698	0.0014	0.0131	125	0.0059
2024	2024Off-Highway Trucks250	Off-Highway Trucks	250	0.0761	0.3445	0.2879	0.0019	0.0098	167	0.0069
2024	2024Off-Highway Trucks500	Off-Highway Trucks	500	0.1232	0.5334	0.4414	0.0027	0.0157	272	0.0111
2024	2024Off-Highway Trucks750	Off-Highway Trucks	750	0.2001	0.8652	0.7266	0.0044	0.0256	442	0.0181
2024	2024Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2949	1.2476	3.2774	0.0063	0.0601	625	0.0266
2024	2024Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1189	0.5401	0.5286	0.0027	0.0164	260	0.0107
2024	2024Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2024	2024Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2024	2024Other Construction Equipment50	Other Construction Equipment	50	0.0254	0.2197	0.1736	0.0004	0.0040	28.0	0.0023
2024	2024Other Construction Equipment120	Other Construction Equipment	120	0.0397	0.5049	0.2876	0.0009	0.0103	80.9	0.0036
2024	2024Other Construction Equipment175	Other Construction Equipment	175	0.0407	0.5858	0.1980	0.0012	0.0089	107	0.0037
2024	2024Other Construction Equipment500	Other Construction Equipment	500	0.0828	0.4612	0.3489	0.0025	0.0117	254	0.0075
2024	2024Other Construction Equipment Composite	Other Construction Equipment Composite		0.0462	0.3477	0.2244	0.0013	0.0079	123	0.0042
2024	2024Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2024	2024Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2024	2024Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0316	0.2111	0.1534	0.0003	0.0055	21.7	0.0029
2024	2024Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0460	0.4192	0.2770	0.0007	0.0141	62.0	0.0041
2024	2024Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0551	0.5678	0.2723	0.0011	0.0135	95.9	0.0050
2024	2024Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0637	0.2749	0.3073	0.0015	0.0097	136	0.0058
2024	2024Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1228	0.5114	0.5533	0.0026	0.0185	265	0.0111
2024	2024Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.2029	0.8429	0.9305	0.0044	0.0309	437	0.0183
2024	2024Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2763	1.1172	3.1204	0.0056	0.0642	560	0.0249
2024	2024Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0784	0.4446	0.4363	0.0016	0.0151	152	0.0071
2024	2024Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0435	0.2910	0.2133	0.0004	0.0076	30.3	0.0039
2024	2024Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0444	0.4079	0.2705	0.0007	0.0138	60.7	0.0040
2024	2024Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0694	0.7189	0.3463	0.0014	0.0172	122	0.0063
2024	2024Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0673	0.2925	0.3285	0.0016	0.0104	145	0.0061
2024	2024Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0875	0.3678	0.3992	0.0019	0.0133	192	0.0079
2024	2024Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3974	1.4745	4.1250	0.0073	0.0848	741	0.0359
2024	2024Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0733	0.4362	0.4243	0.0015	0.0145	141	0.0066
2024	2024Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2024	2024Pavers50	Pavers	50	0.0618	0.2844	0.2154	0.0004	0.0127	28.0	0.0056
2024	2024Pavers120	Pavers	120	0.0706	0.4714	0.4258	0.0008	0.0292	69.2	0.0064
2024	2024Pavers175	Pavers	175	0.0956	0.7552	0.5753	0.0014	0.0317	128	0.0086
2024	2024Pavers250	Pavers	250	0.1150	0.4348	0.7727	0.0022	0.0279	194	0.0104
2024	2024Pavers500	Pavers	500	0.1319	0.5518	0.8323	0.0023	0.0311	233	0.0119
2024	2024Pavers Composite	Pavers Composite		0.0764	0.4773	0.4135	0.0009	0.0244	77.9	0.0069
2024	2024Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2024	2024Paving Equipment50	Paving Equipment	50	0.0508	0.2391	0.1834	0.0003	0.0106	23.9	0.0046
2024	2024Paving Equipment120	Paving Equipment	120	0.0539	0.3687	0.3298	0.0006	0.0225	54.5	0.0049
2024	2024Paving Equipment175	Paving Equipment	175	0.0733	0.5907	0.4437	0.0011	0.0244	101	0.0066
2024	2024Paving Equipment250	Paving Equipment	250	0.0705	0.2683	0.4748	0.0014	0.0170	122	0.0064
2024	2024Paving Equipment Composite	Paving Equipment Composite		0.0584	0.4007	0.3546	0.0008	0.0212	68.9	0.0053
2024	2024Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2024	2024Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2024	2024Pressure Washers15	Pressure Washers	15	0.0053	0.0301	0.0371	0.0001	0.0016	4.9	0.0005
2024	2024Pressure Washers25	Pressure Washers	25	0.0088	0.0301	0.0557	0.0001	0.0023	7.1	0.0008
2024	2024Pressure Washers50	Pressure Washers	50	0.0086	0.0816	0.0868	0.0002	0.0022	14.3	0.0008
2024	2024Pressure Washers120	Pressure Washers	120	0.0088	0.1353	0.0952	0.0003	0.0037	24.1	0.0008
2024	2024Pressure Washers Composite	Pressure Washers Composite		0.0069	0.0534	0.0575	0.0001	0.0020	9.4	0.0006
2024	2024Pumps15	Pumps	15	0.0090	0.0457	0.0565	0.0001	0.0025	7.4	0.0008
2024	2024Pumps25	Pumps	25	0.0247	0.0821	0.1519	0.0002	0.0062	19.5	0.0022
2024	2024Pumps50	Pumps	50	0.0323	0.2413	0.2200	0.0004	0.0071	34.3	0.0029
2024	2024Pumps120	Pumps	120	0.0390	0.4661	0.3256	0.0009	0.0151	77.9	0.0035
2024	2024Pumps175	Pumps	175	0.0533	0.7338	0.3720	0.0016	0.0165	140	0.0048

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2024	2024Pumps250	Pumps	250	0.0603	0.3614	0.4290	0.0023	0.0125	201	0.0054
2024	2024Pumps500	Pumps	500	0.1006	0.6050	0.6783	0.0034	0.0208	345	0.0091
2024	2024Pumps750	Pumps	750	0.1672	1.0001	1.1442	0.0057	0.0348	571	0.0151
2024	2024Pumps9999	Pumps	9999	0.4739	2.4659	7.1019	0.0136	0.1313	1,355	0.0428
2024	2024Pumps Composite	Pumps Composite		0.0285	0.2624	0.2193	0.0006	0.0089	49.6	0.0026
2024	2024Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2024	2024Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2024	2024Rollers50	Rollers	50	0.0371	0.2282	0.1822	0.0003	0.0077	26.0	0.0033
2024	2024Rollers120	Rollers	120	0.0418	0.3810	0.2832	0.0007	0.0157	59.0	0.0038
2024	2024Rollers175	Rollers	175	0.0587	0.6097	0.3395	0.0012	0.0176	108	0.0053
2024	2024Rollers250	Rollers	250	0.0689	0.3061	0.4099	0.0017	0.0143	153	0.0062
2024	2024Rollers500	Rollers	500	0.0962	0.4242	0.5328	0.0022	0.0195	219	0.0087
2024	2024Rollers Composite	Rollers Composite		0.0435	0.3772	0.2707	0.0008	0.0139	67.0	0.0039
2024	2024Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0398	0.3057	0.2254	0.0004	0.0063	33.9	0.0036
2024	2024Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0387	0.4110	0.2454	0.0007	0.0104	62.4	0.0035
2024	2024Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0605	0.7228	0.2796	0.0014	0.0134	125	0.0055
2024	2024Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0705	0.3379	0.3029	0.0019	0.0099	171	0.0064
2024	2024Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1048	0.4847	0.4245	0.0025	0.0146	257	0.0095
2024	2024Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0416	0.4433	0.2499	0.0008	0.0106	70.3	0.0038
2024	2024Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1225	0.8035	0.7440	0.0015	0.0417	129	0.0111
2024	2024Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1392	0.4728	0.9557	0.0021	0.0369	183	0.0126
2024	2024Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1898	0.7765	1.2479	0.0026	0.0487	265	0.0171
2024	2024Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2869	1.1673	1.9252	0.0040	0.0742	399	0.0259
2024	2024Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4517	1.8684	4.7258	0.0060	0.1284	592	0.0408
2024	2024Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1748	0.6835	1.1695	0.0025	0.0455	239	0.0158
2024	2024Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2024	2024Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0443	0.2927	0.2161	0.0004	0.0079	31.1	0.0040
2024	2024Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0420	0.3924	0.2639	0.0007	0.0132	58.9	0.0038
2024	2024Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0580	0.6201	0.2922	0.0012	0.0148	106	0.0052
2024	2024Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0691	0.3059	0.3442	0.0017	0.0121	149	0.0062
2024	2024Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1078	0.4705	0.5009	0.0023	0.0184	237	0.0097
2024	2024Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2211	0.9634	1.0446	0.0049	0.0380	486	0.0199
2024	2024Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2828	1.2085	3.3471	0.0060	0.0674	594	0.0255
2024	2024Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0588	0.4324	0.3131	0.0012	0.0138	109	0.0053
2024	2024Scrapers120	Scrapers	120	0.0943	0.6496	0.5551	0.0011	0.0368	93.9	0.0085
2024	2024Scrapers175	Scrapers	175	0.1090	0.8874	0.6232	0.0017	0.0341	148	0.0098
2024	2024Scrapers250	Scrapers	250	0.1242	0.4700	0.7773	0.0024	0.0280	209	0.0112
2024	2024Scrapers500	Scrapers	500	0.1830	0.7505	1.0718	0.0032	0.0400	321	0.0165
2024	2024Scrapers750	Scrapers	750	0.3175	1.2955	1.9046	0.0056	0.0702	555	0.0286
2024	2024Scrapers Composite	Scrapers Composite		0.1565	0.7302	0.9241	0.0027	0.0369	262	0.0141
2024	2024Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2024	2024Signal Boards50	Signal Boards	50	0.0357	0.2705	0.2332	0.0005	0.0073	36.2	0.0032
2024	2024Signal Boards120	Signal Boards	120	0.0418	0.4904	0.3267	0.0009	0.0149	80.2	0.0038
2024	2024Signal Boards175	Signal Boards	175	0.0624	0.8287	0.3881	0.0017	0.0178	155	0.0056
2024	2024Signal Boards250	Signal Boards	250	0.0833	0.4684	0.5094	0.0029	0.0155	255	0.0075
2024	2024Signal Boards Composite	Signal Boards Composite		0.0114	0.0909	0.0747	0.0002	0.0031	16.7	0.0010
2024	2024Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1056	0.0002	0.0041	13.8	0.0015
2024	2024Skid Steer Loaders50	Skid Steer Loaders	50	0.0198	0.1981	0.1474	0.0003	0.0019	25.5	0.0018
2024	2024Skid Steer Loaders120	Skid Steer Loaders	120	0.0181	0.2666	0.1295	0.0005	0.0027	42.8	0.0016
2024	2024Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0190	0.2107	0.1389	0.0004	0.0023	30.3	0.0017
2024	2024Surfacing Equipment50	Surfacing Equipment	50	0.0185	0.1118	0.0956	0.0002	0.0040	14.1	0.0017
2024	2024Surfacing Equipment120	Surfacing Equipment	120	0.0414	0.3961	0.3061	0.0007	0.0167	63.8	0.0037
2024	2024Surfacing Equipment175	Surfacing Equipment	175	0.0412	0.4645	0.2712	0.0010	0.0133	85.8	0.0037
2024	2024Surfacing Equipment250	Surfacing Equipment	250	0.0528	0.2627	0.3674	0.0015	0.0124	135	0.0048
2024	2024Surfacing Equipment500	Surfacing Equipment	500	0.0836	0.4310	0.5459	0.0022	0.0193	221	0.0075
2024	2024Surfacing Equipment750	Surfacing Equipment	750	0.1317	0.6758	0.8761	0.0035	0.0306	347	0.0119

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2024	2024Surfacing Equipment Composite	Surfacing Equipment Composite		0.0669	0.3644	0.4356	0.0017	0.0159	166	0.0060
2024	2024Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2024	2024Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2024	2024Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0322	0.2774	0.2012	0.0004	0.0043	31.6	0.0029
2024	2024Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0417	0.4901	0.2701	0.0009	0.0086	75.0	0.0038
2024	2024Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0608	0.8006	0.2634	0.0016	0.0101	139	0.0055
2024	2024Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0616	0.3179	0.2252	0.0018	0.0069	162	0.0056
2024	2024Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0434	0.4846	0.2457	0.0009	0.0076	78.5	0.0039
2024	2024Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2024	2024Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0326	0.2687	0.1939	0.0004	0.0043	30.3	0.0029
2024	2024Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0291	0.3381	0.1857	0.0006	0.0065	51.7	0.0026
2024	2024Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0442	0.5840	0.1843	0.0011	0.0084	101	0.0040
2024	2024Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0661	0.3397	0.2465	0.0019	0.0084	172	0.0060
2024	2024Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1317	0.6521	0.4696	0.0039	0.0166	345	0.0119
2024	2024Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1976	0.9781	0.7117	0.0058	0.0250	517	0.0178
2024	2024Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0349	0.3589	0.1980	0.0008	0.0069	66.8	0.0031
2024	2024Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2024	2024Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2024	2024Trenchers50	Trenchers	50	0.0739	0.3247	0.2527	0.0004	0.0154	32.9	0.0067
2024	2024Trenchers120	Trenchers	120	0.0664	0.4358	0.4099	0.0008	0.0286	64.9	0.0060
2024	2024Trenchers175	Trenchers	175	0.1069	0.8337	0.6721	0.0016	0.0371	144	0.0096
2024	2024Trenchers250	Trenchers	250	0.1307	0.5004	0.9284	0.0025	0.0339	223	0.0118
2024	2024Trenchers500	Trenchers	500	0.1735	0.7573	1.1664	0.0031	0.0438	311	0.0157
2024	2024Trenchers750	Trenchers	750	0.3287	1.4264	2.2609	0.0059	0.0838	587	0.0297
2024	2024Trenchers Composite	Trenchers Composite		0.0719	0.4116	0.3672	0.0007	0.0237	58.7	0.0065
2024	2024Welders15	Welders	15	0.0076	0.0382	0.0472	0.0001	0.0021	6.2	0.0007
2024	2024Welders25	Welders	25	0.0143	0.0475	0.0880	0.0001	0.0036	11.3	0.0013
2024	2024Welders50	Welders	50	0.0301	0.2093	0.1733	0.0003	0.0061	26.0	0.0027
2024	2024Welders120	Welders	120	0.0237	0.2479	0.1705	0.0005	0.0085	39.5	0.0021
2024	2024Welders175	Welders	175	0.0457	0.5395	0.2704	0.0011	0.0131	98.2	0.0041
2024	2024Welders250	Welders	250	0.0444	0.2241	0.2632	0.0013	0.0082	119	0.0040
2024	2024Welders500	Welders	500	0.0613	0.3047	0.3404	0.0016	0.0111	168	0.0055
2024	2024Welders Composite	Welders Composite		0.0227	0.1753	0.1428	0.0003	0.0059	25.6	0.0021
2025	2025Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2025	2025Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2025	2025Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2025	2025Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2025	2025Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2025	2025Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2025	2025Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2025	2025Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2025	2025Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2025	2025Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2025	2025Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2025	2025Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2025	2025Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2025	2025Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2025	2025Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2025	2025Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2025	2025Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2025	2025Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2025	2025Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2025	2025Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2025	2025Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2025	2025Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2025	2025Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2025	2025Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2025	2025Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2025	2025Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2025	2025Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2025	2025Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2025	2025Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2025	2025Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2025	2025Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2025	2025Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2025	2025Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2025	2025Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2025	2025Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2025	2025Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2025	2025Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2025	2025Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2025	2025Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2025	2025Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2025	2025Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2025	2025Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2025	2025Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2025	2025Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2025	2025Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2025	2025Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2025	2025Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2025	2025Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2025	2025Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2025	2025Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2025	2025Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2025	2025Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2025	2025Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2025	2025Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2025	2025Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2025	2025Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2025	2025Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2025	2025Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2025	2025Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2025	2025Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2025	2025Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2025	2025Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2025	2025Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2025	2025Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2025	2025Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2025	2025Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2025	2025Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2025	2025Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2025	2025Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2025	2025Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2025	2025Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2025	2025Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2025	2025Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2025	2025Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2025	2025Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2025	2025Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2025	2025Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2025	2025Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2025	2025Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2025	2025Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2025	2025Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2025	2025Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2025	2025Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2025	2025Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2025	2025Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2025	2025Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2025	2025Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2025	2025Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2025	2025Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2025	2025Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2025	2025Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2025	2025Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2025	2025Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2025	2025Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2025	2025Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2025	2025Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2025	2025Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2025	2025Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2025	2025Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2025	2025Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2025	2025Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2025	2025Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2025	2025Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2025	2025Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2025	2025Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2025	2025Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2025	2025Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2025	2025Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2025	2025Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2025	2025Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2025	2025Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2025	2025Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2025	2025Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2025	2025Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2025	2025Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2025	2025Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2025	2025Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2025	2025Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2025	2025Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2025	2025Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2025	2025Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2025	2025Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2025	2025Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2025	2025Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2025	2025Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2025	2025Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2025	2025Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2025	2025Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2025	2025Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2025	2025Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2025	2025Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2025	2025Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2025	2025Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2025	2025Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2025	2025Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2025	2025Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2025	2025Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2025	2025Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2025	2025Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2025	2025Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2025	2025Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2025	2025Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2025	2025Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2025	2025Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2025	2025Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2025	2025Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2025	2025Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2025	2025Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2025	2025Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2025	2025Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2025	2025Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2025	2025Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2025	2025Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2025	2025Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2025	2025Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2025	2025Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2025	2025Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2025	2025Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2025	2025Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2025	2025Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2025	2025Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2025	2025Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2025	2025Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2025	2025Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2025	2025Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2025	2025Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2025	2025Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2025	2025Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2025	2025Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2025	2025Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2025	2025Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2025	2025Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2025	2025Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2025	2025Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2025	2025Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2025	2025Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2025	2025Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2025	2025Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2025	2025Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2025	2025Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2025	2025Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2025	2025Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2025	2025Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2025	2025Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2025	2025Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2025	2025Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2025	2025Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2025	2025Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2025	2025Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2025	2025Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2025	2025Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2025	2025Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2025	2025Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2025	2025Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2025	2025Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2025	2025Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2025	2025Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2025	2025Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2025	2025Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2025	2025Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2025	2025Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2025	2025Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2025	2025Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2025	2025Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2025	2025Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2025	2025Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2025	2025Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2025	2025Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2025	2025Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2025	2025Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2025	2025Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2025	2025Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2025	2025Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2025	2025Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2025	2025Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2025	2025Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2025	2025Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2025	2025Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2025	2025Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2025	2025Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2025	2025Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2025	2025Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2025	2025Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2025	2025Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2025	2025Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2025	2025Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2025	2025Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2025	2025Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2025	2025Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2025	2025Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2025	2025Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2025	2025Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2025	2025Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2025	2025Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2025	2025Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2025	2025Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2025	2025Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2025	2025Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2025	2025Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2025	2025Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2025	2025Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2025	2025Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2026	2026Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2026	2026Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2026	2026Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2026	2026Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2026	2026Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052

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2026	2026Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2026	2026Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2026	2026Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2026	2026Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2026	2026Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2026	2026Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2026	2026Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2026	2026Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2026	2026Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2026	2026Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2026	2026Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2026	2026Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2026	2026Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2026	2026Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2026	2026Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2026	2026Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2026	2026Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2026	2026Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2026	2026Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2026	2026Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2026	2026Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2026	2026Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2026	2026Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2026	2026Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2026	2026Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2026	2026Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2026	2026Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2026	2026Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2026	2026Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2026	2026Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2026	2026Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2026	2026Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2026	2026Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2026	2026Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2026	2026Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2026	2026Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2026	2026Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2026	2026Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2026	2026Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2026	2026Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2026	2026Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2026	2026Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2026	2026Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2026	2026Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2026	2026Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2026	2026Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2026	2026Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2026	2026Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2026	2026Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2026	2026Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2026	2026Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2026	2026Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2026	2026Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2026	2026Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2026	2026Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2026	2026Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2026	2026Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2026	2026Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2026	2026Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2026	2026Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2026	2026Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2026	2026Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2026	2026Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2026	2026Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2026	2026Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2026	2026Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2026	2026Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2026	2026Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2026	2026Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2026	2026Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2026	2026Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2026	2026Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2026	2026Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2026	2026Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2026	2026Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2026	2026Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2026	2026Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2026	2026Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2026	2026Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2026	2026Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2026	2026Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2026	2026Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2026	2026Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2026	2026Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2026	2026Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2026	2026Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2026	2026Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2026	2026Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2026	2026Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2026	2026Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2026	2026Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2026	2026Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2026	2026Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2026	2026Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2026	2026Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2026	2026Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2026	2026Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2026	2026Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2026	2026Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2026	2026Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2026	2026Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2026	2026Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2026	2026Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2026	2026Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2026	2026Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2026	2026Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2026	2026Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2026	2026Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2026	2026Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2026	2026Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2026	2026Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2026	2026Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2026	2026Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2026	2026Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2026	2026Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2026	2026Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2026	2026Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2026	2026Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2026	2026Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2026	2026Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2026	2026Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2026	2026Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2026	2026Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2026	2026Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2026	2026Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2026	2026Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2026	2026Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2026	2026Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2026	2026Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2026	2026Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2026	2026Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2026	2026Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2026	2026Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2026	2026Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2026	2026Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2026	2026Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2026	2026Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2026	2026Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2026	2026Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2026	2026Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2026	2026Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2026	2026Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2026	2026Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2026	2026Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2026	2026Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2026	2026Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2026	2026Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2026	2026Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2026	2026Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2026	2026Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2026	2026Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2026	2026Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2026	2026Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2026	2026Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2026	2026Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2026	2026Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2026	2026Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2026	2026Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2026	2026Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2026	2026Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2026	2026Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2026	2026Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2026	2026Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2026	2026Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2026	2026Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2026	2026Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2026	2026Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2026	2026Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105

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2026	2026Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2026	2026Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2026	2026Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2026	2026Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2026	2026Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2026	2026Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2026	2026Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2026	2026Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2026	2026Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2026	2026Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2026	2026Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2026	2026Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2026	2026Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2026	2026Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2026	2026Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2026	2026Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2026	2026Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2026	2026Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2026	2026Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2026	2026Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2026	2026Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2026	2026Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2026	2026Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2026	2026Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2026	2026Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2026	2026Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2026	2026Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2026	2026Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2026	2026Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2026	2026Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2026	2026Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2026	2026Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2026	2026Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2026	2026Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2026	2026Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2026	2026Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2026	2026Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2026	2026Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2026	2026Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2026	2026Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2026	2026Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2026	2026Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2026	2026Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2026	2026Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2026	2026Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2026	2026Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2026	2026Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2026	2026Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2026	2026Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2026	2026Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2026	2026Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2026	2026Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2026	2026Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2026	2026Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2026	2026Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2026	2026Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2026	2026Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2026	2026Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2026	2026Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2026	2026Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2026	2026Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2026	2026Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2026	2026Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2026	2026Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2026	2026Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2026	2026Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2026	2026Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2026	2026Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2026	2026Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2027	2027Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2027	2027Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2027	2027Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2027	2027Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2027	2027Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2027	2027Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2027	2027Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2027	2027Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2027	2027Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2027	2027Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2027	2027Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2027	2027Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2027	2027Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2027	2027Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2027	2027Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2027	2027Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2027	2027Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2027	2027Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2027	2027Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2027	2027Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2027	2027Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2027	2027Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2027	2027Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2027	2027Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2027	2027Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2027	2027Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2027	2027Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2027	2027Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2027	2027Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2027	2027Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2027	2027Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2027	2027Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2027	2027Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2027	2027Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2027	2027Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2027	2027Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2027	2027Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2027	2027Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2027	2027Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2027	2027Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2027	2027Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2027	2027Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2027	2027Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061

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2027	2027Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2027	2027Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2027	2027Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2027	2027Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2027	2027Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2027	2027Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2027	2027Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2027	2027Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2027	2027Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2027	2027Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2027	2027Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2027	2027Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2027	2027Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2027	2027Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2027	2027Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2027	2027Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2027	2027Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2027	2027Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2027	2027Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2027	2027Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2027	2027Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2027	2027Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2027	2027Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2027	2027Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2027	2027Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2027	2027Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2027	2027Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2027	2027Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2027	2027Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2027	2027Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2027	2027Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2027	2027Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2027	2027Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2027	2027Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2027	2027Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2027	2027Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2027	2027Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2027	2027Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2027	2027Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2027	2027Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2027	2027Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2027	2027Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2027	2027Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2027	2027Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2027	2027Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2027	2027Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2027	2027Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2027	2027Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2027	2027Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2027	2027Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2027	2027Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2027	2027Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2027	2027Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2027	2027Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2027	2027Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2027	2027Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2027	2027Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2027	2027Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2027	2027Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2027	2027Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2027	2027Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2027	2027Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2027	2027Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2027	2027Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2027	2027Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2027	2027Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2027	2027Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2027	2027Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2027	2027Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2027	2027Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2027	2027Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2027	2027Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2027	2027Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2027	2027Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2027	2027Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2027	2027Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2027	2027Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2027	2027Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2027	2027Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2027	2027Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2027	2027Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2027	2027Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2027	2027Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2027	2027Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2027	2027Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2027	2027Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2027	2027Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2027	2027Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2027	2027Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2027	2027Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2027	2027Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2027	2027Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2027	2027Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2027	2027Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2027	2027Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2027	2027Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2027	2027Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2027	2027Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2027	2027Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2027	2027Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2027	2027Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2027	2027Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2027	2027Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2027	2027Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2027	2027Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2027	2027Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2027	2027Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2027	2027Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2027	2027Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2027	2027Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2027	2027Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2027	2027Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2027	2027Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2027	2027Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2027	2027Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2027	2027Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2027	2027Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2027	2027Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2027	2027Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2027	2027Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2027	2027Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2027	2027Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2027	2027Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2027	2027Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2027	2027Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2027	2027Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2027	2027Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2027	2027Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2027	2027Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2027	2027Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2027	2027Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2027	2027Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2027	2027Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2027	2027Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2027	2027Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2027	2027Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2027	2027Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2027	2027Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2027	2027Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2027	2027Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2027	2027Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2027	2027Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2027	2027Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2027	2027Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2027	2027Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2027	2027Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2027	2027Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2027	2027Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2027	2027Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2027	2027Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2027	2027Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2027	2027Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2027	2027Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2027	2027Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2027	2027Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2027	2027Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2027	2027Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2027	2027Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2027	2027Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2027	2027Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2027	2027Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2027	2027Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2027	2027Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2027	2027Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2027	2027Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2027	2027Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2027	2027Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2027	2027Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011

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2027	2027Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2027	2027Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2027	2027Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2027	2027Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2027	2027Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2027	2027Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2027	2027Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2027	2027Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2027	2027Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2027	2027Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2027	2027Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2027	2027Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2027	2027Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2027	2027Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2027	2027Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2027	2027Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2027	2027Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2027	2027Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2027	2027Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2027	2027Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2027	2027Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2027	2027Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2027	2027Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2027	2027Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2027	2027Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2027	2027Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2027	2027Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2027	2027Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2027	2027Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2027	2027Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2027	2027Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2028	2028Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2028	2028Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2028	2028Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2028	2028Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2028	2028Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2028	2028Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2028	2028Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2028	2028Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2028	2028Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2028	2028Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2028	2028Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2028	2028Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2028	2028Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2028	2028Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2028	2028Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2028	2028Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2028	2028Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2028	2028Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2028	2028Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2028	2028Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2028	2028Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2028	2028Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2028	2028Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2028	2028Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2028	2028Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2028	2028Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2028	2028Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2028	2028Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2028	2028Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2028	2028Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2028	2028Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2028	2028Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2028	2028Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2028	2028Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2028	2028Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2028	2028Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2028	2028Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2028	2028Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2028	2028Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2028	2028Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2028	2028Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2028	2028Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2028	2028Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2028	2028Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2028	2028Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2028	2028Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2028	2028Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2028	2028Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2028	2028Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2028	2028Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2028	2028Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2028	2028Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2028	2028Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2028	2028Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2028	2028Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2028	2028Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2028	2028Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2028	2028Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2028	2028Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2028	2028Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2028	2028Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2028	2028Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2028	2028Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2028	2028Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2028	2028Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2028	2028Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2028	2028Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2028	2028Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2028	2028Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2028	2028Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2028	2028Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2028	2028Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2028	2028Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2028	2028Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2028	2028Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2028	2028Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2028	2028Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2028	2028Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2028	2028Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2028	2028Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2028	2028Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2028	2028Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2028	2028Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2028	2028Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2028	2028Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2028	2028Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2028	2028Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2028	2028Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2028	2028Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2028	2028Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2028	2028Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2028	2028Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2028	2028Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2028	2028Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2028	2028Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2028	2028Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2028	2028Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2028	2028Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2028	2028Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2028	2028Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2028	2028Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2028	2028Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2028	2028Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2028	2028Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2028	2028Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2028	2028Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2028	2028Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2028	2028Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2028	2028Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2028	2028Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2028	2028Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2028	2028Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2028	2028Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2028	2028Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2028	2028Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2028	2028Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2028	2028Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2028	2028Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2028	2028Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2028	2028Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2028	2028Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2028	2028Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2028	2028Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2028	2028Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2028	2028Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2028	2028Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2028	2028Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2028	2028Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2028	2028Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2028	2028Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2028	2028Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2028	2028Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2028	2028Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2028	2028Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2028	2028Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2028	2028Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2028	2028Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2028	2028Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2028	2028Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2028	2028Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2028	2028Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2028	2028Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2028	2028Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2028	2028Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2028	2028Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2028	2028Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2028	2028Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2028	2028Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2028	2028Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2028	2028Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2028	2028Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2028	2028Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2028	2028Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2028	2028Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2028	2028Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2028	2028Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2028	2028Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2028	2028Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2028	2028Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2028	2028Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2028	2028Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2028	2028Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2028	2028Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2028	2028Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2028	2028Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2028	2028Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2028	2028Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2028	2028Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2028	2028Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2028	2028Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2028	2028Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2028	2028Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2028	2028Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2028	2028Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2028	2028Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2028	2028Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2028	2028Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2028	2028Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2028	2028Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2028	2028Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2028	2028Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2028	2028Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2028	2028Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2028	2028Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2028	2028Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2028	2028Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2028	2028Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2028	2028Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2028	2028Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2028	2028Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2028	2028Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2028	2028Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2028	2028Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2028	2028Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2028	2028Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2028	2028Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2028	2028Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2028	2028Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2028	2028Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2028	2028Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2028	2028Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2028	2028Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2028	2028Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2028	2028Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2028	2028Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2028	2028Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2028	2028Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2028	2028Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2028	2028Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2028	2028Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2028	2028Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2028	2028Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2028	2028Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2028	2028Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2028	2028Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2028	2028Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2028	2028Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2028	2028Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2028	2028Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2028	2028Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2028	2028Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2028	2028Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2028	2028Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2028	2028Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2028	2028Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2028	2028Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2028	2028Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2028	2028Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2028	2028Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2028	2028Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2028	2028Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2028	2028Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2028	2028Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2028	2028Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2028	2028Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2028	2028Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2028	2028Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2028	2028Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2028	2028Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2028	2028Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2028	2028Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2028	2028Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2029	2029Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2029	2029Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2029	2029Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2029	2029Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2029	2029Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2029	2029Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2029	2029Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2029	2029Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2029	2029Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2029	2029Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2029	2029Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2029	2029Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2029	2029Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2029	2029Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2029	2029Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2029	2029Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2029	2029Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2029	2029Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2029	2029Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2029	2029Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2029	2029Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2029	2029Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2029	2029Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2029	2029Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2029	2029Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2029	2029Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2029	2029Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2029	2029Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2029	2029Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2029	2029Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2029	2029Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2029	2029Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2029	2029Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2029	2029Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2029	2029Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2029	2029Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2029	2029Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2029	2029Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2029	2029Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2029	2029Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2029	2029Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2029	2029Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2029	2029Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2029	2029Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2029	2029Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2029	2029Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2029	2029Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2029	2029Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2029	2029Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2029	2029Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2029	2029Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2029	2029Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2029	2029Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2029	2029Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2029	2029Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2029	2029Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2029	2029Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2029	2029Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2029	2029Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2029	2029Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2029	2029Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2029	2029Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2029	2029Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027

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2029	2029Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2029	2029Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2029	2029Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2029	2029Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2029	2029Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2029	2029Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2029	2029Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2029	2029Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2029	2029Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2029	2029Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2029	2029Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2029	2029Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2029	2029Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2029	2029Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2029	2029Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2029	2029Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2029	2029Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2029	2029Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2029	2029Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2029	2029Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2029	2029Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2029	2029Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2029	2029Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2029	2029Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2029	2029Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2029	2029Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2029	2029Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2029	2029Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2029	2029Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2029	2029Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2029	2029Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2029	2029Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2029	2029Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2029	2029Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2029	2029Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2029	2029Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2029	2029Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2029	2029Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2029	2029Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2029	2029Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2029	2029Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2029	2029Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2029	2029Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2029	2029Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2029	2029Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2029	2029Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2029	2029Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2029	2029Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2029	2029Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2029	2029Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2029	2029Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2029	2029Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2029	2029Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2029	2029Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2029	2029Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2029	2029Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2029	2029Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2029	2029Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2029	2029Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2029	2029Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2029	2029Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2029	2029Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2029	2029Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2029	2029Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2029	2029Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2029	2029Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2029	2029Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2029	2029Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2029	2029Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2029	2029Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2029	2029Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2029	2029Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2029	2029Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2029	2029Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2029	2029Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2029	2029Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2029	2029Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2029	2029Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2029	2029Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2029	2029Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2029	2029Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2029	2029Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2029	2029Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2029	2029Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2029	2029Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2029	2029Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2029	2029Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2029	2029Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2029	2029Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2029	2029Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2029	2029Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2029	2029Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2029	2029Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2029	2029Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2029	2029Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2029	2029Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2029	2029Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2029	2029Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2029	2029Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2029	2029Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2029	2029Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2029	2029Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2029	2029Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2029	2029Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2029	2029Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2029	2029Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2029	2029Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2029	2029Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2029	2029Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2029	2029Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2029	2029Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2029	2029Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164

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2029	2029Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2029	2029Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2029	2029Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2029	2029Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2029	2029Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2029	2029Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2029	2029Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2029	2029Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2029	2029Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2029	2029Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2029	2029Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2029	2029Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2029	2029Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2029	2029Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2029	2029Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2029	2029Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2029	2029Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2029	2029Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2029	2029Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2029	2029Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2029	2029Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2029	2029Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2029	2029Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2029	2029Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2029	2029Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2029	2029Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2029	2029Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2029	2029Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2029	2029Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2029	2029Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2029	2029Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2029	2029Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2029	2029Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2029	2029Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2029	2029Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2029	2029Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2029	2029Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2029	2029Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2029	2029Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2029	2029Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2029	2029Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2029	2029Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2029	2029Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2029	2029Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2029	2029Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2029	2029Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2029	2029Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2029	2029Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2029	2029Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2029	2029Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2029	2029Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2029	2029Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2029	2029Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2029	2029Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2029	2029Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2029	2029Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2029	2029Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2029	2029Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2029	2029Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2029	2029Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2029	2029Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2029	2029Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2029	2029Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2029	2029Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2029	2029Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2029	2029Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2029	2029Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2030	2030Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2030	2030Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2030	2030Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2030	2030Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2030	2030Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2030	2030Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2030	2030Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2030	2030Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2030	2030Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2030	2030Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2030	2030Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2030	2030Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2030	2030Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2030	2030Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2030	2030Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2030	2030Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2030	2030Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2030	2030Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2030	2030Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2030	2030Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2030	2030Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2030	2030Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2030	2030Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2030	2030Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2030	2030Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2030	2030Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2030	2030Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2030	2030Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2030	2030Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2030	2030Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2030	2030Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2030	2030Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2030	2030Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2030	2030Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2030	2030Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2030	2030Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2030	2030Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2030	2030Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2030	2030Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2030	2030Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2030	2030Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2030	2030Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2030	2030Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2030	2030Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2030	2030Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2030	2030Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2030	2030Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2030	2030Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2030	2030Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2030	2030Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2030	2030Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2030	2030Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2030	2030Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2030	2030Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2030	2030Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2030	2030Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2030	2030Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2030	2030Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2030	2030Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2030	2030Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2030	2030Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2030	2030Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2030	2030Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2030	2030Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2030	2030Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2030	2030Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2030	2030Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2030	2030Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2030	2030Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2030	2030Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2030	2030Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2030	2030Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2030	2030Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2030	2030Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2030	2030Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2030	2030Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2030	2030Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2030	2030Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2030	2030Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2030	2030Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2030	2030Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2030	2030Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2030	2030Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2030	2030Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2030	2030Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2030	2030Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2030	2030Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2030	2030Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2030	2030Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2030	2030Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2030	2030Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2030	2030Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2030	2030Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2030	2030Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2030	2030Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2030	2030Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2030	2030Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2030	2030Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2030	2030Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2030	2030Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2030	2030Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2030	2030Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2030	2030Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2030	2030Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2030	2030Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2030	2030Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2030	2030Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2030	2030Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2030	2030Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2030	2030Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2030	2030Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2030	2030Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2030	2030Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2030	2030Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2030	2030Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2030	2030Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2030	2030Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2030	2030Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2030	2030Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2030	2030Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2030	2030Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2030	2030Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2030	2030Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2030	2030Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2030	2030Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2030	2030Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2030	2030Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2030	2030Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2030	2030Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2030	2030Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2030	2030Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2030	2030Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2030	2030Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2030	2030Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2030	2030Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2030	2030Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2030	2030Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2030	2030Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2030	2030Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2030	2030Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2030	2030Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2030	2030Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2030	2030Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2030	2030Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2030	2030Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2030	2030Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2030	2030Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2030	2030Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2030	2030Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2030	2030Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2030	2030Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2030	2030Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2030	2030Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2030	2030Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2030	2030Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2030	2030Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2030	2030Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2030	2030Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2030	2030Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2030	2030Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2030	2030Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2030	2030Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2030	2030Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2030	2030Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2030	2030Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2030	2030Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2030	2030Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2030	2030Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2030	2030Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2030	2030Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2030	2030Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2030	2030Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2030	2030Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2030	2030Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2030	2030Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2030	2030Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2030	2030Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2030	2030Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2030	2030Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2030	2030Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2030	2030Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2030	2030Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2030	2030Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2030	2030Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2030	2030Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2030	2030Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2030	2030Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2030	2030Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2030	2030Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2030	2030Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2030	2030Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2030	2030Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2030	2030Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2030	2030Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2030	2030Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2030	2030Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2030	2030Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2030	2030Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2030	2030Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2030	2030Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2030	2030Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2030	2030Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2030	2030Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2030	2030Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2030	2030Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2030	2030Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2030	2030Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2030	2030Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2030	2030Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2030	2030Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2030	2030Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2030	2030Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2030	2030Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2030	2030Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2030	2030Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2030	2030Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2030	2030Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2030	2030Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2030	2030Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2030	2030Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2030	2030Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2030	2030Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2030	2030Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2030	2030Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2030	2030Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2030	2030Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2030	2030Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2030	2030Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2030	2030Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2030	2030Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2030	2030Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2030	2030Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2030	2030Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2030	2030Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2030	2030Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2030	2030Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2030	2030Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2030	2030Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2030	2030Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2030	2030Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2030	2030Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2030	2030Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2031	2031Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2031	2031Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2031	2031Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2031	2031Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2031	2031Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2031	2031Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2031	2031Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2031	2031Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2031	2031Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2031	2031Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2031	2031Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2031	2031Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2031	2031Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2031	2031Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2031	2031Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2031	2031Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2031	2031Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2031	2031Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2031	2031Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2031	2031Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2031	2031Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2031	2031Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2031	2031Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2031	2031Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2031	2031Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2031	2031Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2031	2031Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039

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2031	2031Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2031	2031Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2031	2031Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2031	2031Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2031	2031Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2031	2031Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2031	2031Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2031	2031Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2031	2031Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2031	2031Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2031	2031Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2031	2031Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2031	2031Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2031	2031Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2031	2031Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2031	2031Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2031	2031Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2031	2031Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2031	2031Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2031	2031Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2031	2031Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2031	2031Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2031	2031Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2031	2031Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2031	2031Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2031	2031Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2031	2031Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2031	2031Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2031	2031Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2031	2031Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2031	2031Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2031	2031Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2031	2031Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2031	2031Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2031	2031Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2031	2031Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2031	2031Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2031	2031Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2031	2031Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2031	2031Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2031	2031Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2031	2031Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2031	2031Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2031	2031Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2031	2031Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2031	2031Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2031	2031Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2031	2031Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2031	2031Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2031	2031Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2031	2031Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2031	2031Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2031	2031Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2031	2031Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2031	2031Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2031	2031Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2031	2031Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2031	2031Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2031	2031Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2031	2031Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2031	2031Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2031	2031Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2031	2031Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2031	2031Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2031	2031Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2031	2031Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2031	2031Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2031	2031Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2031	2031Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2031	2031Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2031	2031Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2031	2031Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2031	2031Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2031	2031Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2031	2031Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2031	2031Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2031	2031Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2031	2031Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2031	2031Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2031	2031Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2031	2031Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2031	2031Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2031	2031Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2031	2031Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2031	2031Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2031	2031Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2031	2031Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2031	2031Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2031	2031Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2031	2031Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2031	2031Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2031	2031Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2031	2031Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2031	2031Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2031	2031Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2031	2031Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2031	2031Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2031	2031Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2031	2031Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2031	2031Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2031	2031Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2031	2031Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2031	2031Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2031	2031Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2031	2031Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2031	2031Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2031	2031Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2031	2031Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2031	2031Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2031	2031Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2031	2031Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2031	2031Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2031	2031Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2031	2031Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2031	2031Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2031	2031Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2031	2031Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2031	2031Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2031	2031Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2031	2031Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2031	2031Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2031	2031Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2031	2031Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2031	2031Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2031	2031Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2031	2031Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2031	2031Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2031	2031Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2031	2031Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2031	2031Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2031	2031Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2031	2031Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2031	2031Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2031	2031Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2031	2031Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2031	2031Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2031	2031Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2031	2031Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2031	2031Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2031	2031Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2031	2031Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2031	2031Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2031	2031Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2031	2031Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2031	2031Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2031	2031Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2031	2031Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2031	2031Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2031	2031Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2031	2031Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2031	2031Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2031	2031Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2031	2031Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2031	2031Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2031	2031Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2031	2031Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2031	2031Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2031	2031Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2031	2031Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2031	2031Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2031	2031Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2031	2031Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2031	2031Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2031	2031Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2031	2031Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2031	2031Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2031	2031Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2031	2031Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2031	2031Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2031	2031Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2031	2031Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2031	2031Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2031	2031Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2031	2031Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2031	2031Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2031	2031Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2031	2031Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2031	2031Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2031	2031Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2031	2031Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2031	2031Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2031	2031Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2031	2031Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2031	2031Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2031	2031Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2031	2031Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2031	2031Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2031	2031Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2031	2031Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2031	2031Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2031	2031Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2031	2031Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2031	2031Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2031	2031Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2031	2031Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2031	2031Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2031	2031Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2031	2031Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2031	2031Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2031	2031Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2031	2031Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2031	2031Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2031	2031Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2031	2031Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2031	2031Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2031	2031Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2031	2031Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2031	2031Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2031	2031Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2031	2031Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2031	2031Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2031	2031Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2031	2031Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2031	2031Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2031	2031Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2033	2033Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2033	2033Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2033	2033Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2033	2033Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2033	2033Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2033	2033Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2033	2033Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2033	2033Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2033	2033Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2033	2033Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2033	2033Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2033	2033Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2033	2033Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2033	2033Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2033	2033Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2033	2033Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2033	2033Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2033	2033Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2033	2033Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2033	2033Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2033	2033Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2033	2033Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2033	2033Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2033	2033Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2033	2033Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2033	2033Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2033	2033Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2033	2033Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2033	2033Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2033	2033Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2033	2033Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2033	2033Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2033	2033Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2033	2033Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2033	2033Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2033	2033Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2033	2033Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2033	2033Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2033	2033Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2033	2033Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2033	2033Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2033	2033Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2033	2033Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2033	2033Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2033	2033Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2033	2033Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2033	2033Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2033	2033Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2033	2033Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2033	2033Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2033	2033Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2033	2033Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2033	2033Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2033	2033Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2033	2033Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2033	2033Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2033	2033Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2033	2033Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2033	2033Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2033	2033Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2033	2033Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2033	2033Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2033	2033Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2033	2033Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2033	2033Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2033	2033Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2033	2033Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2033	2033Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2033	2033Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2033	2033Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2033	2033Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2033	2033Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2033	2033Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2033	2033Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2033	2033Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2033	2033Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2033	2033Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2033	2033Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2033	2033Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2033	2033Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2033	2033Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2033	2033Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2033	2033Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2033	2033Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2033	2033Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2033	2033Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2033	2033Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2033	2033Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2033	2033Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2033	2033Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2033	2033Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2033	2033Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2033	2033Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2033	2033Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2033	2033Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2033	2033Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2033	2033Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2033	2033Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2033	2033Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2033	2033Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2033	2033Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2033	2033Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2033	2033Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2033	2033Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2033	2033Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2033	2033Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2033	2033Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2033	2033Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2033	2033Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2033	2033Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2033	2033Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2033	2033Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2033	2033Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2033	2033Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2033	2033Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2033	2033Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2033	2033Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2033	2033Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2033	2033Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2033	2033Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2033	2033Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2033	2033Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2033	2033Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2033	2033Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2033	2033Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2033	2033Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2033	2033Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2033	2033Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2033	2033Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2033	2033Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2033	2033Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2033	2033Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2033	2033Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2033	2033Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2033	2033Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2033	2033Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2033	2033Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2033	2033Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2033	2033Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2033	2033Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2033	2033Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2033	2033Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2033	2033Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2033	2033Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2033	2033Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2033	2033Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2033	2033Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2033	2033Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2033	2033Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2033	2033Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2033	2033Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2033	2033Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2033	2033Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2033	2033Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2033	2033Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2033	2033Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2033	2033Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2033	2033Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2033	2033Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2033	2033Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2033	2033Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2033	2033Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2033	2033Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2033	2033Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2033	2033Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2033	2033Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2033	2033Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2033	2033Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2033	2033Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2033	2033Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2033	2033Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2033	2033Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2033	2033Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2033	2033Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2033	2033Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2033	2033Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2033	2033Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2033	2033Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2033	2033Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2033	2033Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2033	2033Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2033	2033Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2033	2033Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2033	2033Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2033	2033Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2033	2033Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2033	2033Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2033	2033Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2033	2033Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2033	2033Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2033	2033Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2033	2033Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2033	2033Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2033	2033Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2033	2033Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2033	2033Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2033	2033Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2033	2033Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2033	2033Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2033	2033Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2033	2033Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2033	2033Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2033	2033Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2033	2033Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2033	2033Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2033	2033Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2033	2033Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2033	2033Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2033	2033Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2033	2033Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2033	2033Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2033	2033Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2033	2033Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2033	2033Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2033	2033Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2033	2033Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2033	2033Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2033	2033Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2033	2033Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2033	2033Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2033	2033Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2033	2033Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2033	2033Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2033	2033Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2033	2033Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2033	2033Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2033	2033Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2033	2033Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2033	2033Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2033	2033Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2033	2033Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2033	2033Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2033	2033Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284

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2033	2033Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2033	2033Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2033	2033Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2033	2033Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2033	2033Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2033	2033Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2033	2033Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2033	2033Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2033	2033Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2035	2035Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2035	2035Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2035	2035Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2035	2035Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2035	2035Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2035	2035Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2035	2035Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2035	2035Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2035	2035Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2035	2035Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2035	2035Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2035	2035Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2035	2035Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2035	2035Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2035	2035Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2035	2035Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2035	2035Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2035	2035Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2035	2035Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2035	2035Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2035	2035Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2035	2035Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2035	2035Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2035	2035Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2035	2035Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2035	2035Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2035	2035Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2035	2035Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2035	2035Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2035	2035Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2035	2035Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2035	2035Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2035	2035Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2035	2035Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2035	2035Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2035	2035Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2035	2035Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2035	2035Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2035	2035Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2035	2035Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2035	2035Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2035	2035Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2035	2035Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2035	2035Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2035	2035Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2035	2035Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2035	2035Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2035	2035Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2035	2035Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2035	2035Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2035	2035Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2035	2035Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2035	2035Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2035	2035Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2035	2035Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2035	2035Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2035	2035Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2035	2035Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2035	2035Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2035	2035Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2035	2035Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2035	2035Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2035	2035Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2035	2035Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2035	2035Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2035	2035Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2035	2035Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2035	2035Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2035	2035Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2035	2035Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2035	2035Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2035	2035Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2035	2035Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2035	2035Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2035	2035Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2035	2035Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2035	2035Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2035	2035Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2035	2035Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2035	2035Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2035	2035Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2035	2035Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2035	2035Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2035	2035Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2035	2035Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2035	2035Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2035	2035Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2035	2035Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2035	2035Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2035	2035Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2035	2035Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2035	2035Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2035	2035Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2035	2035Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2035	2035Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2035	2035Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2035	2035Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2035	2035Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2035	2035Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2035	2035Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2035	2035Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2035	2035Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2035	2035Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2035	2035Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2035	2035Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2035	2035Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2035	2035Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2035	2035Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2035	2035Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2035	2035Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2035	2035Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2035	2035Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2035	2035Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2035	2035Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2035	2035Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2035	2035Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2035	2035Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2035	2035Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2035	2035Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2035	2035Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2035	2035Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2035	2035Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2035	2035Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2035	2035Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2035	2035Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2035	2035Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2035	2035Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2035	2035Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2035	2035Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2035	2035Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2035	2035Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2035	2035Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2035	2035Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2035	2035Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2035	2035Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2035	2035Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2035	2035Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2035	2035Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2035	2035Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2035	2035Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2035	2035Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2035	2035Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2035	2035Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2035	2035Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2035	2035Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2035	2035Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2035	2035Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2035	2035Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2035	2035Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2035	2035Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2035	2035Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2035	2035Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2035	2035Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2035	2035Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2035	2035Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2035	2035Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2035	2035Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2035	2035Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2035	2035Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2035	2035Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2035	2035Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2035	2035Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2035	2035Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2035	2035Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2035	2035Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2035	2035Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2035	2035Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2035	2035Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2035	2035Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2035	2035Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2035	2035Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2035	2035Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2035	2035Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2035	2035Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2035	2035Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2035	2035Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2035	2035Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2035	2035Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2035	2035Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2035	2035Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2035	2035Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2035	2035Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2035	2035Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2035	2035Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2035	2035Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2035	2035Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2035	2035Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2035	2035Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2035	2035Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2035	2035Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2035	2035Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2035	2035Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2035	2035Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2035	2035Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2035	2035Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2035	2035Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2035	2035Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2035	2035Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2035	2035Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2035	2035Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2035	2035Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2035	2035Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2035	2035Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2035	2035Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2035	2035Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2035	2035Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2035	2035Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2035	2035Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2035	2035Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2035	2035Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2035	2035Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2035	2035Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2035	2035Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2035	2035Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2035	2035Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2035	2035Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2035	2035Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2035	2035Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2035	2035Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2035	2035Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2035	2035Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2035	2035Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2035	2035Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2035	2035Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2035	2035Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2035	2035Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2035	2035Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2035	2035Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2035	2035Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2035	2035Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2035	2035Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2035	2035Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2035	2035Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2035	2035Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2035	2035Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2035	2035Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2035	2035Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2035	2035Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2035	2035Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2035	2035Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2035	2035Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2035	2035Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2037	2037Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2037	2037Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2037	2037Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2037	2037Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2037	2037Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2037	2037Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2037	2037Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2037	2037Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2037	2037Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2037	2037Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2037	2037Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2037	2037Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2037	2037Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2037	2037Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2037	2037Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2037	2037Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2037	2037Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2037	2037Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2037	2037Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2037	2037Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2037	2037Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2037	2037Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2037	2037Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2037	2037Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2037	2037Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2037	2037Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2037	2037Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2037	2037Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2037	2037Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2037	2037Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2037	2037Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2037	2037Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2037	2037Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2037	2037Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2037	2037Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2037	2037Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2037	2037Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2037	2037Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2037	2037Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2037	2037Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2037	2037Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2037	2037Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2037	2037Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2037	2037Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2037	2037Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2037	2037Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2037	2037Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2037	2037Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2037	2037Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2037	2037Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2037	2037Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2037	2037Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2037	2037Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2037	2037Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2037	2037Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2037	2037Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2037	2037Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2037	2037Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2037	2037Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2037	2037Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2037	2037Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2037	2037Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2037	2037Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2037	2037Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2037	2037Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2037	2037Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2037	2037Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2037	2037Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2037	2037Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2037	2037Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2037	2037Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2037	2037Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2037	2037Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2037	2037Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2037	2037Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2037	2037Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2037	2037Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2037	2037Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2037	2037Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2037	2037Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2037	2037Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2037	2037Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2037	2037Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2037	2037Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2037	2037Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2037	2037Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2037	2037Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2037	2037Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2037	2037Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2037	2037Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2037	2037Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2037	2037Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2037	2037Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2037	2037Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2037	2037Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2037	2037Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2037	2037Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2037	2037Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2037	2037Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2037	2037Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2037	2037Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2037	2037Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2037	2037Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2037	2037Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2037	2037Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2037	2037Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2037	2037Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2037	2037Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2037	2037Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2037	2037Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2037	2037Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2037	2037Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2037	2037Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2037	2037Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2037	2037Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2037	2037Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2037	2037Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2037	2037Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2037	2037Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2037	2037Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2037	2037Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2037	2037Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2037	2037Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2037	2037Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2037	2037Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2037	2037Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2037	2037Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2037	2037Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2037	2037Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2037	2037Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2037	2037Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2037	2037Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2037	2037Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2037	2037Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2037	2037Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2037	2037Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2037	2037Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2037	2037Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2037	2037Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2037	2037Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2037	2037Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2037	2037Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2037	2037Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2037	2037Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2037	2037Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2037	2037Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2037	2037Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2037	2037Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2037	2037Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2037	2037Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2037	2037Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2037	2037Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2037	2037Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2037	2037Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2037	2037Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2037	2037Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2037	2037Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2037	2037Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2037	2037Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2037	2037Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2037	2037Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2037	2037Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2037	2037Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2037	2037Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2037	2037Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2037	2037Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2037	2037Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2037	2037Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2037	2037Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2037	2037Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2037	2037Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2037	2037Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2037	2037Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2037	2037Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2037	2037Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2037	2037Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2037	2037Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2037	2037Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2037	2037Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2037	2037Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2037	2037Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2037	2037Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2037	2037Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2037	2037Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2037	2037Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2037	2037Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2037	2037Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2037	2037Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2037	2037Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2037	2037Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2037	2037Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2037	2037Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2037	2037Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2037	2037Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2037	2037Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2037	2037Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2037	2037Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2037	2037Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2037	2037Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2037	2037Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2037	2037Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2037	2037Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2037	2037Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2037	2037Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2037	2037Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2037	2037Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2037	2037Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2037	2037Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2037	2037Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2037	2037Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2037	2037Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2037	2037Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2037	2037Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2037	2037Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2037	2037Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2037	2037Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2037	2037Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2037	2037Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2037	2037Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2037	2037Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2037	2037Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2037	2037Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2037	2037Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2037	2037Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2037	2037Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2037	2037Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2037	2037Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2037	2037Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2037	2037Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2037	2037Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2037	2037Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2037	2037Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2037	2037Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2037	2037Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2037	2037Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2037	2037Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2037	2037Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2037	2037Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2037	2037Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2037	2037Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2037	2037Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2037	2037Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2038	2038Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2038	2038Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2038	2038Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2038	2038Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2038	2038Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2038	2038Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2038	2038Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2038	2038Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2038	2038Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2038	2038Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2038	2038Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2038	2038Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2038	2038Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2038	2038Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2038	2038Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2038	2038Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2038	2038Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2038	2038Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2038	2038Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2038	2038Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2038	2038Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2038	2038Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2038	2038Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2038	2038Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2038	2038Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2038	2038Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2038	2038Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2038	2038Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2038	2038Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2038	2038Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2038	2038Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2038	2038Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2038	2038Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2038	2038Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2038	2038Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2038	2038Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2038	2038Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2038	2038Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2038	2038Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2038	2038Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2038	2038Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2038	2038Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2038	2038Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2038	2038Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2038	2038Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2038	2038Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2038	2038Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2038	2038Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2038	2038Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2038	2038Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2038	2038Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2038	2038Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2038	2038Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2038	2038Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2038	2038Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2038	2038Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2038	2038Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2038	2038Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2038	2038Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2038	2038Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2038	2038Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2038	2038Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2038	2038Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2038	2038Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2038	2038Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2038	2038Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2038	2038Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2038	2038Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2038	2038Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2038	2038Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2038	2038Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2038	2038Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2038	2038Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2038	2038Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2038	2038Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2038	2038Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2038	2038Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2038	2038Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2038	2038Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2038	2038Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2038	2038Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2038	2038Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2038	2038Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2038	2038Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2038	2038Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2038	2038Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2038	2038Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2038	2038Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2038	2038Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2038	2038Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2038	2038Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2038	2038Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2038	2038Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2038	2038Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2038	2038Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2038	2038Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2038	2038Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2038	2038Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2038	2038Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2038	2038Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2038	2038Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2038	2038Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2038	2038Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2038	2038Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2038	2038Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2038	2038Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2038	2038Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2038	2038Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2038	2038Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2038	2038Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2038	2038Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2038	2038Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2038	2038Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2038	2038Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2038	2038Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2038	2038Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2038	2038Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2038	2038Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2038	2038Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2038	2038Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2038	2038Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2038	2038Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2038	2038Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2038	2038Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2038	2038Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2038	2038Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2038	2038Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2038	2038Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2038	2038Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2038	2038Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2038	2038Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2038	2038Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2038	2038Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2038	2038Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2038	2038Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2038	2038Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2038	2038Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2038	2038Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2038	2038Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2038	2038Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2038	2038Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2038	2038Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2038	2038Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2038	2038Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2038	2038Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2038	2038Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2038	2038Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2038	2038Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2038	2038Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2038	2038Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2038	2038Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2038	2038Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2038	2038Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2038	2038Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2038	2038Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2038	2038Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2038	2038Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2038	2038Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2038	2038Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2038	2038Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2038	2038Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2038	2038Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2038	2038Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2038	2038Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2038	2038Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2038	2038Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2038	2038Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2038	2038Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2038	2038Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2038	2038Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2038	2038Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2038	2038Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2038	2038Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2038	2038Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2038	2038Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2038	2038Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2038	2038Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2038	2038Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2038	2038Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2038	2038Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2038	2038Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2038	2038Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2038	2038Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2038	2038Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2038	2038Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2038	2038Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2038	2038Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2038	2038Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2038	2038Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2038	2038Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2038	2038Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2038	2038Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2038	2038Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2038	2038Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2038	2038Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2038	2038Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2038	2038Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2038	2038Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2038	2038Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2038	2038Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2038	2038Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2038	2038Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2038	2038Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2038	2038Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2038	2038Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2038	2038Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2038	2038Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2038	2038Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2038	2038Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2038	2038Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2038	2038Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2038	2038Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2038	2038Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2038	2038Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2038	2038Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2038	2038Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2038	2038Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2038	2038Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2038	2038Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2038	2038Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2038	2038Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2038	2038Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2038	2038Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2038	2038Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2038	2038Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2038	2038Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2038	2038Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2038	2038Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2038	2038Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2038	2038Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2038	2038Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2038	2038Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2038	2038Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2038	2038Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2038	2038Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007

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2038	2038Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2038	2038Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2038	2038Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2038	2038Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2038	2038Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2038	2038Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2038	2038Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2041	2041Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2041	2041Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2041	2041Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2041	2041Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2041	2041Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2041	2041Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2041	2041Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2041	2041Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2041	2041Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2041	2041Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2041	2041Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2041	2041Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2041	2041Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2041	2041Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2041	2041Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2041	2041Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2041	2041Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2041	2041Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2041	2041Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2041	2041Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2041	2041Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2041	2041Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2041	2041Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2041	2041Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2041	2041Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2041	2041Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2041	2041Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2041	2041Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2041	2041Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2041	2041Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2041	2041Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2041	2041Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2041	2041Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2041	2041Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2041	2041Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2041	2041Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2041	2041Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2041	2041Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2041	2041Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2041	2041Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2041	2041Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2041	2041Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2041	2041Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2041	2041Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2041	2041Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2041	2041Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2041	2041Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2041	2041Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2041	2041Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226

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2041	2041Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2041	2041Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2041	2041Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2041	2041Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2041	2041Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2041	2041Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2041	2041Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2041	2041Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2041	2041Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2041	2041Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2041	2041Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2041	2041Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2041	2041Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2041	2041Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2041	2041Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2041	2041Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2041	2041Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2041	2041Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2041	2041Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2041	2041Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2041	2041Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2041	2041Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2041	2041Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2041	2041Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2041	2041Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2041	2041Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2041	2041Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2041	2041Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2041	2041Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2041	2041Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2041	2041Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2041	2041Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2041	2041Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2041	2041Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2041	2041Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2041	2041Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2041	2041Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2041	2041Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2041	2041Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2041	2041Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2041	2041Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2041	2041Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2041	2041Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2041	2041Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2041	2041Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2041	2041Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2041	2041Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2041	2041Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2041	2041Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2041	2041Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2041	2041Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2041	2041Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2041	2041Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2041	2041Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2041	2041Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2041	2041Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2041	2041Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2041	2041Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2041	2041Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2041	2041Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2041	2041Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2041	2041Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2041	2041Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2041	2041Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2041	2041Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2041	2041Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2041	2041Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2041	2041Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2041	2041Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2041	2041Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2041	2041Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2041	2041Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2041	2041Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2041	2041Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2041	2041Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2041	2041Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2041	2041Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2041	2041Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2041	2041Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2041	2041Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2041	2041Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2041	2041Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2041	2041Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2041	2041Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2041	2041Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2041	2041Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2041	2041Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2041	2041Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2041	2041Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2041	2041Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2041	2041Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2041	2041Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2041	2041Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2041	2041Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2041	2041Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2041	2041Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2041	2041Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2041	2041Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2041	2041Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2041	2041Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2041	2041Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2041	2041Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2041	2041Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2041	2041Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2041	2041Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2041	2041Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2041	2041Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2041	2041Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2041	2041Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2041	2041Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2041	2041Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2041	2041Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2041	2041Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2041	2041Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2041	2041Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2041	2041Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2041	2041Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2041	2041Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2041	2041Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2041	2041Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2041	2041Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2041	2041Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2041	2041Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2041	2041Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2041	2041Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2041	2041Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2041	2041Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2041	2041Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2041	2041Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2041	2041Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2041	2041Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2041	2041Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2041	2041Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2041	2041Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2041	2041Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2041	2041Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2041	2041Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2041	2041Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2041	2041Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2041	2041Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2041	2041Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2041	2041Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2041	2041Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2041	2041Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2041	2041Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2041	2041Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2041	2041Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2041	2041Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2041	2041Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2041	2041Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2041	2041Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2041	2041Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2041	2041Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2041	2041Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2041	2041Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2041	2041Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2041	2041Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2041	2041Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2041	2041Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2041	2041Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2041	2041Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2041	2041Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2041	2041Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2041	2041Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2041	2041Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2041	2041Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2041	2041Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2041	2041Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2041	2041Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2041	2041Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2041	2041Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2041	2041Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2041	2041Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2041	2041Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2041	2041Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2041	2041Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2041	2041Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2041	2041Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2041	2041Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2041	2041Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2041	2041Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2041	2041Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2041	2041Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2041	2041Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2041	2041Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2041	2041Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2041	2041Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2041	2041Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2041	2041Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2041	2041Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2041	2041Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2041	2041Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2041	2041Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019

Construction Prior to 2019

Approach: Construction equipment used prior to the year 2021 would be equipped with engines meeting CARB requirements for a large fleet at the time of construction. In-Use Off-Road Diesel Fleet Regulation fleet targets for NOx are used to calculate NOx emissions. Source: Table 3 of the ARB In-Use Off-Road Diesel Fleet Regulation (http://www.arb.ca.gov/msprog/ordiesel/documents/finalregorder-dec2011.pdf).

Emission Factors by Year [1, 2]						
Year+Range	Year	Engine Size (hp)		Range	NOx EFs (lbs/bhp-hr)	NOx EFs (g/bhp-hr)
		Min	Max			
20141	2014	0	24	1	0.0128	5.8
20142	2014	25	49	2	0.0128	5.8
20143	2014	50	74	3	0.0143	6.5
20144	2014	75	99	4	0.0157	7.1
20145	2014	100	174	5	0.0141	6.4
20146	2014	175	299	6	0.0137	6.2
20147	2014	300	599	7	0.0130	5.9
20151	2015	0	24	1	0.0123	5.6
20152	2015	25	49	2	0.0123	5.6
20153	2015	50	74	3	0.0137	6.2
20154	2015	75	99	4	0.0148	6.7
20155	2015	100	174	5	0.0132	6.0
20156	2015	175	299	6	0.0128	5.8
20157	2015	300	599	7	0.0121	5.5
20161	2016	0	24	1	0.0117	5.3
20162	2016	25	49	2	0.0117	5.3
20163	2016	50	74	3	0.0128	5.8
20164	2016	75	99	4	0.0137	6.2
20165	2016	100	174	5	0.0121	5.5
20166	2016	175	299	6	0.0117	5.3
20167	2016	300	599	7	0.0112	5.1
20171	2017	0	24	1	0.0110	5.0
20172	2017	25	49	2	0.0110	5.0
20173	2017	50	74	3	0.0119	5.4
20174	2017	75	99	4	0.0121	5.5
20175	2017	100	174	5	0.0108	4.9
20176	2017	175	299	6	0.0104	4.7
20177	2017	300	599	7	0.0099	4.5
20181	2018	0	24	1	0.0104	4.7
20182	2018	25	49	2	0.0104	4.7
20183	2018	50	74	3	0.0110	5.0
20184	2018	75	99	4	0.0106	4.8
20185	2018	100	174	5	0.0095	4.3
20186	2018	175	299	6	0.0090	4.1
20187	2018	300	599	7	0.0088	4.0
20191	2019	0	24	1	0.0097	4.4
20192	2019	25	49	2	0.0097	4.4
20193	2019	50	74	3	0.0101	4.6
20194	2019	75	99	4	0.0090	4.1
20195	2019	100	174	5	0.0082	3.7
20196	2019	175	299	6	0.0077	3.5
20197	2019	300	599	7	0.0075	3.4

Construction Prior to 2019

20201	2020	0	24	1	0.0090	4.1
20202	2020	25	49	2	0.0090	4.1
20203	2020	50	74	3	0.0093	4.2
20204	2020	75	99	4	0.0075	3.4
20205	2020	100	174	5	0.0068	3.1
20206	2020	175	299	6	0.0064	2.9
20207	2020	300	599	7	0.0062	2.8
20211	2021	0	24	1	0.0084	3.8
20212	2021	25	49	2	0.0084	3.8
20213	2021	50	74	3	0.0084	3.8
20214	2021	75	99	4	0.0060	2.7
20215	2021	100	174	5	0.0055	2.5
20216	2021	175	299	6	0.0051	2.3
20217	2021	300	599	7	0.0049	2.2
20221	2022	0	24	1	0.0077	3.5
20222	2022	25	49	2	0.0077	3.5
20223	2022	50	74	3	0.0075	3.4
20224	2022	75	99	4	0.0044	2.0
20225	2022	100	174	5	0.0042	1.9
20226	2022	175	299	6	0.0037	1.7
20227	2022	300	599	7	0.0037	1.7
20231	2023	0	24	1	0.0073	3.3
20232	2023	25	49	2	0.0073	3.3
20233	2023	50	74	3	0.0066	3.0
20234	2023	75	99	4	0.0031	1.4
20235	2023	100	174	5	0.0029	1.3
20236	2023	175	299	6	0.0033	1.5
20237	2023	300	599	7	0.0033	1.5
20241	2024	0	24	1	0.0073	3.3
20242	2024	25	49	2	0.0073	3.3
20243	2024	50	74	3	0.0066	3.0
20244	2024	75	99	4	0.0031	1.4
20245	2024	100	174	5	0.0029	1.3
20246	2024	175	299	6	0.0033	1.5
20247	2024	300	599	7	0.0033	1.5
20251	2025	0	24	1	0.0073	3.3
20252	2025	25	49	2	0.0073	3.3
20253	2025	50	74	3	0.0066	3.0
20254	2025	75	99	4	0.0031	1.4
20255	2025	100	174	5	0.0029	1.3
20256	2025	175	299	6	0.0033	1.5
20257	2025	300	599	7	0.0033	1.5
20261	2026	0	24	1	0.0073	3.3
20262	2026	25	49	2	0.0073	3.3
20263	2026	50	74	3	0.0066	3.0
20264	2026	75	99	4	0.0031	1.4
20265	2026	100	174	5	0.0029	1.3
20266	2026	175	299	6	0.0033	1.5
20267	2026	300	599	7	0.0033	1.5
20271	2027	0	24	1	0.0073	3.3
20272	2027	25	49	2	0.0073	3.3
20273	2027	50	74	3	0.0066	3.0
20274	2027	75	99	4	0.0031	1.4
20275	2027	100	174	5	0.0029	1.3
20276	2027	175	299	6	0.0033	1.5
20277	2027	300	599	7	0.0033	1.5

Construction Prior to 2019

20281	2028	0	24	1	0.0073	3.3
20282	2028	25	49	2	0.0073	3.3
20283	2028	50	74	3	0.0066	3.0
20284	2028	75	99	4	0.0031	1.4
20285	2028	100	174	5	0.0029	1.3
20286	2028	175	299	6	0.0033	1.5
20287	2028	300	599	7	0.0033	1.5
20291	2029	0	24	1	0.0073	3.3
20292	2029	25	49	2	0.0073	3.3
20293	2029	50	74	3	0.0066	3.0
20294	2029	75	99	4	0.0031	1.4
20295	2029	100	174	5	0.0029	1.3
20296	2029	175	299	6	0.0033	1.5
20297	2029	300	599	7	0.0033	1.5
20301	2030	0	24	1	0.0073	3.3
20302	2030	25	49	2	0.0073	3.3
20303	2030	50	74	3	0.0066	3.0
20304	2030	75	99	4	0.0031	1.4
20305	2030	100	174	5	0.0029	1.3
20306	2030	175	299	6	0.0033	1.5
20307	2030	300	599	7	0.0033	1.5
20311	2031	0	24	1	0.0073	3.3
20312	2031	25	49	2	0.0073	3.3
20313	2031	50	74	3	0.0066	3.0
20314	2031	75	99	4	0.0031	1.4
20315	2031	100	174	5	0.0029	1.3
20316	2031	175	299	6	0.0033	1.5
20317	2031	300	599	7	0.0033	1.5
20321	2032	0	24	1	0.0073	3.3
20322	2032	25	49	2	0.0073	3.3
20323	2032	50	74	3	0.0066	3.0
20324	2032	75	99	4	0.0031	1.4
20325	2032	100	174	5	0.0029	1.3
20326	2032	175	299	6	0.0033	1.5
20327	2032	300	599	7	0.0033	1.5
20331	2033	0	24	1	0.0073	3.3
20332	2033	25	49	2	0.0073	3.3
20333	2033	50	74	3	0.0066	3.0
20334	2033	75	99	4	0.0031	1.4
20335	2033	100	174	5	0.0029	1.3
20336	2033	175	299	6	0.0033	1.5
20337	2033	300	599	7	0.0033	1.5
20341	2034	0	24	1	0.0073	3.3
20342	2034	25	49	2	0.0073	3.3
20343	2034	50	74	3	0.0066	3.0
20344	2034	75	99	4	0.0031	1.4
20345	2034	100	174	5	0.0029	1.3
20346	2034	175	299	6	0.0033	1.5
20347	2034	300	599	7	0.0033	1.5
20351	2035	0	24	1	0.0073	3.3
20352	2035	25	49	2	0.0073	3.3
20353	2035	50	74	3	0.0066	3.0
20354	2035	75	99	4	0.0031	1.4
20355	2035	100	174	5	0.0029	1.3
20356	2035	175	299	6	0.0033	1.5
20357	2035	300	599	7	0.0033	1.5

Construction Prior to 2019

20361	2036	0	24	1	0.0073	3.3
20362	2036	25	49	2	0.0073	3.3
20363	2036	50	74	3	0.0066	3.0
20364	2036	75	99	4	0.0031	1.4
20365	2036	100	174	5	0.0029	1.3
20366	2036	175	299	6	0.0033	1.5
20367	2036	300	599	7	0.0033	1.5
20371	2037	0	24	1	0.0073	3.3
20372	2037	25	49	2	0.0073	3.3
20373	2037	50	74	3	0.0066	3.0
20374	2037	75	99	4	0.0031	1.4
20375	2037	100	174	5	0.0029	1.3
20376	2037	175	299	6	0.0033	1.5
20377	2037	300	599	7	0.0033	1.5
20381	2038	0	24	1	0.0073	3.3
20382	2038	25	49	2	0.0073	3.3
20383	2038	50	74	3	0.0066	3.0
20384	2038	75	99	4	0.0031	1.4
20385	2038	100	174	5	0.0029	1.3
20386	2038	175	299	6	0.0033	1.5
20387	2038	300	599	7	0.0033	1.5
20391	2039	0	24	1	0.0073	3.3
20392	2039	25	49	2	0.0073	3.3
20393	2039	50	74	3	0.0066	3.0
20394	2039	75	99	4	0.0031	1.4
20395	2039	100	174	5	0.0029	1.3
20396	2039	175	299	6	0.0033	1.5
20397	2039	300	599	7	0.0033	1.5
20401	2040	0	24	1	0.0073	3.3
20402	2040	25	49	2	0.0073	3.3
20403	2040	50	74	3	0.0066	3.0
20404	2040	75	99	4	0.0031	1.4
20405	2040	100	174	5	0.0029	1.3
20406	2040	175	299	6	0.0033	1.5
20407	2040	300	599	7	0.0033	1.5
20411	2041	0	24	1	0.0073	3.3
20412	2041	25	49	2	0.0073	3.3
20413	2041	50	74	3	0.0066	3.0
20414	2041	75	99	4	0.0031	1.4
20415	2041	100	174	5	0.0029	1.3
20416	2041	175	299	6	0.0033	1.5
20417	2041	300	599	7	0.0033	1.5

Notes:

[1] ARB In-Use Off-Road Diesel Reg NOx targets do not include equipment with horsepower ranging from 0-24 hp. Emissions factors are assumed to be the same as equipment from 25-49 hp.

[2] ARB In-Use Off-Road Diesel Reg NOx targets end at year 2023. Years 2024-2041 are conservatively assumed to have the same emission factors as year 2023.

Construction Beginning with the Year 2019 and Operation

Approach: Off-road diesel operation equipment purchased as part of the proposed project and off-road diesel construction equipment beginning with the year 2021 would be equipped with engines meeting Tier 4 Final emission standards. Source: Table 3.5 of CalEEMod Appendix D (http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixd.pdf?sfvrsn=2).

Emission Factors by Year [1]												
Engine Size (hp) [1]			Tier 4f (g/bhp-hr)					Tier 4f (lbs/bhp-hr)				
Min	Max	Range	CO	VOC	NO_x (final)	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x (final)	PM_{10}	$PM_{2.5}$
0	24	1	4.1	0.12	2.75	0.008	0.008	0.009039	0.000265	0.006063	1.764E-05	1.7637E-05
25	49	2	4.1	0.12	2.75	0.008	0.008	0.009039	0.000265	0.006063	1.764E-05	1.7637E-05
50	74	3	3.7	0.12	2.74	0.008	0.008	0.008157	0.000265	0.006041	1.764E-05	1.7637E-05
75	119	4	3.7	0.06	0.26	0.008	0.008	0.008157	0.000132	0.000573	1.764E-05	1.7637E-05
120	174	5	3.7	0.06	0.26	0.008	0.008	0.008157	0.000132	0.000573	1.764E-05	1.7637E-05
175	299	6	2.2	0.06	0.26	0.008	0.008	0.00485	0.000132	0.000573	1.764E-05	1.7637E-05
300	599	7	2.2	0.06	0.26	0.008	0.008	0.00485	0.000132	0.000573	1.764E-05	1.7637E-05

[1] Tier EFs not available for equipment with less than 25 hp; EFs assumed equal to EFs for equipment with 25-49 hp.

453.592 g/lb

EMFAC2014 Onroad Vehicle Emission Factors

EMFAC2014: Passenger Cars (LDA), Light-Duty Trucks (LDT2), Light-Heavy-Duty Trucks (LHD2),

Exhaust emission factors from EMFAC2014 for Los Angeles (SC). A speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults. An average temperature of 68°F and humidity of 55% were used per Table B-1 of CT-EMFAC: A Computer Model to Estimate Transportation Project Emissions. Version: EMFAC2014 Version 1.0.7. Run date: 2015/9/22 13:48; Season: Annual; Area: Los Angeles (SC); EMFAC2011 Vehicle Categories; Fuel: Gasoline.

EMFAC2014: Medium-Heavy-Duty Trucks (MHDT), Heavy-Heavy-Duty Trucks (HHDT)

Exhaust emission factors from EMFAC2014 for Los Angeles (SC); EMFAC2011 Vehicle Categories; Region: Los Angeles (SC); Season: Annual Average; Fuel: Diesel; Speed: 40mph (combined speeds for PM fugitive and SOx). MHDT is average of T6 instate construction heavy, T6 instate construction small, T6 instate heavy, T6 instate small, and T6 Public. HHDT is T7 SWCV (Solid Waste Collection Truck). EMFAC does not predict methane emissions from MHDT and HHDT.

Running Exhaust Emissions **(grams/mile)**

Year	Vehicle Category		CO	NOx	ROG	SOx	PM_{10}	PM_{10}-Tire Wear	PM_{10}-Break Wear	PM10 Fugitive	$PM_{2.5}$	$PM^{2.5}$-Tire Wear	$PM^{2.5}$-Break Wear (Fugitive)	PM2.5 Fugitive	CO2	CH4
			g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi
2017	Heavy-Heavy Duty Trucks	HHDT	0.01344	14.4334	0.0015	0.037	0.0121	0.036	0.06174	0.09774	0.01154	0.009	0.02646	0.03546	3862.76	6.9451E-05
2017	Medium-Heavy Duty Trucks	MHDT	0.42205	3.83443	0.1219	0.011	0.0668	0.012	0.13034	0.14234	0.06393786	0.003	0.05586	0.05886	1151.1	0.00566193
2017	Light-Heavy Duty Trucks	LHD2	1.0114	0.27602	0.03581	0.008	0.001	0.008	0.08918	0.09718	0.00089	0.002	0.03822	0.04022	760.854	0.014054
2017	Light-Duty Trucks	LDT2	1.19622	0.12755	0.02472	0.004	0.0015	0.008	0.03675	0.04475	0.001385	0.002	0.01575	0.01775	349.742	0.008557
2017	Passenger Cars	LDA	0.912	0.07586	0.01935	0.003	0.0015	0.008	0.03675	0.04475	0.00140696	0.002	0.01575	0.01775	261.084	0.00649135
2017	Light-Light Duty Trucks	LDT1	2.42105	0.22155	0.06017	0.003	0.0033	0.008	0.03675	0.04475	0.003006	0.002	0.01575	0.01775	304.699	0.019015
2018	Heavy-Heavy Duty Trucks	HHDT	0.01346	14.344	0.00156	0.037	0.012	0.036	0.06174	0.09774	0.011453	0.009	0.02646	0.03546	3860.97	7.2273E-05
2018	Medium-Heavy Duty Trucks	MHDT	0.3551	3.32316	0.10172	0.011	0.0525	0.012	0.13034	0.14234	0.05026556	0.003	0.05586	0.05886	1150.37	0.0047247
2018	Light-Heavy Duty Trucks	LHD2	0.84828	0.24231	0.03001	0.008	0.0009	0.008	0.8918	0.8998	0.000847	0.002	0.03822	0.04022	755.629	0.011787
2018	Light-Duty Trucks	LDT2	1.05247	0.109	0.02017	0.003	0.0015	0.008	0.03675	0.04475	0.001368	0.002	0.01575	0.01775	340.21	0.007483
2018	Passenger Cars	LDA	0.81445	0.0667	0.01557	0.003	0.0015	0.008	0.03675	0.04475	0.001395	0.002	0.01575	0.01775	254.152	0.005729
2018	Light-Light Duty Trucks	LDT1	2.10353	0.19186	0.04523	0.003	0.003	0.008	0.03675	0.04475	0.002745	0.002	0.01575	0.01775	297.888	0.016643
2019	Heavy-Heavy Duty Trucks	HHDT	0.01343	14.233	0.00162	0.037	0.0118	0.036	0.06174	0.09774	0.011294	0.009	0.02646	0.03546	3858.24	7.5383E-05
2019	Medium-Heavy Duty Trucks	MHDT	0.31722	2.92708	0.0897	0.011	0.0443	0.012	0.13034	0.14234	0.0424034	0.003	0.05586	0.05886	1147.58	0.0041662
2019	Light-Heavy Duty Trucks	LHD2	0.70752	0.21195	0.02494	0.007	0.0009	0.008	0.08918	0.09718	0.000812	0.002	0.03822	0.04022	750.264	0.009814
2019	Light-Duty Trucks	LDT2	0.93612	0.09382	0.01674	0.003	0.0015	0.008	0.03675	0.04475	0.001365	0.002	0.01575	0.01775	330.706	0.006605
2019	Passenger Cars	LDA	0.73717	0.0593	0.01276	0.002	0.0015	0.008	0.03675	0.04475	0.001392	0.002	0.01575	0.01775	247.144	0.005114
2019	Light-Light Duty Trucks	LDT1	1.89288	0.17124	0.03806	0.003	0.0028	0.008	0.03675	0.04475	0.002585	0.002	0.01575	0.01775	291.139	0.014912
2020	Heavy-Heavy Duty Trucks	HHDT	0.01341	14.1218	0.00169	0.037	0.0116	0.036	0.06174	0.09774	0.01113205	0.009	0.02646	0.03546	3855.49	7.85E-05
2020	Medium-Heavy Duty Trucks	MHDT	0.24455	2.36307	0.0676	0.011	0.0304	0.012	0.13034	0.14234	0.02908611	0.003	0.05586	0.05886	1145.26	0.00313992
2020	Light-Heavy Duty Trucks	LHD2	0.58838	0.18558	0.02062	0.007	0.0009	0.008	0.08918	0.09718	0.00078462	0.002	0.03822	0.04022	745.191	0.0082257
2020	Light-Duty Trucks	LDT2	0.84746	0.08223	0.01453	0.003	0.0015	0.008	0.03675	0.04475	0.00135657	0.002	0.01575	0.01775	321.254	0.00584818
2020	Passenger Cars	LDA	0.68262	0.05355	0.01144	0.002	0.0015	0.008	0.03675	0.04475	0.00137783	0.002	0.01575	0.01775	240.305	0.00459183
2020	Light-Light Duty Trucks	LDT1	1.71724	0.15401	0.03314	0.003	0.0027	0.008	0.03675	0.04475	0.00244149	0.002	0.01575	0.01775	284.254	0.01325812
2021	Heavy-Heavy Duty Trucks	HHDT	0.01334	13.9855	0.00177	0.037	0.0114	0.036	0.06174	0.09774	0.01089	0.009	0.02646	0.03546	3851.67	8.2004E-05
2021	Medium-Heavy Duty Trucks	MHDT	0.17063	1.82876	0.04195	0.011	0.0098	0.012	0.13034	0.14234	0.00941721	0.003	0.05586	0.05886	1143.77	0.00194851
2021	Light-Heavy Duty Trucks	LHD2	0.49046	0.16183	0.01696	0.007	0.0008	0.008	0.08918	0.09718	0.000766	0.002	0.03822	0.04022	740.378	0.006854
2021	Light-Duty Trucks	LDT2	0.78281	0.07332	0.01317	0.003	0.0015	0.008	0.03675	0.04475	0.00134	0.002	0.01575	0.01775	310.702	0.005305
2021	Passenger Cars	LDA	0.63969	0.04882	0.01036	0.002	0.0015	0.008	0.03675	0.04475	0.00135	0.002	0.01575	0.01775	233.344	0.004164
2021	Light-Light Duty Trucks	LDT1	1.5685	0.13923	0.02978	0.003	0.0025	0.008	0.03675	0.04475	0.0023	0.002	0.01575	0.01775	276.371	0.011933
2022	Heavy-Heavy Duty Trucks	HHDT	0.01338	13.9094	0.00182	0.037	0.0113	0.036	0.06174	0.09774	0.01081472	0.009	0.02646	0.03546	3850.18	8.47E-05
2022	Medium-Heavy Duty Trucks	MHDT	0.16908	1.63283	0.04045	0.011	0.0088	0.012	0.13034	0.14234	0.00839874	0.003	0.05586	0.05886	1139.91	0.00187895
2022	Light-Heavy Duty Trucks	LHD2	0.41304	0.14005	0.01393	0.007	0.0008	0.008	0.08918	0.09718	0.00075583	0.002	0.03822	0.04022	735.817	0.0056273
2022	Light-Duty Trucks	LDT2	0.73304	0.06616	0.01205	0.003	0.0014	0.008	0.03675	0.04475	0.00133234	0.002	0.01575	0.01775	300.104	0.00485774
2022	Passenger Cars	LDA	0.60357	0.04477	0.00943	0.002	0.0015	0.008	0.03675	0.04475	0.00133488	0.002	0.01575	0.01775	226.476	0.00379878
2022	Light-Light Duty Trucks	LDT1	1.43244	0.12581	0.02668	0.003	0.0024	0.008	0.03675	0.04475	0.00217461	0.002	0.01575	0.01775	268.257	0.01071889
2023	Heavy-Heavy Duty Trucks	HHDT	0.01336	13.8058	0.00189	0.037	0.0111	0.036	0.06174	0.09774	0.01064554	0.009	0.02646	0.03546	3847.44	8.78E-05
2023	Medium-Heavy Duty Trucks	MHDT	0.15237	0.98303	0.03059	0.011	0.005	0.012	0.13034	0.14234	0.00482875	0.003	0.05586	0.05886	1133.05	0.00142064
2023	Light-Heavy Duty Trucks	LHD2	0.35403	0.12219	0.01173	0.007	0.0008	0.008	0.08918	0.09718	0.00075275	0.002	0.03822	0.04022	731.482	0.00474003
2023	Light-Duty Trucks	LDT2	0.69	0.05994	0.01101	0.003	0.0014	0.008	0.03675	0.04475	0.00132973	0.002	0.01575	0.01775	289.439	0.0044452
2023	Passenger Cars	LDA	0.56956	0.04128	0.00861	0.002	0.0014	0.008	0.03675	0.04475	0.0013261	0.002	0.01575	0.01775	219.736	0.00347241
2023	Light-Light Duty Trucks	LDT1	1.29924	0.11327	0.0237	0.003	0.0022	0.008	0.03675	0.04475	0.00205858	0.002	0.01575	0.01775	259.856	0.00955547
2024	Heavy-Heavy Duty Trucks	HHDT	0.01335	13.7107	0.00195	0.037	0.011	0.036	0.06174	0.09774	0.01048309	0.009	0.02646	0.03546	3844.86	9.07E-05
2024	Medium-Heavy Duty Trucks	MHDT	0.15321	0.91444	0.03056	0.011	0.0048	0.012	0.13034	0.14234	0.00457932	0.003	0.05586	0.05886	1129.75	0.00141939
2024	Light-Heavy Duty Trucks	LHD2	0.30904	0.10705	0.01006	0.007	0.0008	0.008	0.08918	0.09718	0.00075553	0.002	0.03822	0.04022	727.445	0.00406443
2024	Light-Duty Trucks	LDT2	0.65619	0.05461	0.0101	0.003	0.0014	0.008	0.03675	0.04475	0.00132986	0.002	0.01575	0.01775	278.897	0.00408067
2024	Passenger Cars	LDA	0.53629	0.03812	0.00785	0.002	0.0014	0.008	0.03675	0.04475	0.00132098	0.002	0.01575	0.01775	213.048	0.00317105

EMFAC2014 Onroad Vehicle Emission Factors

EMFAC2014: Passenger Cars (LDA), Light-Duty Trucks (LDT2), Light-Heavy-Duty Trucks (LHD2),

Exhaust emission factors from EMFAC2014 for Los Angeles (SC). A speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults. An average temperature of 68°F and humidity of 55% were used per Table B-1 of CT-EMFAC: A Computer Model to Estimate Transportation Project Emissions. Version: EMFAC2014 Version 1.0.7. Run date: 2015/9/22 13:48; Season: Annual; Area: Los Angeles (SC); EMFAC2011 Vehicle Categories; Fuel: Gasoline.

EMFAC2014: Medium-Heavy-Duty Trucks (MHDT), Heavy-Heavy-Duty Trucks (HHDT)

Exhaust emission factors from EMFAC2014 for Los Angeles (SC); EMFAC2011 Vehicle Categories; Region: Los Angeles (SC); Season: Annual Average; Fuel: Diesel; Speed: 40mph (combined speeds for PM fugitive and SOx). MHDT is average of T6 instate construction heavy, T6 instate construction small, T6 instate heavy, T6 instate small, and T6 Public. HHDT is T7 SWCV (Solid Waste Collection Truck). EMFAC does not predict methane emissions from MHDT and HHDT.

Running Exhaust Emissions **(grams/mile)**

Year	Vehicle Category		CO	NOx	ROG	SOx	PM_{10}	PM_{10}-Tire Wear	PM_{10}-Break Wear	PM10 Fugitive	$PM_{2.5}$	$PM^{2.5}$-Tire Wear	$PM^{2.5}$-Break Wear (Fugitive)	PM2.5 Fugitive	CO2	CH4
			g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi
2024	Light-Light Duty Trucks	LDT1	1.19429	0.10281	0.02134	0.003	0.0021	0.008	0.03675	0.04475	0.0019606	0.002	0.01575	0.01775	251.377	0.00861428
2025	Heavy-Heavy Duty Trucks	HHDT	0.01335	13.6295	0.00201	0.037	0.0108	0.036	0.06174	0.09774	0.010338	0.009	0.02646	0.03546	3842.59	9.3252E-05
2025	Medium-Heavy Duty Trucks	MHDT	0.1537	0.85029	0.03048	0.011	0.0045	0.012	0.13034	0.14234	0.00435098	0.003	0.05586	0.05886	1126.35	0.0014158
2025	Light-Heavy Duty Trucks	LHD2	0.27597	0.09455	0.00885	0.007	0.0008	0.008	0.08918	0.09718	0.000763	0.002	0.03822	0.04022	723.696	0.003576
2025	Light-Duty Trucks	LDT2	0.62171	0.0502	0.00933	0.003	0.0015	0.008	0.03675	0.04475	0.001333	0.002	0.01575	0.01775	268.554	0.003769
2025	Passenger Cars	LDA	0.50636	0.0356	0.00727	0.002	0.0014	0.008	0.03675	0.04475	0.001322	0.002	0.01575	0.01775	206.357	0.002937
2025	Light-Light Duty Trucks	LDT1	1.09781	0.0936	0.01927	0.002	0.002	0.008	0.03675	0.04475	0.001876	0.002	0.01575	0.01775	242.904	0.007788
2026	Heavy-Heavy Duty Trucks	HHDT	0.01333	13.5495	0.00206	0.037	0.0106	0.036	0.06174	0.09774	0.01017083	0.009	0.02646	0.03546	3840.08	9.57E-05
2026	Medium-Heavy Duty Trucks	MHDT	0.15381	0.78943	0.03034	0.011	0.0043	0.012	0.13034	0.14234	0.0041344	0.003	0.05586	0.05886	1123.01	0.00140934
2026	Light-Heavy Duty Trucks	LHD2	0.24185	0.08297	0.00752	0.007	0.0008	0.008	0.08918	0.09718	0.0007696	0.002	0.03822	0.04022	720.271	0.0030388
2026	Light-Duty Trucks	LDT2	0.59317	0.04654	0.00867	0.003	0.0014	0.008	0.03675	0.04475	0.0013117	0.002	0.01575	0.01775	259.554	0.00350286
2026	Passenger Cars	LDA	0.4816	0.03342	0.00677	0.002	0.0014	0.008	0.03675	0.04475	0.00129621	0.002	0.01575	0.01775	200.565	0.00273604
2026	Light-Light Duty Trucks	LDT1	1.01353	0.08589	0.01748	0.002	0.002	0.008	0.03675	0.04475	0.00179403	0.002	0.01575	0.01775	235.43	0.00706418
2027	Heavy-Heavy Duty Trucks	HHDT	0.01334	13.4989	0.0021	0.037	0.0105	0.036	0.06174	0.09774	0.01005577	0.009	0.02646	0.03546	3838.37	9.75E-05
2027	Medium-Heavy Duty Trucks	MHDT	0.15347	0.73069	0.03013	0.011	0.0041	0.012	0.13034	0.14234	0.00393641	0.003	0.05586	0.05886	1119.55	0.00139965
2027	Light-Heavy Duty Trucks	LHD2	0.21447	0.07317	0.00647	0.007	0.0008	0.008	0.08918	0.09718	0.00077837	0.002	0.03822	0.04022	717.166	0.00261362
2027	Light-Duty Trucks	LDT2	0.56876	0.04336	0.00809	0.003	0.0014	0.008	0.03675	0.04475	0.00126041	0.002	0.01575	0.01775	251.594	0.00326954
2027	Passenger Cars	LDA	0.45957	0.03143	0.00631	0.002	0.0013	0.008	0.03675	0.04475	0.00123729	0.002	0.01575	0.01775	195.408	0.00255148
2027	Light-Light Duty Trucks	LDT1	0.93521	0.07871	0.01582	0.002	0.0018	0.008	0.03675	0.04475	0.00169056	0.002	0.01575	0.01775	228.641	0.00639405
2028	Heavy-Heavy Duty Trucks	HHDT	0.01332	13.4535	0.00213	0.037	0.0104	0.036	0.06174	0.09774	0.009924	0.009	0.02646	0.03546	3836.49	9.8942E-05
2028	Medium-Heavy Duty Trucks	MHDT	0.15336	0.68358	0.02998	0.011	0.0039	0.012	0.13034	0.14234	0.00377146	0.003	0.05586	0.05886	1116.73	0.00139267
2028	Light-Heavy Duty Trucks	LHD2	0.19476	0.06527	0.00568	0.007	0.0009	0.008	0.08918	0.09718	0.000789	0.002	0.03822	0.04022	714.404	0.002296
2028	Light-Duty Trucks	LDT2	0.54718	0.04057	0.00758	0.002	0.0013	0.008	0.03675	0.04475	0.001183	0.002	0.01575	0.01775	244.543	0.003062
2028	Passenger Cars	LDA	0.43956	0.02963	0.0059	0.002	0.0013	0.008	0.03675	0.04475	0.001151	0.002	0.01575	0.01775	190.82	0.002382
2028	Light-Light Duty Trucks	LDT1	0.86708	0.07212	0.01446	0.002	0.0017	0.008	0.03675	0.04475	0.001572	0.002	0.01575	0.01775	222.525	0.005843
2029	Heavy-Heavy Duty Trucks	HHDT	0.01322	13.3719	0.00217	0.037	0.0101	0.036	0.06174	0.09774	0.009658	0.009	0.02646	0.03546	3832.79	0.00010062
2029	Medium-Heavy Duty Trucks	MHDT	0.15315	0.64246	0.02983	0.011	0.0038	0.012	0.13034	0.14234	0.00362446	0.003	0.05586	0.05886	1114.19	0.00138557
2029	Light-Heavy Duty Trucks	LHD2	0.17863	0.05863	0.00507	0.007	0.0009	0.008	0.08918	0.09718	0.000798	0.002	0.03822	0.04022	711.954	0.002047
2029	Light-Duty Trucks	LDT2	0.52699	0.03804	0.0071	0.002	0.0012	0.008	0.03675	0.04475	0.001112	0.002	0.01575	0.01775	238.26	0.002867
2029	Passenger Cars	LDA	0.42042	0.02793	0.0055	0.002	0.0012	0.008	0.03675	0.04475	0.001079	0.002	0.01575	0.01775	186.727	0.002222
2029	Light-Light Duty Trucks	LDT1	0.79392	0.06501	0.01298	0.002	0.0016	0.008	0.03675	0.04475	0.001455	0.002	0.01575	0.01775	216.92	0.005246
2030	Heavy-Heavy Duty Trucks	HHDT	0.01312	13.3166	0.00219	0.037	0.0099	0.036	0.06174	0.09774	0.00943682	0.009	0.02646	0.03546	3829.71	0.00010162
2030	Medium-Heavy Duty Trucks	MHDT	0.15277	0.60525	0.02966	0.011	0.0036	0.012	0.13034	0.14234	0.00348863	0.003	0.05586	0.05886	0.02966	0.00137747
2030	Light-Heavy Duty Trucks	LHD2	0.16516	0.05297	0.00453	0.007	0.0009	0.008	0.08918	0.09718	0.00080661	0.002	0.03822	0.04022	709.787	0.00183015
2030	Light-Duty Trucks	LDT2	0.50844	0.0358	0.00666	0.002	0.0011	0.008	0.03675	0.04475	0.00104725	0.002	0.01575	0.01775	232.667	0.00269222
2030	Passenger Cars	LDA	0.40307	0.0264	0.00514	0.002	0.0011	0.008	0.03675	0.04475	0.00101572	0.002	0.01575	0.01775	183.088	0.0020776
2030	Light-Light Duty Trucks	LDT1	0.72406	0.05777	0.01157	0.002	0.0015	0.008	0.03675	0.04475	0.00134256	0.002	0.01575	0.01775	211.781	0.00467652
2031	Heavy-Heavy Duty Trucks	HHDT	0.01298	13.2564	0.0022	0.037	0.0096	0.036	0.06174	0.09774	0.00917842	0.009	0.02646	0.03546	3826.08	0.00010235
2031	Medium-Heavy Duty Trucks	MHDT	0.15233	0.5714	0.02948	0.011	0.0035	0.012	0.13034	0.14234	0.00336506	0.003	0.05586	0.05886	1109.62	0.00136924
2031	Light-Heavy Duty Trucks	LHD2	0.15084	0.04784	0.00395	0.007	0.0009	0.008	0.08918	0.09718	0.00081346	0.002	0.03822	0.04022	707.875	0.00159807
2031	Light-Duty Trucks	LDT2	0.4908	0.03377	0.00626	0.002	0.0011	0.008	0.03675	0.04475	0.00098687	0.002	0.01575	0.01775	227.715	0.00253065
2031	Passenger Cars	LDA	0.38702	0.02502	0.00482	0.002	0.001	0.008	0.03675	0.04475	0.00095768	0.002	0.01575	0.01775	179.874	0.00194615
2031	Light-Light Duty Trucks	LDT1	0.64935	0.04981	0.01009	0.002	0.0013	0.008	0.03675	0.04475	0.00122669	0.002	0.01575	0.01775	207.012	0.00407736
2032	Heavy-Heavy Duty Trucks	HHDT	0.01279	13.1789	0.00222	0.036	0.0093	0.036	0.06174	0.09774	0.00885904	0.009	0.02646	0.03546	3821.48	0.00010303
2032	Medium-Heavy Duty Trucks	MHDT	0.15185	0.5409	0.02931	0.011	0.0034	0.012	0.13034	0.14234	0.00325792	0.003	0.05586	0.05886	1107.76	0.00136119
2032	Light-Heavy Duty Trucks	LHD2	0.13842	0.04357	0.00344	0.007	0.0009	0.008	0.08918	0.09718	0.00081979	0.002	0.03822	0.04022	706.189	0.00138869
2032	Light-Duty Trucks	LDT2	0.47411	0.03194	0.0059	0.002	0.001	0.008	0.03675	0.04475	0.00092955	0.002	0.01575	0.01775	223.353	0.00238276

EMFAC2014 Onroad Vehicle Emission Factors

EMFAC2014: Passenger Cars (LDA), Light-Duty Trucks (LDT2), Light-Heavy-Duty Trucks (LHD2),

Exhaust emission factors from EMFAC2014 for Los Angeles (SC). A speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults. An average temperature of 68°F and humidity of 55% were used per Table B-1 of CT-EMFAC: A Computer Model to Estimate Transportation Project Emissions. Version: EMFAC2014 Version 1.0.7. Run date: 2015/9/22 13:48; Season: Annual; Area: Los Angeles (SC); EMFAC2011 Vehicle Categories; Fuel: Gasoline.

EMFAC2014: Medium-Heavy-Duty Trucks (MHDT), Heavy-Heavy-Duty Trucks (HHDT)

Exhaust emission factors from EMFAC2014 for Los Angeles (SC); EMFAC2011 Vehicle Categories; Region: Los Angeles (SC); Season: Annual Average; Fuel: Diesel; Speed: 40mph (combined speeds for PM fugitive and SOx). MHDT is average of T6 instate construction heavy, T6 instate construction small, T6 instate heavy, T6 instate small, and T6 Public. HHDT is T7 SWCV (Solid Waste Collection Truck). EMFAC does not predict methane emissions from MHDT and HHDT.

Running Exhaust Emissions **(grams/mile)**

Year	Vehicle Category		CO	NOx	ROG	SOx	PM_{10}	PM_{10}-Tire Wear	PM_{10}-Break Wear	PM10 Fugitive	$PM_{2.5}$	$PM^{2.5}$-Tire Wear	$PM^{2.5}$-Break Wear (Fugitive)	PM2.5 Fugitive	CO2	CH4
			g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi
2032	Passenger Cars	LDA	0.37198	0.02377	0.00452	0.002	0.001	0.008	0.03675	0.04475	0.00090306	0.002	0.01575	0.01775	177.044	0.0018251
2032	Light-Light Duty Trucks	LDT1	0.58674	0.0431	0.00885	0.002	0.0012	0.008	0.03675	0.04475	0.00112507	0.002	0.01575	0.01775	202.727	0.00357611
2033	Heavy-Heavy Duty Trucks	HHDT	0.01257	13.0982	0.00223	0.036	0.0089	0.036	0.06174	0.09774	0.008536	0.009	0.02646	0.03546	3816.62	0.0001035
2033	Medium-Heavy Duty Trucks	MHDT	0.1514	0.51359	0.02915	0.011	0.0033	0.012	0.13034	0.14234	0.00316799	0.003	0.05586	0.05886	1105.97	0.00135395
2033	Light-Heavy Duty Trucks	LHD2	0.13476	0.0407	0.00328	0.007	0.0009	0.008	0.08918	0.09718	0.000827	0.002	0.03822	0.04022	704.71	0.001324
2033	Light-Duty Trucks	LDT2	0.45827	0.03025	0.00556	0.002	0.001	0.008	0.03675	0.04475	0.000875	0.002	0.01575	0.01775	219.534	0.002246
2033	Passenger Cars	LDA	0.35813	0.02264	0.00425	0.002	0.0009	0.008	0.03675	0.04475	0.000852	0.002	0.01575	0.01775	174.576	0.001716
2033	Light-Light Duty Trucks	LDT1	0.53693	0.03769	0.00786	0.002	0.0011	0.008	0.03675	0.04475	0.001037	0.002	0.01575	0.01775	198.903	0.003175
2034	Heavy-Heavy Duty Trucks	HHDT	0.01226	12.9622	0.00225	0.036	0.0085	0.036	0.06174	0.09774	0.00808607	0.009	0.02646	0.03546	3809.6	0.00010459
2034	Medium-Heavy Duty Trucks	MHDT	0.15088	0.48923	0.02899	0.011	0.0032	0.012	0.13034	0.14234	0.0030881	0.003	0.05586	0.05886	1104.33	0.00134655
2034	Light-Heavy Duty Trucks	LHD2	0.13098	0.03819	0.00312	0.007	0.0009	0.008	0.08918	0.09718	0.00083225	0.002	0.03822	0.04022	703.415	0.00125881
2034	Light-Duty Trucks	LDT2	0.44324	0.02871	0.00524	0.002	0.0009	0.008	0.03675	0.04475	0.00082231	0.002	0.01575	0.01775	216.221	0.00211922
2034	Passenger Cars	LDA	0.34464	0.02164	0.00399	0.002	0.0009	0.008	0.03675	0.04475	0.00080249	0.002	0.01575	0.01775	172.433	0.00161333
2034	Light-Light Duty Trucks	LDT1	0.4872	0.03338	0.00687	0.002	0.001	0.008	0.03675	0.04475	0.00094983	0.002	0.01575	0.01775	195.395	0.0027759
2035	Heavy-Heavy Duty Trucks	HHDT	0.01205	12.8738	0.00226	0.036	0.0082	0.036	0.06174	0.09774	0.00784005	0.009	0.02646	0.03546	3804.9	0.00010509
2035	Medium-Heavy Duty Trucks	MHDT	0.1503	0.46737	0.02883	0.011	0.0031	0.012	0.13034	0.14234	0.00301284	0.003	0.05586	0.05886	1102.91	0.00133887
2035	Light-Heavy Duty Trucks	LHD2	0.1277	0.03603	0.00297	0.007	0.0009	0.008	0.08918	0.09718	0.00083665	0.002	0.03822	0.04022	702.3	0.00120162
2035	Light-Duty Trucks	LDT2	0.42941	0.02732	0.00496	0.002	0.0008	0.008	0.03675	0.04475	0.00077313	0.002	0.01575	0.01775	213.383	0.00200483
2035	Passenger Cars	LDA	0.33165	0.02078	0.00375	0.002	0.0008	0.008	0.03675	0.04475	0.00075598	0.002	0.01575	0.01775	170.592	0.00151659
2035	Light-Light Duty Trucks	LDT1	0.45132	0.03084	0.00616	0.002	0.001	0.008	0.03675	0.04475	0.0008808	0.002	0.01575	0.01775	192.368	0.00248923
2036	Heavy-Heavy Duty Trucks	HHDT	0.01195	12.804	0.00228	0.036	0.0082	0.036	0.06174	0.09774	0.0078152	0.009	0.02646	0.03546	3801.69	0.00010572
2036	Medium-Heavy Duty Trucks	MHDT	0.14974	0.44799	0.02868	0.011	0.0031	0.012	0.13034	0.14234	0.00295569	0.003	0.05586	0.05886	1102.89	0.00133198
2036	Light-Heavy Duty Trucks	LHD2	0.12525	0.03414	0.00287	0.007	0.0009	0.008	0.08918	0.09718	0.00084127	0.002	0.03822	0.04022	701.361	0.00115849
2036	Light-Duty Trucks	LDT2	0.416	0.02594	0.00468	0.002	0.0008	0.008	0.03675	0.04475	0.0007285	0.002	0.01575	0.01775	210.957	0.00189286
2036	Passenger Cars	LDA	0.32005	0.02004	0.00354	0.002	0.0008	0.008	0.03675	0.04475	0.00071577	0.002	0.01575	0.01775	169.033	0.00143208
2036	Light-Light Duty Trucks	LDT1	0.42052	0.02862	0.00554	0.002	0.0009	0.008	0.03675	0.04475	0.00082898	0.002	0.01575	0.01775	189.69	0.00224049
2037	Heavy-Heavy Duty Trucks	HHDT	0.01188	12.7412	0.0023	0.036	0.0082	0.036	0.06174	0.09774	0.007837	0.009	0.02646	0.03546	3800.48	0.0001068
2037	Medium-Heavy Duty Trucks	MHDT	0.14916	0.43076	0.02853	0.011	0.003	0.012	0.13034	0.14234	0.00290715	0.003	0.05586	0.05886	1101.67	0.0013252
2037	Light-Heavy Duty Trucks	LHD2	0.12376	0.03265	0.00279	0.007	0.0009	0.008	0.08918	0.09718	0.000845	0.002	0.03822	0.04022	700.585	0.001128
2037	Light-Duty Trucks	LDT2	0.40463	0.02482	0.00446	0.002	0.0007	0.008	0.03675	0.04475	0.000688	0.002	0.01575	0.01775	208.943	0.001801
2037	Passenger Cars	LDA	0.31019	0.01943	0.00337	0.002	0.0007	0.008	0.03675	0.04475	0.000679	0.002	0.01575	0.01775	167.735	0.001363
2037	Light-Light Duty Trucks	LDT1	0.39675	0.0269	0.00508	0.002	0.0009	0.008	0.03675	0.04475	0.000784	0.002	0.01575	0.01775	187.398	0.002051
2038	Heavy-Heavy Duty Trucks	HHDT	0.01186	12.658	0.00236	0.036	0.0083	0.036	0.06174	0.09774	0.007922	0.009	0.02646	0.03546	3800.85	0.00010939
2038	Medium-Heavy Duty Trucks	MHDT	0.14869	0.41673	0.02841	0.011	0.003	0.012	0.13034	0.14234	0.0028665	0.003	0.05586	0.05886	1100.67	0.00131968
2038	Light-Heavy Duty Trucks	LHD2	0.12226	0.03129	0.00272	0.007	0.0009	0.008	0.08918	0.09718	0.000849	0.002	0.03822	0.04022	699.948	0.001099
2038	Light-Duty Trucks	LDT2	0.39498	0.02383	0.00426	0.002	0.0007	0.008	0.03675	0.04475	0.000653	0.002	0.01575	0.01775	207.286	0.001723
2038	Passenger Cars	LDA	0.30209	0.01894	0.00324	0.002	0.0007	0.008	0.03675	0.04475	0.000647	0.002	0.01575	0.01775	166.666	0.001309
2038	Light-Light Duty Trucks	LDT1	0.37931	0.02534	0.00469	0.002	0.0008	0.008	0.03675	0.04475	0.000742	0.002	0.01575	0.01775	185.387	0.001896
2039	Heavy-Heavy Duty Trucks	HHDT	0.01199	12.5982	0.00244	0.036	0.0085	0.036	0.06174	0.09774	0.00816091	0.009	0.02646	0.03546	3808.02	0.00011348
2039	Medium-Heavy Duty Trucks	MHDT	0.14833	0.40561	0.02832	0.01	0.003	0.012	0.13034	0.14234	0.00283351	0.003	0.05586	0.05886	1099.88	0.00131538
2039	Light-Heavy Duty Trucks	LHD2	0.12005	0.02993	0.00264	0.007	0.0009	0.008	0.08918	0.09718	0.00085081	0.002	0.03822	0.04022	699.424	0.00106497
2039	Light-Duty Trucks	LDT2	0.38734	0.02303	0.00412	0.002	0.0007	0.008	0.03675	0.04475	0.00062109	0.002	0.01575	0.01775	205.943	0.00166316
2039	Passenger Cars	LDA	0.29581	0.01857	0.00314	0.002	0.0007	0.008	0.03675	0.04475	0.00061766	0.002	0.01575	0.01775	165.791	0.00127061
2039	Light-Light Duty Trucks	LDT1	0.36537	0.02412	0.00438	0.002	0.0008	0.008	0.03675	0.04475	0.00070246	0.002	0.01575	0.01775	183.576	0.00177097
2040	Heavy-Heavy Duty Trucks	HHDT	0.01222	12.49	0.00258	0.036	0.0089	0.036	0.06174	0.09774	0.00849272	0.009	0.02646	0.03546	3816.58	0.00011971
2040	Medium-Heavy Duty Trucks	MHDT	0.14805	0.39638	0.02824	0.01	0.0029	0.012	0.13034	0.14234	0.00280555	0.003	0.05586	0.05886	1099.22	0.00131187
2040	Light-Heavy Duty Trucks	LHD2	0.11889	0.02891	0.00258	0.007	0.0009	0.008	0.08918	0.09718	0.00085286	0.002	0.03822	0.04022	699.01	0.00104422

EMFAC2014 Onroad Vehicle Emission Factors

EMFAC2014: Passenger Cars (LDA), Light-Duty Trucks (LDT2), Light-Heavy-Duty Trucks (LHD2),

Exhaust emission factors from EMFAC2014 for Los Angeles (SC). A speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults. An average temperature of 68°F and humidity of 55% were used per Table B-1 of CT-EMFAC: A Computer Model to Estimate Transportation Project Emissions. Version: EMFAC2014 Version 1.0.7. Run date: 2015/9/22 13:48; Season: Annual; Area: Los Angeles (SC); EMFAC2011 Vehicle Categories; Fuel: Gasoline.

EMFAC2014: Medium-Heavy-Duty Trucks (MHDT), Heavy-Heavy-Duty Trucks (HHDT)

Exhaust emission factors from EMFAC2014 for Los Angeles (SC); EMFAC2011 Vehicle Categories; Region: Los Angeles (SC); Season: Annual Average; Fuel: Diesel; Speed: 40mph (combined speeds for PM fugitive and SOx). MHDT is average of T6 instate construction heavy, T6 instate construction small, T6 instate heavy, T6 instate small, and T6 Public. HHDT is T7 SWCV (Solid Waste Collection Truck). EMFAC does not predict methane emissions from MHDT and HHDT.

Running Exhaust Emissions **(grams/mile)**

Year	Vehicle Category		CO	NOx	ROG	SOx	PM_{10}	PM_{10}-Tire Wear	PM_{10}-Break Wear	PM10 Fugitive	$PM_{2.5}$	$PM^{2.5}$-Tire Wear	$PM^{2.5}$-Break Wear (Fugitive)	PM2.5 Fugitive	CO2	CH4
			g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi
2040	Light-Duty Trucks	LDT2	0.38097	0.02242	0.00399	0.002	0.0006	0.008	0.03675	0.04475	0.00059347	0.002	0.01575	0.01775	204.858	0.00161284
2040	Passenger Cars	LDA	0.29066	0.01827	0.00307	0.002	0.0006	0.008	0.03675	0.04475	0.00059186	0.002	0.01575	0.01775	165.08	0.00124075
2040	Light-Light Duty Trucks	LDT1	0.35425	0.02312	0.00414	0.002	0.0007	0.008	0.03675	0.04475	0.00066765	0.002	0.01575	0.01775	181.99	0.00167488
2041	Heavy-Heavy Duty Trucks	HHDT	0.01251	12.3288	0.00275	0.036	0.0093	0.036	0.06174	0.09774	0.008883	0.009	0.02646	0.03546	3824.47	0.00012748
2041	Medium-Heavy Duty Trucks	MHDT	0.14782	0.38864	0.02818	0.01	0.0029	0.012	0.13034	0.14234	0.00278276	0.003	0.05586	0.05886	1098.66	0.00130902
2041	Light-Heavy Duty Trucks	LHD2	0.11871	0.02828	0.00256	0.007	0.0009	0.008	0.08918	0.09718	0.000855	0.002	0.03822	0.04022	698.684	0.001034
2041	Light-Duty Trucks	LDT2	0.37586	0.02198	0.0039	0.002	0.0006	0.008	0.03675	0.04475	0.000572	0.002	0.01575	0.01775	204.007	0.001576
2041	Passenger Cars	LDA	0.28654	0.01804	0.00302	0.002	0.0006	0.008	0.03675	0.04475	0.000571	0.002	0.01575	0.01775	164.516	0.001218
2041	Light-Light Duty Trucks	LDT1	0.34435	0.02234	0.00396	0.002	0.0007	0.008	0.03675	0.04475	0.000644	0.002	0.01575	0.01775	180.61	0.001601
2042	Heavy-Heavy Duty Trucks	HHDT	0.01282	12.1066	0.00291	0.037	0.0097	0.036	0.06174	0.09774	0.0092391	0.009	0.02646	0.03546	3827.18	0.00013497
2042	Medium-Heavy Duty Trucks	MHDT	0.14764	0.38182	0.02813	0.01	0.0029	0.012	0.13034	0.14234	0.002763	0.003	0.05586	0.05886	1098.18	0.00130664
2042	Light-Heavy Duty Trucks	LHD2	0.11858	0.02777	0.00254	0.007	0.0009	0.008	0.08918	0.09718	0.00085606	0.002	0.03822	0.04022	698.427	0.00102524
2042	Light-Duty Trucks	LDT2	0.37152	0.02161	0.00382	0.002	0.0006	0.008	0.03675	0.04475	0.00055391	0.002	0.01575	0.01775	203.33	0.00154516
2042	Passenger Cars	LDA	0.28309	0.01785	0.00297	0.002	0.0006	0.008	0.03675	0.04475	0.0005542	0.002	0.01575	0.01775	164.065	0.00120004
2042	Light-Light Duty Trucks	LDT1	0.33504	0.02165	0.00379	0.002	0.0007	0.008	0.03675	0.04475	0.00062167	0.002	0.01575	0.01775	179.389	0.00153252
2043	Heavy-Heavy Duty Trucks	HHDT	0.01333	11.7491	0.00315	0.037	0.0102	0.036	0.06174	0.09774	0.00971437	0.009	0.02646	0.03546	3827.1	0.0001465
2043	Medium-Heavy Duty Trucks	MHDT	0.14752	0.37653	0.0281	0.01	0.0029	0.012	0.13034	0.14234	0.00274747	0.003	0.05586	0.05886	1097.78	0.00130503
2043	Light-Heavy Duty Trucks	LHD2	0.1185	0.02739	0.00252	0.007	0.0009	0.008	0.08918	0.09718	0.0008571	0.002	0.03822	0.04022	698.224	0.00101859
2043	Light-Duty Trucks	LDT2	0.36806	0.02132	0.00377	0.002	0.0006	0.008	0.03675	0.04475	0.0005392	0.002	0.01575	0.01775	202.796	0.00152169
2043	Passenger Cars	LDA	0.28029	0.01771	0.00293	0.002	0.0006	0.008	0.03675	0.04475	0.00053981	0.002	0.01575	0.01775	163.709	0.00118573
2043	Light-Light Duty Trucks	LDT1	0.32637	0.02104	0.00365	0.002	0.0007	0.008	0.03675	0.04475	0.00060158	0.002	0.01575	0.01775	178.297	0.00147404
2044	Heavy-Heavy Duty Trucks	HHDT	0.01429	11.0498	0.0036	0.036	0.011	0.036	0.06174	0.09774	0.01047825	0.009	0.02646	0.03546	3822.54	0.00016705
2044	Medium-Heavy Duty Trucks	MHDT	0.14745	0.37203	0.02807	0.01	0.0029	0.012	0.13034	0.14234	0.00273426	0.003	0.05586	0.05886	1097.46	0.00130388
2044	Light-Heavy Duty Trucks	LHD2	0.11842	0.02705	0.00251	0.007	0.0009	0.008	0.08918	0.09718	0.00085791	0.002	0.03822	0.04022	698.056	0.0010129
2044	Light-Duty Trucks	LDT2	0.36531	0.02109	0.00372	0.002	0.0006	0.008	0.03675	0.04475	0.00052741	0.002	0.01575	0.01775	202.374	0.00150427
2044	Passenger Cars	LDA	0.27802	0.0176	0.00291	0.002	0.0006	0.008	0.03675	0.04475	0.00052804	0.002	0.01575	0.01775	163.429	0.00117471
2044	Light-Light Duty Trucks	LDT1	0.31949	0.02062	0.00355	0.002	0.0006	0.008	0.03675	0.04475	0.00058422	0.002	0.01575	0.01775	177.38	0.00143465
2045	Heavy-Heavy Duty Trucks	HHDT	0.01558	10.2441	0.00418	0.036	0.0118	0.036	0.06174	0.09774	0.01133	0.009	0.02646	0.03546	3817.2	0.00019393
2045	Medium-Heavy Duty Trucks	MHDT	0.14742	0.36843	0.02806	0.01	0.0028	0.012	0.13034	0.14234	0.00272335	0.003	0.05586	0.05886	1097.2	0.00130309
2045	Light-Heavy Duty Trucks	LHD2	0.11836	0.0268	0.0025	0.007	0.0009	0.008	0.08918	0.09718	0.00085857	0.002	0.03822	0.04022	697.922	0.00100847
2045	Light-Duty Trucks	LDT2	0.363	0.02091	0.00369	0.002	0.0006	0.008	0.03675	0.04475	0.00051803	0.002	0.01575	0.01775	202.026	0.00149093
2045	Passenger Cars	LDA	0.2761	0.01751	0.00289	0.002	0.0006	0.008	0.03675	0.04475	0.00051851	0.002	0.01575	0.01775	163.2	0.00116596
2045	Light-Light Duty Trucks	LDT1	0.31361	0.0203	0.00348	0.002	0.0006	0.008	0.03675	0.04475	0.00056907	0.002	0.01575	0.01775	176.552	0.00140651
2046	Heavy-Heavy Duty Trucks	HHDT	0.01744	9.29438	0.00498	0.036	0.0128	0.036	0.06174	0.09774	0.01228416	0.009	0.02646	0.03546	3810.74	0.0002312
2046	Medium-Heavy Duty Trucks	MHDT	0.1474	0.36547	0.02804	0.01	0.0028	0.012	0.13034	0.14234	0.00271411	0.003	0.05586	0.05886	1096.99	0.00130256
2046	Light-Heavy Duty Trucks	LHD2	0.1183	0.02657	0.00249	0.007	0.0009	0.008	0.08918	0.09718	0.00085907	0.002	0.03822	0.04022	697.812	0.0010046
2046	Light-Duty Trucks	LDT2	0.36128	0.02076	0.00366	0.002	0.0006	0.008	0.03675	0.04475	0.00051085	0.002	0.01575	0.01775	201.754	0.00148081
2046	Passenger Cars	LDA	0.27461	0.01744	0.00287	0.002	0.0006	0.008	0.03675	0.04475	0.00051101	0.002	0.01575	0.01775	163.019	0.00115903
2046	Light-Light Duty Trucks	LDT1	0.3083	0.02001	0.00342	0.002	0.0006	0.008	0.03675	0.04475	0.00055572	0.002	0.01575	0.01775	175.817	0.00138096

lbs/VMT

1gram = 0.0022046 lbs

Year		Vehicle Category		CO	NOx	ROG	SOx	PM_{10}	PM_{10} (Fugitive)	$PM_{2.5}$	$PM^{2.5}$ (Fugitive)	CO2	CH4
				lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT
2017	2017Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.963E-05	3.182E-02	3.296E-06	8.124E-05	2.660E-05	2.155E-04	2.544E-05	7.818E-05	8.516E+00	1.531E-07
2017	2017Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	9.305E-04	8.453E-03	2.687E-04	2.421E-05	1.473E-04	3.138E-04	1.410E-04	1.298E-04	2.538E+00	1.248E-05
2017	2017Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.230E-03	6.085E-04	7.895E-05	1.678E-05	2.132E-06	2.142E-04	1.962E-06	8.867E-05	1.677E+00	3.098E-05
2017	2017Light-Duty Trucks	Light-Duty Trucks	LDT2	2.637E-03	2.812E-04	5.450E-05	7.738E-06	3.318E-06	9.866E-05	3.053E-06	3.913E-05	7.710E-01	1.886E-05
2017	2017Passenger Cars	Passenger Cars	LDA	2.011E-03	1.672E-04	4.266E-05	5.777E-06	3.369E-06	9.866E-05	3.102E-06	3.913E-05	5.756E-01	1.431E-05
2017	2017Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	5.337E-03	4.884E-04	1.326E-04	6.792E-06	7.189E-06	9.866E-05	6.627E-06	3.913E-05	6.717E-01	4.192E-05
2018	2018Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.967E-05	3.162E-02	3.430E-06	8.121E-05	2.639E-05	2.155E-04	2.525E-05	7.818E-05	8.512E+00	1.593E-07
2018	2018Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	7.828E-04	7.326E-03	2.243E-04	2.420E-05	1.158E-04	3.138E-04	1.108E-04	1.298E-04	2.536E+00	1.042E-05
2018	2018Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	1.870E-03	5.342E-04	6.615E-05	1.666E-05	2.028E-06	1.984E-03	1.867E-06	8.867E-05	1.666E+00	2.599E-05
2018	2018Light-Duty Trucks	Light-Duty Trucks	LDT2	2.320E-03	2.403E-04	4.446E-05	7.522E-06	3.278E-06	9.866E-05	3.016E-06	3.913E-05	7.500E-01	1.650E-05
2018	2018Passenger Cars	Passenger Cars	LDA	1.796E-03	1.471E-04	3.433E-05	5.622E-06	3.342E-06	9.866E-05	3.075E-06	3.913E-05	5.603E-01	1.263E-05
2018	2018Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	4.637E-03	4.230E-04	9.971E-05	6.629E-06	6.576E-06	9.866E-05	6.052E-06	3.913E-05	6.567E-01	3.669E-05
2019	2019Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.961E-05	3.138E-02	3.578E-06	8.113E-05	2.601E-05	2.155E-04	2.490E-05	7.818E-05	8.506E+00	1.662E-07
2019	2019Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	6.994E-04	6.453E-03	1.977E-04	2.414E-05	9.771E-05	3.138E-04	9.348E-05	1.298E-04	2.530E+00	9.185E-06
2019	2019Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	1.560E-03	4.673E-04	5.497E-05	1.653E-05	1.947E-06	2.142E-04	1.790E-06	8.867E-05	1.654E+00	2.164E-05
2019	2019Light-Duty Trucks	Light-Duty Trucks	LDT2	2.064E-03	2.068E-04	3.691E-05	7.308E-06	3.272E-06	9.866E-05	3.009E-06	3.913E-05	7.291E-01	1.456E-05
2019	2019Passenger Cars	Passenger Cars	LDA	1.625E-03	1.307E-04	2.814E-05	5.463E-06	3.338E-06	9.866E-05	3.069E-06	3.913E-05	5.449E-01	1.127E-05
2019	2019Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	4.173E-03	3.775E-04	8.391E-05	6.475E-06	6.195E-06	9.866E-05	5.699E-06	3.913E-05	6.418E-01	3.287E-05
2020	2020Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.956E-05	3.113E-02	3.727E-06	8.109E-05	2.565E-05	2.155E-04	2.454E-05	7.818E-05	8.500E+00	1.731E-07
2020	2020Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	5.391E-04	5.210E-03	1.490E-04	2.409E-05	6.702E-05	3.138E-04	6.412E-05	1.298E-04	2.525E+00	6.922E-06
2020	2020Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	1.297E-03	4.091E-04	4.545E-05	1.642E-05	1.881E-06	2.142E-04	1.730E-06	8.867E-05	1.643E+00	1.813E-05
2020	2020Light-Duty Trucks	Light-Duty Trucks	LDT2	1.868E-03	1.813E-04	3.204E-05	7.098E-06	3.252E-06	9.866E-05	2.991E-06	3.913E-05	7.082E-01	1.289E-05
2020	2020Passenger Cars	Passenger Cars	LDA	1.505E-03	1.180E-04	2.522E-05	5.311E-06	3.303E-06	9.866E-05	3.038E-06	3.913E-05	5.298E-01	1.012E-05
2020	2020Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	3.786E-03	3.395E-04	7.305E-05	6.316E-06	5.852E-06	9.866E-05	5.383E-06	3.913E-05	6.267E-01	2.923E-05
2021	2021Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.941E-05	3.083E-02	3.893E-06	8.102E-05	2.513E-05	2.155E-04	2.401E-05	7.818E-05	8.491E+00	1.808E-07
2021	2021Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.762E-04	4.032E-03	9.248E-05	2.406E-05	2.170E-05	3.138E-04	2.076E-05	1.298E-04	2.522E+00	4.296E-06
2021	2021Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	1.081E-03	3.568E-04	3.739E-05	1.631E-05	1.836E-06	2.142E-04	1.689E-06	8.867E-05	1.632E+00	1.511E-05
2021	2021Light-Duty Trucks	Light-Duty Trucks	LDT2	1.726E-03	1.616E-04	2.904E-05	6.863E-06	3.214E-06	9.866E-05	2.954E-06	3.913E-05	6.850E-01	1.170E-05
2021	2021Passenger Cars	Passenger Cars	LDA	1.410E-03	1.076E-04	2.283E-05	5.157E-06	3.239E-06	9.866E-05	2.976E-06	3.913E-05	5.144E-01	9.180E-06
2021	2021Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	3.458E-03	3.069E-04	6.564E-05	6.138E-06	5.514E-06	9.866E-05	5.071E-06	3.913E-05	6.093E-01	2.631E-05
2022	2022Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.950E-05	3.066E-02	4.023E-06	8.098E-05	2.492E-05	2.155E-04	2.384E-05	7.818E-05	8.488E+00	1.868E-07
2022	2022Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.727E-04	3.600E-03	8.918E-05	2.398E-05	1.935E-05	3.138E-04	1.852E-05	1.298E-04	2.513E+00	4.142E-06
2022	2022Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	9.106E-04	3.088E-04	3.070E-05	1.620E-05	1.812E-06	2.142E-04	1.666E-06	8.867E-05	1.622E+00	1.241E-05
2022	2022Light-Duty Trucks	Light-Duty Trucks	LDT2	1.616E-03	1.459E-04	2.656E-05	6.629E-06	3.194E-06	9.866E-05	2.937E-06	3.913E-05	6.616E-01	1.071E-05
2022	2022Passenger Cars	Passenger Cars	LDA	1.331E-03	9.870E-05	2.080E-05	5.004E-06	3.201E-06	9.866E-05	2.943E-06	3.913E-05	4.993E-01	8.375E-06
2022	2022Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	3.158E-03	2.774E-04	5.883E-05	5.954E-06	5.213E-06	9.866E-05	4.794E-06	3.913E-05	5.914E-01	2.363E-05
2023	2023Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.946E-05	3.044E-02	4.167E-06	8.092E-05	2.453E-05	2.155E-04	2.347E-05	7.818E-05	8.482E+00	1.936E-07
2023	2023Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.359E-04	2.167E-03	6.743E-05	2.383E-05	1.113E-05	3.138E-04	1.065E-05	1.298E-04	2.498E+00	3.132E-06
2023	2023Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	7.805E-04	2.694E-04	2.586E-05	1.611E-05	1.805E-06	2.142E-04	1.660E-06	8.867E-05	1.613E+00	1.045E-05
2023	2023Light-Duty Trucks	Light-Duty Trucks	LDT2	1.521E-03	1.321E-04	2.427E-05	6.392E-06	3.188E-06	9.866E-05	2.932E-06	3.913E-05	6.381E-01	9.800E-06
2023	2023Passenger Cars	Passenger Cars	LDA	1.256E-03	9.101E-05	1.899E-05	4.855E-06	3.180E-06	9.866E-05	2.924E-06	3.913E-05	4.844E-01	7.655E-06
2023	2023Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	2.864E-03	2.497E-04	5.224E-05	5.764E-06	4.935E-06	9.866E-05	4.538E-06	3.913E-05	5.729E-01	2.107E-05
2024	2024Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.943E-05	3.023E-02	4.304E-06	8.087E-05	2.416E-05	2.155E-04	2.311E-05	7.818E-05	8.476E+00	1.999E-07
2024	2024Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.378E-04	2.016E-03	6.737E-05	2.376E-05	1.055E-05	3.138E-04	1.010E-05	1.298E-04	2.491E+00	3.129E-06
2024	2024Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	6.813E-04	2.360E-04	2.217E-05	1.602E-05	1.812E-06	2.142E-04	1.666E-06	8.867E-05	1.604E+00	8.960E-06
2024	2024Light-Duty Trucks	Light-Duty Trucks	LDT2	1.447E-03	1.204E-04	2.227E-05	6.159E-06	3.189E-06	9.866E-05	2.932E-06	3.913E-05	6.149E-01	8.996E-06
2024	2024Passenger Cars	Passenger Cars	LDA	1.182E-03	8.403E-05	1.730E-05	4.706E-06	3.167E-06	9.866E-05	2.912E-06	3.913E-05	4.697E-01	6.991E-06

lbs/VMT

1gram = 0.0022046 lbs

Year		Vehicle Category		CO	NOx	ROG	SOx	PM_{10}	PM_{10} (Fugitive)	$PM_{2.5}$	$PM^{2.5}$ (Fugitive)	CO2	CH4
				lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT
2024	2024Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	2.633E-03	2.267E-04	4.704E-05	5.573E-06	4.701E-06	9.866E-05	4.322E-06	3.913E-05	5.542E-01	1.899E-05
2025	2025Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.943E-05	3.005E-02	4.427E-06	8.082E-05	2.383E-05	2.155E-04	2.279E-05	7.818E-05	8.471E+00	2.056E-07
2025	2025Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.389E-04	1.875E-03	6.720E-05	2.369E-05	1.003E-05	3.138E-04	9.592E-06	1.298E-04	2.483E+00	3.121E-06
2025	2025Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	6.084E-04	2.084E-04	1.951E-05	1.593E-05	1.828E-06	2.142E-04	1.682E-06	8.867E-05	1.595E+00	7.884E-06
2025	2025Light-Duty Trucks	Light-Duty Trucks	LDT2	1.371E-03	1.107E-04	2.056E-05	5.930E-06	3.197E-06	9.866E-05	2.939E-06	3.913E-05	5.921E-01	8.309E-06
2025	2025Passenger Cars	Passenger Cars	LDA	1.116E-03	7.847E-05	1.602E-05	4.557E-06	3.170E-06	9.866E-05	2.914E-06	3.913E-05	4.549E-01	6.475E-06
2025	2025Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	2.420E-03	2.064E-04	4.249E-05	5.384E-06	4.500E-06	9.866E-05	4.136E-06	3.913E-05	5.355E-01	1.717E-05
2026	2026Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.939E-05	2.987E-02	4.541E-06	8.077E-05	2.344E-05	2.155E-04	2.242E-05	7.818E-05	8.466E+00	2.109E-07
2026	2026Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.391E-04	1.740E-03	6.689E-05	2.362E-05	9.527E-06	3.138E-04	9.115E-06	1.298E-04	2.476E+00	3.107E-06
2026	2026Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	5.332E-04	1.829E-04	1.658E-05	1.585E-05	1.845E-06	2.142E-04	1.697E-06	8.867E-05	1.588E+00	6.699E-06
2026	2026Light-Duty Trucks	Light-Duty Trucks	LDT2	1.308E-03	1.026E-04	1.911E-05	5.731E-06	3.145E-06	9.866E-05	2.892E-06	3.913E-05	5.722E-01	7.722E-06
2026	2026Passenger Cars	Passenger Cars	LDA	1.062E-03	7.368E-05	1.493E-05	4.430E-06	3.108E-06	9.866E-05	2.858E-06	3.913E-05	4.422E-01	6.032E-06
2026	2026Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	2.234E-03	1.893E-04	3.854E-05	5.216E-06	4.302E-06	9.866E-05	3.955E-06	3.913E-05	5.190E-01	1.557E-05
2027	2027Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.940E-05	2.976E-02	4.626E-06	8.073E-05	2.317E-05	2.155E-04	2.217E-05	7.818E-05	8.462E+00	2.149E-07
2027	2027Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.383E-04	1.611E-03	6.643E-05	2.355E-05	9.071E-06	3.138E-04	8.678E-06	1.298E-04	2.468E+00	3.086E-06
2027	2027Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	4.728E-04	1.613E-04	1.426E-05	1.579E-05	1.866E-06	2.142E-04	1.716E-06	8.867E-05	1.581E+00	5.762E-06
2027	2027Light-Duty Trucks	Light-Duty Trucks	LDT2	1.254E-03	9.560E-05	1.784E-05	5.555E-06	3.022E-06	9.866E-05	2.779E-06	3.913E-05	5.547E-01	7.208E-06
2027	2027Passenger Cars	Passenger Cars	LDA	1.013E-03	6.930E-05	1.392E-05	4.315E-06	2.967E-06	9.866E-05	2.728E-06	3.913E-05	4.308E-01	5.625E-06
2027	2027Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	2.062E-03	1.735E-04	3.488E-05	5.064E-06	4.053E-06	9.866E-05	3.727E-06	3.913E-05	5.041E-01	1.410E-05
2028	2028Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.937E-05	2.966E-02	4.696E-06	8.069E-05	2.286E-05	2.155E-04	2.188E-05	7.818E-05	8.458E+00	2.181E-07
2028	2028Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.381E-04	1.507E-03	6.610E-05	2.349E-05	8.691E-06	3.138E-04	8.315E-06	1.298E-04	2.462E+00	3.070E-06
2028	2028Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	4.294E-04	1.439E-04	1.253E-05	1.572E-05	1.892E-06	2.142E-04	1.739E-06	8.867E-05	1.575E+00	5.062E-06
2028	2028Light-Duty Trucks	Light-Duty Trucks	LDT2	1.206E-03	8.944E-05	1.671E-05	5.399E-06	2.835E-06	9.866E-05	2.608E-06	3.913E-05	5.391E-01	6.750E-06
2028	2028Passenger Cars	Passenger Cars	LDA	9.690E-04	6.532E-05	1.300E-05	4.213E-06	2.760E-06	9.866E-05	2.537E-06	3.913E-05	4.207E-01	5.251E-06
2028	2028Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	1.912E-03	1.590E-04	3.188E-05	4.927E-06	3.768E-06	9.866E-05	3.466E-06	3.913E-05	4.906E-01	1.288E-05
2029	2029Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.913E-05	2.948E-02	4.775E-06	8.062E-05	2.226E-05	2.155E-04	2.129E-05	7.818E-05	8.450E+00	2.218E-07
2029	2029Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.376E-04	1.416E-03	6.577E-05	2.343E-05	8.352E-06	3.138E-04	7.990E-06	1.298E-04	2.456E+00	3.055E-06
2029	2029Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	3.938E-04	1.293E-04	1.117E-05	1.567E-05	1.914E-06	2.142E-04	1.759E-06	8.867E-05	1.570E+00	4.513E-06
2029	2029Light-Duty Trucks	Light-Duty Trucks	LDT2	1.162E-03	8.387E-05	1.564E-05	5.260E-06	2.665E-06	9.866E-05	2.452E-06	3.913E-05	5.253E-01	6.321E-06
2029	2029Passenger Cars	Passenger Cars	LDA	9.269E-04	6.157E-05	1.213E-05	4.123E-06	2.586E-06	9.866E-05	2.379E-06	3.913E-05	4.117E-01	4.899E-06
2029	2029Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	1.750E-03	1.433E-04	2.862E-05	4.802E-06	3.490E-06	9.866E-05	3.208E-06	3.913E-05	4.782E-01	1.157E-05
2030	2030Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.892E-05	2.936E-02	4.823E-06	8.055E-05	2.175E-05	2.155E-04	2.080E-05	7.818E-05	8.443E+00	2.240E-07
2030	2030Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.368E-04	1.334E-03	6.538E-05	2.338E-05	8.039E-06	3.138E-04	7.691E-06	1.298E-04	6.538E-05	3.037E-06
2030	2030Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	3.641E-04	1.168E-04	9.985E-06	1.562E-05	1.934E-06	2.142E-04	1.778E-06	8.867E-05	1.565E+00	4.035E-06
2030	2030Light-Duty Trucks	Light-Duty Trucks	LDT2	1.121E-03	7.893E-05	1.469E-05	5.137E-06	2.511E-06	9.866E-05	2.309E-06	3.913E-05	5.129E-01	5.935E-06
2030	2030Passenger Cars	Passenger Cars	LDA	8.886E-04	5.820E-05	1.134E-05	4.042E-06	2.435E-06	9.866E-05	2.239E-06	3.913E-05	4.036E-01	4.580E-06
2030	2030Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	1.596E-03	1.274E-04	2.551E-05	4.685E-06	3.219E-06	9.866E-05	2.960E-06	3.913E-05	4.669E-01	1.031E-05
2031	2031Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.862E-05	2.923E-02	4.858E-06	8.047E-05	2.115E-05	2.155E-04	2.023E-05	7.818E-05	8.435E+00	2.256E-07
2031	2031Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.358E-04	1.260E-03	6.499E-05	2.334E-05	7.754E-06	3.138E-04	7.419E-06	1.298E-04	2.446E+00	3.019E-06
2031	2031Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	3.325E-04	1.055E-04	8.719E-06	1.558E-05	1.950E-06	2.142E-04	1.793E-06	8.867E-05	1.561E+00	3.523E-06
2031	2031Light-Duty Trucks	Light-Duty Trucks	LDT2	1.082E-03	7.444E-05	1.381E-05	5.027E-06	2.366E-06	9.866E-05	2.176E-06	3.913E-05	5.020E-01	5.579E-06
2031	2031Passenger Cars	Passenger Cars	LDA	8.532E-04	5.516E-05	1.062E-05	3.971E-06	2.296E-06	9.866E-05	2.111E-06	3.913E-05	3.965E-01	4.290E-06
2031	2031Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	1.432E-03	1.098E-04	2.225E-05	4.578E-06	2.941E-06	9.866E-05	2.704E-06	3.913E-05	4.564E-01	8.989E-06
2032	2032Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.820E-05	2.905E-02	4.890E-06	8.038E-05	2.041E-05	2.155E-04	1.953E-05	7.818E-05	8.425E+00	2.271E-07
2032	2032Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.348E-04	1.192E-03	6.461E-05	2.330E-05	7.507E-06	3.138E-04	7.182E-06	1.298E-04	2.442E+00	3.001E-06
2032	2032Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	3.052E-04	9.605E-05	7.576E-06	1.554E-05	1.966E-06	2.142E-04	1.807E-06	8.867E-05	1.557E+00	3.061E-06
2032	2032Light-Duty Trucks	Light-Duty Trucks	LDT2	1.045E-03	7.041E-05	1.300E-05	4.931E-06	2.229E-06	9.866E-05	2.049E-06	3.913E-05	4.924E-01	5.253E-06

lbs/VMT

1gram = 0.0022046 lbs

Year		Vehicle Category		CO	NOx	ROG	SOx	PM_{10}	PM_{10} (Fugitive)	$PM_{2.5}$	$PM^{2.5}$ (Fugitive)	CO2	CH4
				lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT
2032	2032Passenger Cars	Passenger Cars	LDA	8.201E-04	5.239E-05	9.957E-06	3.908E-06	2.165E-06	9.866E-05	1.991E-06	3.913E-05	3.903E-01	4.024E-06
2032	2032Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	1.294E-03	9.502E-05	1.951E-05	4.481E-06	2.698E-06	9.866E-05	2.480E-06	3.913E-05	4.469E-01	7.884E-06
2033	2033Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.772E-05	2.888E-02	4.912E-06	8.027E-05	1.967E-05	2.155E-04	1.882E-05	7.818E-05	8.414E+00	2.282E-07
2033	2033Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.338E-04	1.132E-03	6.426E-05	2.326E-05	7.300E-06	3.138E-04	6.984E-06	1.298E-04	2.438E+00	2.985E-06
2033	2033Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.971E-04	8.973E-05	7.220E-06	1.551E-05	1.982E-06	2.142E-04	1.823E-06	8.867E-05	1.554E+00	2.919E-06
2033	2033Light-Duty Trucks	Light-Duty Trucks	LDT2	1.010E-03	6.669E-05	1.225E-05	4.846E-06	2.097E-06	9.866E-05	1.929E-06	3.913E-05	4.840E-01	4.952E-06
2033	2033Passenger Cars	Passenger Cars	LDA	7.895E-04	4.991E-05	9.363E-06	3.854E-06	2.041E-06	9.866E-05	1.878E-06	3.913E-05	3.849E-01	3.783E-06
2033	2033Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	1.184E-03	8.308E-05	1.732E-05	4.396E-06	2.487E-06	9.866E-05	2.286E-06	3.913E-05	4.385E-01	7.000E-06
2034	2034Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.702E-05	2.858E-02	4.964E-06	8.013E-05	1.863E-05	2.155E-04	1.783E-05	7.818E-05	8.399E+00	2.306E-07
2034	2034Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.326E-04	1.079E-03	6.391E-05	2.323E-05	7.116E-06	3.138E-04	6.808E-06	1.298E-04	2.435E+00	2.969E-06
2034	2034Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.888E-04	8.420E-05	6.868E-06	1.548E-05	1.995E-06	2.142E-04	1.835E-06	8.867E-05	1.551E+00	2.775E-06
2034	2034Light-Duty Trucks	Light-Duty Trucks	LDT2	9.772E-04	6.329E-05	1.156E-05	4.773E-06	1.972E-06	9.866E-05	1.813E-06	3.913E-05	4.767E-01	4.672E-06
2034	2034Passenger Cars	Passenger Cars	LDA	7.598E-04	4.772E-05	8.802E-06	3.806E-06	1.924E-06	9.866E-05	1.769E-06	3.913E-05	3.801E-01	3.557E-06
2034	2034Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	1.074E-03	7.358E-05	1.514E-05	4.316E-06	2.277E-06	9.866E-05	2.094E-06	3.913E-05	4.308E-01	6.120E-06
2035	2035Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.656E-05	2.838E-02	4.988E-06	8.003E-05	1.807E-05	2.155E-04	1.728E-05	7.818E-05	8.388E+00	2.317E-07
2035	2035Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.314E-04	1.030E-03	6.355E-05	2.320E-05	6.942E-06	3.138E-04	6.642E-06	1.298E-04	2.431E+00	2.952E-06
2035	2035Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.815E-04	7.942E-05	6.556E-06	1.545E-05	2.006E-06	2.142E-04	1.844E-06	8.867E-05	1.548E+00	2.649E-06
2035	2035Light-Duty Trucks	Light-Duty Trucks	LDT2	9.467E-04	6.023E-05	1.094E-05	4.710E-06	1.854E-06	9.866E-05	1.704E-06	3.913E-05	4.704E-01	4.420E-06
2035	2035Passenger Cars	Passenger Cars	LDA	7.312E-04	4.581E-05	8.274E-06	3.765E-06	1.813E-06	9.866E-05	1.667E-06	3.913E-05	3.761E-01	3.343E-06
2035	2035Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	9.950E-04	6.800E-05	1.358E-05	4.248E-06	2.112E-06	9.866E-05	1.942E-06	3.913E-05	4.241E-01	5.488E-06
2036	2036Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.634E-05	2.823E-02	5.018E-06	7.996E-05	1.801E-05	2.155E-04	1.723E-05	7.818E-05	8.381E+00	2.331E-07
2036	2036Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.301E-04	9.876E-04	6.322E-05	2.320E-05	6.811E-06	3.138E-04	6.516E-06	1.298E-04	2.431E+00	2.936E-06
2036	2036Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.761E-04	7.526E-05	6.321E-06	1.543E-05	2.017E-06	2.142E-04	1.855E-06	8.867E-05	1.546E+00	2.554E-06
2036	2036Light-Duty Trucks	Light-Duty Trucks	LDT2	9.171E-04	5.719E-05	1.033E-05	4.656E-06	1.747E-06	9.866E-05	1.606E-06	3.913E-05	4.651E-01	4.173E-06
2036	2036Passenger Cars	Passenger Cars	LDA	7.056E-04	4.417E-05	7.813E-06	3.730E-06	1.716E-06	9.866E-05	1.578E-06	3.913E-05	3.726E-01	3.157E-06
2036	2036Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	9.271E-04	6.310E-05	1.222E-05	4.188E-06	1.988E-06	9.866E-05	1.828E-06	3.913E-05	4.182E-01	4.939E-06
2037	2037Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.619E-05	2.809E-02	5.068E-06	7.993E-05	1.806E-05	2.155E-04	1.728E-05	7.818E-05	8.379E+00	2.354E-07
2037	2037Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.288E-04	9.497E-04	6.290E-05	2.317E-05	6.699E-06	3.138E-04	6.409E-06	1.298E-04	2.429E+00	2.922E-06
2037	2037Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.728E-04	7.198E-05	6.153E-06	1.542E-05	2.026E-06	2.142E-04	1.863E-06	8.867E-05	1.545E+00	2.487E-06
2037	2037Light-Duty Trucks	Light-Duty Trucks	LDT2	8.920E-04	5.471E-05	9.824E-06	4.612E-06	1.651E-06	9.866E-05	1.517E-06	3.913E-05	4.606E-01	3.970E-06
2037	2037Passenger Cars	Passenger Cars	LDA	6.839E-04	4.284E-05	7.436E-06	3.702E-06	1.629E-06	9.866E-05	1.497E-06	3.913E-05	3.698E-01	3.005E-06
2037	2037Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	8.747E-04	5.931E-05	1.119E-05	4.136E-06	1.881E-06	9.866E-05	1.728E-06	3.913E-05	4.131E-01	4.522E-06
2038	2038Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.614E-05	2.791E-02	5.192E-06	7.994E-05	1.826E-05	2.155E-04	1.746E-05	7.818E-05	8.379E+00	2.412E-07
2038	2038Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.278E-04	9.187E-04	6.264E-05	2.315E-05	6.605E-06	3.138E-04	6.319E-06	1.298E-04	2.427E+00	2.909E-06
2038	2038Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.695E-04	6.898E-05	5.994E-06	1.540E-05	2.035E-06	2.142E-04	1.872E-06	8.867E-05	1.543E+00	2.423E-06
2038	2038Light-Duty Trucks	Light-Duty Trucks	LDT2	8.708E-04	5.253E-05	9.400E-06	4.575E-06	1.565E-06	9.866E-05	1.440E-06	3.913E-05	4.570E-01	3.799E-06
2038	2038Passenger Cars	Passenger Cars	LDA	6.660E-04	4.176E-05	7.141E-06	3.677E-06	1.550E-06	9.866E-05	1.426E-06	3.913E-05	3.674E-01	2.886E-06
2038	2038Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	8.362E-04	5.587E-05	1.034E-05	4.092E-06	1.779E-06	9.866E-05	1.636E-06	3.913E-05	4.087E-01	4.180E-06
2039	2039Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.644E-05	2.777E-02	5.386E-06	8.009E-05	1.881E-05	2.155E-04	1.799E-05	7.818E-05	8.395E+00	2.502E-07
2039	2039Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.270E-04	8.942E-04	6.243E-05	2.313E-05	6.529E-06	3.138E-04	6.247E-06	1.298E-04	2.425E+00	2.900E-06
2039	2039Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.647E-04	6.599E-05	5.810E-06	1.539E-05	2.040E-06	2.142E-04	1.876E-06	8.867E-05	1.542E+00	2.348E-06
2039	2039Light-Duty Trucks	Light-Duty Trucks	LDT2	8.539E-04	5.077E-05	9.074E-06	4.544E-06	1.489E-06	9.866E-05	1.369E-06	3.913E-05	4.540E-01	3.667E-06
2039	2039Passenger Cars	Passenger Cars	LDA	6.521E-04	4.094E-05	6.932E-06	3.658E-06	1.481E-06	9.866E-05	1.362E-06	3.913E-05	3.655E-01	2.801E-06
2039	2039Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	8.055E-04	5.317E-05	9.662E-06	4.052E-06	1.684E-06	9.866E-05	1.549E-06	3.913E-05	4.047E-01	3.904E-06
2040	2040Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.693E-05	2.754E-02	5.682E-06	8.027E-05	1.957E-05	2.155E-04	1.872E-05	7.818E-05	8.414E+00	2.639E-07
2040	2040Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.264E-04	8.739E-04	6.227E-05	2.312E-05	6.465E-06	3.138E-04	6.185E-06	1.298E-04	2.423E+00	2.892E-06
2040	2040Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.621E-04	6.373E-05	5.697E-06	1.538E-05	2.045E-06	2.142E-04	1.880E-06	8.867E-05	1.541E+00	2.302E-06

lbs/VMT

1gram = 0.0022046 lbs

Year		Vehicle Category		CO	NOx	ROG	SOx	PM_{10}	PM_{10} (Fugitive)	$PM_{2.5}$	$PM^{2.5}$ (Fugitive)	CO2	CH4
				lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT
2040	2040Light-Duty Trucks	Light-Duty Trucks	LDT2	8.399E-04	4.943E-05	8.799E-06	4.520E-06	1.423E-06	9.866E-05	1.308E-06	3.913E-05	4.516E-01	3.556E-06
2040	2040Passenger Cars	Passenger Cars	LDA	6.408E-04	4.027E-05	6.769E-06	3.642E-06	1.419E-06	9.866E-05	1.305E-06	3.913E-05	3.639E-01	2.735E-06
2040	2040Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	7.810E-04	5.097E-05	9.138E-06	4.016E-06	1.601E-06	9.866E-05	1.472E-06	3.913E-05	4.012E-01	3.692E-06
2041	2041Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.759E-05	2.718E-02	6.052E-06	8.044E-05	2.047E-05	2.155E-04	1.958E-05	7.818E-05	8.431E+00	2.810E-07
2041	2041Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.259E-04	8.568E-04	6.213E-05	2.311E-05	6.412E-06	3.138E-04	6.135E-06	1.298E-04	2.422E+00	2.886E-06
2041	2041Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.617E-04	6.234E-05	5.639E-06	1.537E-05	2.050E-06	2.142E-04	1.885E-06	8.867E-05	1.540E+00	2.280E-06
2041	2041Light-Duty Trucks	Light-Duty Trucks	LDT2	8.286E-04	4.846E-05	8.598E-06	4.502E-06	1.371E-06	9.866E-05	1.261E-06	3.913E-05	4.498E-01	3.474E-06
2041	2041Passenger Cars	Passenger Cars	LDA	6.317E-04	3.977E-05	6.647E-06	3.629E-06	1.371E-06	9.866E-05	1.259E-06	3.913E-05	3.627E-01	2.685E-06
2041	2041Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	7.592E-04	4.926E-05	8.732E-06	3.986E-06	1.543E-06	9.866E-05	1.420E-06	3.913E-05	3.982E-01	3.530E-06
2042	2042Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.827E-05	2.669E-02	6.406E-06	8.050E-05	2.129E-05	2.155E-04	2.037E-05	7.818E-05	8.437E+00	2.976E-07
2042	2042Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.255E-04	8.418E-04	6.202E-05	2.310E-05	6.367E-06	3.138E-04	6.091E-06	1.298E-04	2.421E+00	2.881E-06
2042	2042Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.614E-04	6.123E-05	5.594E-06	1.537E-05	2.053E-06	2.142E-04	1.887E-06	8.867E-05	1.540E+00	2.260E-06
2042	2042Light-Duty Trucks	Light-Duty Trucks	LDT2	8.191E-04	4.764E-05	8.430E-06	4.486E-06	1.328E-06	9.866E-05	1.221E-06	3.913E-05	4.483E-01	3.406E-06
2042	2042Passenger Cars	Passenger Cars	LDA	6.241E-04	3.936E-05	6.547E-06	3.619E-06	1.329E-06	9.866E-05	1.222E-06	3.913E-05	3.617E-01	2.646E-06
2042	2042Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	7.386E-04	4.772E-05	8.361E-06	3.958E-06	1.491E-06	9.866E-05	1.371E-06	3.913E-05	3.955E-01	3.379E-06
2043	2043Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.939E-05	2.590E-02	6.953E-06	8.049E-05	2.238E-05	2.155E-04	2.142E-05	7.818E-05	8.437E+00	3.230E-07
2043	2043Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.252E-04	8.301E-04	6.194E-05	2.309E-05	6.331E-06	3.138E-04	6.057E-06	1.298E-04	2.420E+00	2.877E-06
2043	2043Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.612E-04	6.038E-05	5.557E-06	1.536E-05	2.055E-06	2.142E-04	1.890E-06	8.867E-05	1.539E+00	2.246E-06
2043	2043Light-Duty Trucks	Light-Duty Trucks	LDT2	8.114E-04	4.699E-05	8.302E-06	4.475E-06	1.293E-06	9.866E-05	1.189E-06	3.913E-05	4.471E-01	3.355E-06
2043	2043Passenger Cars	Passenger Cars	LDA	6.179E-04	3.904E-05	6.469E-06	3.612E-06	1.294E-06	9.866E-05	1.190E-06	3.913E-05	3.609E-01	2.614E-06
2043	2043Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	7.195E-04	4.637E-05	8.042E-06	3.934E-06	1.442E-06	9.866E-05	1.326E-06	3.913E-05	3.931E-01	3.250E-06
2044	2044Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	3.150E-05	2.436E-02	7.929E-06	8.040E-05	2.414E-05	2.155E-04	2.310E-05	7.818E-05	8.427E+00	3.683E-07
2044	2044Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.251E-04	8.202E-04	6.189E-05	2.308E-05	6.300E-06	3.138E-04	6.028E-06	1.298E-04	2.419E+00	2.875E-06
2044	2044Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.611E-04	5.964E-05	5.526E-06	1.536E-05	2.057E-06	2.142E-04	1.891E-06	8.867E-05	1.539E+00	2.233E-06
2044	2044Light-Duty Trucks	Light-Duty Trucks	LDT2	8.054E-04	4.650E-05	8.207E-06	4.465E-06	1.265E-06	9.866E-05	1.163E-06	3.913E-05	4.462E-01	3.316E-06
2044	2044Passenger Cars	Passenger Cars	LDA	6.129E-04	3.880E-05	6.409E-06	3.605E-06	1.266E-06	9.866E-05	1.164E-06	3.913E-05	3.603E-01	2.590E-06
2044	2044Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	7.043E-04	4.545E-05	7.827E-06	3.914E-06	1.401E-06	9.866E-05	1.288E-06	3.913E-05	3.911E-01	3.163E-06
2045	2045Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	3.435E-05	2.258E-02	9.205E-06	8.029E-05	2.611E-05	2.155E-04	2.498E-05	7.818E-05	8.415E+00	4.275E-07
2045	2045Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.250E-04	8.122E-04	6.185E-05	2.308E-05	6.275E-06	3.138E-04	6.004E-06	1.298E-04	2.419E+00	2.873E-06
2045	2045Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.609E-04	5.908E-05	5.502E-06	1.536E-05	2.059E-06	2.142E-04	1.893E-06	8.867E-05	1.539E+00	2.223E-06
2045	2045Light-Duty Trucks	Light-Duty Trucks	LDT2	8.003E-04	4.609E-05	8.134E-06	4.457E-06	1.242E-06	9.866E-05	1.142E-06	3.913E-05	4.454E-01	3.287E-06
2045	2045Passenger Cars	Passenger Cars	LDA	6.087E-04	3.860E-05	6.361E-06	3.600E-06	1.243E-06	9.866E-05	1.143E-06	3.913E-05	3.598E-01	2.570E-06
2045	2045Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	6.914E-04	4.476E-05	7.674E-06	3.895E-06	1.364E-06	9.866E-05	1.255E-06	3.913E-05	3.892E-01	3.101E-06
2046	2046Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	3.845E-05	2.049E-02	1.097E-05	8.015E-05	2.831E-05	2.155E-04	2.708E-05	7.818E-05	8.401E+00	5.097E-07
2046	2046Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.250E-04	8.057E-04	6.183E-05	2.307E-05	6.254E-06	3.138E-04	5.984E-06	1.298E-04	2.418E+00	2.872E-06
2046	2046Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.608E-04	5.858E-05	5.481E-06	1.536E-05	2.060E-06	2.142E-04	1.894E-06	8.867E-05	1.538E+00	2.215E-06
2046	2046Light-Duty Trucks	Light-Duty Trucks	LDT2	7.965E-04	4.577E-05	8.079E-06	4.451E-06	1.225E-06	9.866E-05	1.126E-06	3.913E-05	4.448E-01	3.265E-06
2046	2046Passenger Cars	Passenger Cars	LDA	6.054E-04	3.844E-05	6.323E-06	3.596E-06	1.225E-06	9.866E-05	1.127E-06	3.913E-05	3.594E-01	2.555E-06
2046	2046Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	6.797E-04	4.412E-05	7.534E-06	3.879E-06	1.332E-06	9.866E-05	1.225E-06	3.913E-05	3.876E-01	3.044E-06

Chiquita Canyon Landfill EIR

Conversion gram/lb: 1 gram = 0.002205 lb

EMFAC2014 Idling Emission Rates for HHDT

	CO	NOx	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
2017	0.0165	0.2316	0.0044	0.0001	0.0007	0.0007	15.2537	0.0002
2018	0.0165	0.2323	0.0043	0.0001	0.0007	0.0006	15.2719	0.0002
2019	0.0164	0.2336	0.0042	0.0001	0.0007	0.0006	15.2969	0.0002
2020	0.0163	0.2349	0.0042	0.0001	0.0006	0.0006	15.3222	0.0002
2021	0.0161	0.2367	0.0040	0.0001	0.0006	0.0006	15.3553	0.0002
2022	0.0161	0.2374	0.0040	0.0001	0.0006	0.0006	15.3713	0.0002
2023	0.0159	0.2387	0.0039	0.0001	0.0006	0.0005	15.3959	0.0002
2024	0.0159	0.2399	0.0038	0.0001	0.0006	0.0005	15.4188	0.0002
2025	0.0158	0.2410	0.0037	0.0001	0.0005	0.0005	15.4384	0.0002
2026	0.0157	0.2421	0.0037	0.0001	0.0005	0.0005	15.4584	0.0002
2027	0.0156	0.2428	0.0036	0.0001	0.0005	0.0005	15.4706	0.0002
2028	0.0156	0.2434	0.0036	0.0001	0.0005	0.0005	15.4817	0.0002
2029	0.0155	0.2448	0.0035	0.0001	0.0005	0.0005	15.5032	0.0002
2030	0.0154	0.2456	0.0034	0.0001	0.0005	0.0004	15.5164	0.0002
2031	0.0154	0.2464	0.0034	0.0001	0.0005	0.0004	15.5294	0.0002
2032	0.0153	0.2471	0.0033	0.0001	0.0004	0.0004	15.5427	0.0002
2033	0.0152	0.2479	0.0033	0.0001	0.0004	0.0004	15.5575	0.0002
2034	0.0151	0.2492	0.0032	0.0001	0.0004	0.0004	15.5827	0.0001
2035	0.0151	0.2501	0.0032	0.0001	0.0004	0.0004	15.6011	0.0001
2036	0.0150	0.2508	0.0031	0.0001	0.0004	0.0004	15.6171	0.0001
2037	0.0149	0.2515	0.0031	0.0001	0.0004	0.0004	15.6355	0.0001
2038	0.0148	0.2524	0.0030	0.0001	0.0004	0.0004	15.6623	0.0001
2039	0.0148	0.2532	0.0030	0.0001	0.0004	0.0004	15.6907	0.0001
2040	0.0146	0.2540	0.0029	0.0002	0.0004	0.0003	15.7271	0.0001
2041	0.0145	0.2547	0.0029	0.0002	0.0003	0.0003	15.7650	0.0001
2042	0.0145	0.2549	0.0028	0.0002	0.0003	0.0003	15.7900	0.0001
2043	0.0145	0.2545	0.0028	0.0002	0.0003	0.0003	15.8145	0.0001
2044	0.0144	0.2538	0.0028	0.0002	0.0003	0.0003	15.8550	0.0001
2045	0.0143	0.2527	0.0028	0.0002	0.0003	0.0003	15.9028	0.0001
2046	0.0143	0.2508	0.0028	0.0002	0.0003	0.0003	15.9613	0.0001

Source: EMFAC 2014: 2011 Vehicle Classes, T7 SWCV (Solid Waste Collection Truck); Diesel Fuel; Area: Los Angeles (SC); Annual Average Emission Rates; Temperature: 68F; Humidity: 55%; Speed: 0mph (idle).

	CO	NOx	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4
	g/hr	g/hr	g/hr	g/hr	g/hr	g/hr	g/hr	g/hr
_2017	7.49	105.01	1.99	0.07	0.31	0.30	6917.79	0.09
_2018	7.46	105.37	1.96	0.07	0.31	0.29	6926.03	0.09
_2019	7.42	105.93	1.92	0.07	0.30	0.28	6937.38	0.09
_2020	7.37	106.51	1.88	0.07	0.29	0.28	6948.86	0.09
_2021	7.31	107.33	1.83	0.07	0.28	0.26	6963.86	0.08
_2022	7.28	107.65	1.81	0.07	0.27	0.26	6971.10	0.08
_2023	7.23	108.24	1.77	0.07	0.26	0.25	6982.28	0.08
_2024	7.19	108.80	1.73	0.07	0.25	0.24	6992.66	0.08
_2025	7.15	109.28	1.70	0.07	0.24	0.23	7001.54	0.08
_2026	7.11	109.79	1.66	0.07	0.23	0.22	7010.62	0.08
_2027	7.09	110.10	1.64	0.07	0.23	0.22	7016.15	0.08
_2028	7.07	110.40	1.62	0.07	0.22	0.21	7021.17	0.08
_2029	7.02	111.01	1.58	0.07	0.21	0.21	7030.91	0.07
_2030	6.99	111.39	1.55	0.07	0.21	0.20	7036.92	0.07
_2031	6.97	111.75	1.53	0.07	0.20	0.20	7042.82	0.07
_2032	6.94	112.07	1.51	0.07	0.20	0.19	7048.87	0.07
_2033	6.91	112.43	1.49	0.07	0.20	0.19	7055.57	0.07
_2034	6.87	113.00	1.46	0.07	0.19	0.18	7067.00	0.07
_2035	6.83	113.42	1.44	0.07	0.19	0.18	7075.35	0.07
_2036	6.80	113.73	1.42	0.07	0.18	0.17	7082.59	0.07
_2037	6.77	114.07	1.40	0.07	0.18	0.17	7090.93	0.07
_2038	6.73	114.48	1.38	0.07	0.17	0.17	7103.08	0.06
_2039	6.69	114.82	1.36	0.07	0.17	0.16	7115.95	0.06
_2040	6.64	115.20	1.33	0.07	0.16	0.15	7132.46	0.06
_2041	6.59	115.52	1.30	0.07	0.16	0.15	7149.65	0.06
_2042	6.57	115.59	1.29	0.07	0.15	0.15	7160.98	0.06
_2043	6.55	115.43	1.28	0.07	0.15	0.14	7172.11	0.06
_2044	6.53	115.10	1.27	0.07	0.14	0.14	7190.46	0.06
_2045	6.51	114.58	1.26	0.07	0.14	0.13	7212.17	0.06
_2046	6.49	113.74	1.26	0.07	0.13	0.12	7238.70	0.06

Chiquita Canyon Landfill EIR

Fugitive PM_{10} Emission Factors for Roads

Assumptions:

Assume PM_{10} control efficiencies are the same for $PM_{2.5}$

Fugitive Emissions Used in Analysis [1]

Trucks:

	Uncontrolled / Unmitigated Fugitive Emission Factors (lb/VMT)				Mitigated Fugitive Emission Factors (lb/VMT)			
	Onsite PM_{10}	Offsite PM_{10}	Onsite $PM_{2.5}$	Offsite $PM_{2.5}$	Onsite PM_{10}	Offsite PM_{10}	Onsite $PM_{2.5}$	Offsite $PM_{2.5}$
Paved Roads	2.13E-01	1.21E-03	5.23E-02	2.98E-04	2.13E-01	1.21E-03	5.23E-02	2.98E-04
Unpaved Roads	1.05	NA	0.11	NA	4.74E-01	NA	4.74E-02	NA

Mitigation Measures:

Measure	Control Efficiency	Applicable Source	Reference
Watering 2x daily, use of gravel cover on all unpaved roads, paving as much as possible, and limiting the maximum vehicle speed to 15 miles per hour.	55%	Unpaved Roads	South Coast Air Quality Management District (SCAQMD). 2013c. SCAQMD CEQA Handbook Table XI-D: Unpaved Roads Rev 4/2007. Available online at: http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/MM_fugitive.html.

Chiquita Canyon Landfill EIR

Fugitive PM_{10} Emission Factors for Roads

Emission Factor Calculations

Travel On Paved Roads [2]

$EF^{(1)}$ = k [(sL)^0.91] [(W)^1.02] [1-P/4N] lb/vehicle mile traveled (vmt)

Parameter	*Description*	*Value*		
k	Constant used to calculate PM_{10}	0.0022		
k	Constant used to calculate $PM_{2.5}$	0.00054		
P	Number of Days > 0.1 in. Precipitation (Annual Ave. for Los Angeles - South Coast)[4]:	33		
N	Number of Days in Averaging Period:	365		
		Onsite SL (Paved Roads)	Offsite SL (Paved Roads)	
SL (Paved Roads)	Silt Loading (g/m2)[5]	7.4		0.2

Vehicle Travel on Unpaved Surfaces at Industrial Sites[3]

$EF^{(1)}$ = k [(s/12)^a] [(W/3)^b] [(365-P)/365] lb/vehicle mile traveled (vmt)

Parameter	*Description*	*Value*
s	Silt Loading (g/m2)[6]	4.0
P	Number of Days > 0.1 in. Precipitation (Annual Ave. for Los Angeles - South Coast)[4]:	33

	Constants: PM_{10}	Constants: $PM_{2.5}$
k	1.5	0.15
a	0.9	0.9
b	0.45	0.45

Vehicle Type	W: Mean Vehicle Weight (tons)	Vehicle Fleet Mix (Percent) [7]	Fugitive Emission Factors on Paved Roads (lb/VMT)			
			Onsite PM_{10}	Offsite PM_{10}	Onsite $PM_{2.5}$	Offsite $PM_{2.5}$
LDA	0.94	0.08	1.24E-02	4.65E-04	3.05E-03	1.14E-04
HHDT	23.25	0.47	3.29E-01	1.23E-02	8.08E-02	3.02E-03
MHDT	11.75	0.33	1.64E-01	6.14E-03	4.03E-02	1.51E-03
LHDT2	2.38	0.11	3.21E-02	1.20E-03	7.88E-03	2.95E-04
LDT2	6.00	0.00	8.26E-02	3.09E-03	2.03E-02	7.59E-04
LDT1	4.63	0.01	6.34E-02	2.37E-03	1.56E-02	5.82E-04
Average On-Site	15.18	-	2.13E-01	-	5.23E-02	-
Average Off-Site [8]	2.40	-	-	1.21E-03	-	0.000298001

Fugitive Emission Factors on Unpaved Roads (lb/VMT)	
Onsite PM_{10}	Onsite $PM_{2.5}$
0.30	0.03
1.28	0.13
0.94	0.09
0.46	0.05
0.69	0.07
0.62	0.06
1.05	0.11

Chiquita Canyon Landfill EIR

Fugitive PM_{10} Emission Factors for Roads

	Vehicle Weight Class (lbs)[9]			
Vehicle Class	Low	High	Median Weight (lbs)	Median Weight (tons)
LDA	0	3750	1875	0.94
HHDT	33001	60000	46500.5	23.25
MHDT	14001	33000	23500.5	11.75
LDT2	3751	5750	4750.5	2.38
LHD2	10001	14000	12000.5	6.00
LHD1	8501	10000	9250.5	4.63
LDT1	0	3750	1875	0.9375

Offsite SL Loading:				
ADT:	< 500	500 - 5,000	5,000 - 10,000	>10,000
SL Loading (g/m2)[5]:	0.6	0.2	0.06	.03 / 0.015 limited

[1]Emissions are based on average weight of vehicles on the roadway and are not calculated individually as per AP42 13.2.1. Emission factor calculations are not intended to be used to calculate a separate emission factor for each vehicle weight class, but only one EF to represent the "fleet" average weight of all vehicles traveling the road.

[2]Emission factors were calculated using EPA AP-42 13.2.1, Equation 2 to estimate emission factor on an annual basis. The hourly emission calculation was not used because hourly precipitation data are not available and the predictive analysis is more appropriate for this application. The daily emissions and hourly emissions are scaled based on the annual emission factors and operating scenario.

[3]Emission factors were calculated using EPA AP-42 13.2.2, Equations 1a and 2.

[4]Average Los Angeles - South Coast precipitation conditions were taken from CalEEMod Appendix D, Table 1.1.

[5]Silt content was obtained from EPA AP42 Table 13.2.1-3. The value for municipal solid waste landfill was used for onsite. The ubiquitous baseline value for road with 500 < ADT , 5,000 was used for offsite, since the project will generate at least 1,500 ADT.

[6]Silt content was obtained from SCAQMD CEQA Handbook, Table A9-9 in order to account for the gravel roads.

[7]Based on the existing fleet mix and the addition of vehicles from the proposed project. Calculated based on peak vehicle totals in Table 2-4 of the Project Description dated 10/03/2016 and vehicle breakdown from CCL Ton Load Reports for 2011.

[8] Average weight of all vehicles traveling on public roads taken from Appendix A of CalEEMod Use Guide.

[9]Vehicle Weight Class taken from EMFAC2011 LDV User Guide Table 3.1 for LDV vehicles and EMFAC2007 User Guide Table 1 for HD vehicles. Assume that passenger cars have the same median weight as light duty trucks (LDT1).

Chiquita Canyon Landfill EIR
Summary Construction and Operation Emissions
Controlled Emissions

Year: 2017

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	35.66	59.10	9.09	1.10E-01	2.77E+00	2.55E+00	17.48	3.63	N/A	220.85	396.48	59.67	0.73	17.87	16.44	174.75	36.35	N/A	20,893.04	36,334.09	5,536.03	67.48	1,647.81	1,515.99	9,897.24	2,058.63	N/A
Off-site Construction Mobile Sources (trucks / cars)	1.61	0.13	0.03	4.62E-03	2.70E-03	2.48E-03	1.05	0.27	N/A	64.34	5.35	1.37	0.18	0.11	0.10	42.01	10.79	N/A	7,720.68	642.19	163.80	22.18	12.94	11.91	5,040.90	1,294.59	N/A
On-site Construction Mobile Sources (trucks / cars)	0.01	0.00	0.00	1.36E-05	1.44E-05	1.33E-05	0.85	0.10	N/A	0.04	0.00	0.00	0.00	0.00	0.00	3.40	0.39	N/A	5.12	0.47	0.13	0.01	0.01	0.01	407.67	46.83	N/A
Yearly Construction Total	37.27	59.24	9.12	1.14E-01	2.77E+00	2.55E+00	19.37	4.00	N/A	285.24	401.84	61.04	0.91	17.97	16.54	220.15	47.53	N/A	28,618.85	36,976.75	5,699.96	89.67	1,660.76	1,527.90	15,345.80	3,400.04	N/A
Flares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	6.33	0.87	0.16	0.02	0.02	0.02	17.25	3.59	N/A	1,973.88	272.49	50.29	7.44	6.51	6.51	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.19	10.07	0.02	2.62E-02	1.77E-02	1.69E-02	0.61	0.16	N/A	0.93	100.64	0.19	0.26	0.18	0.17	5.42	1.44	N/A	291.21	31,399.05	59.05	80.90	54.75	52.37	1,691.85	450.09	N/A
On-site Operational Mobile Sources (trucks / cars)	0.02	0.64	0.00	1.53E-03	2.17E-03	2.08E-03	6.36	1.34	N/A	0.16	6.44	0.04	0.02	0.02	0.02	63.60	13.42	N/A	48.73	2,009.65	13.43	4.76	6.78	6.49	19,844.41	4,185.70	N/A
Yearly Operational Total	6.57	11.51	0.18	5.03E-02	4.05E-02	3.96E-02	8.69	1.86	N/A	7.42	107.95	0.39	0.30	0.22	0.21	86.28	18.45	N/A	2,313.82	33,681.20	122.77	93.10	68.04	65.37	26,431.54	5,654.00	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compost Process Emissions	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Compost Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Total	**43.85**	**70.75**	**9.31**	**0.16**	**2.81**	**2.59**	**28.07**	**5.86**	**0.00**	**292.65**	**509.79**	**61.43**	**1.21**	**18.19**	**16.74**	**306.43**	**65.97**	**0.00**	**30,932.67**	**70,657.95**	**5,822.72**	**182.77**	**1,728.80**	**1,593.27**	**41,777.35**	**9,054.04**	**0.00**

Year: 2018

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	14.07	21.87	3.59	4.49E-02	9.51E-01	8.75E-01	7.27	1.51	N/A	109.46	190.37	30.90	0.39	7.42	6.83	72.72	15.13	N/A	7,249.56	11,327.96	1,739.01	23.60	479.27	440.93	2,778.38	577.90	N/A
Off-site Construction Mobile Sources (trucks / cars)	0.72	0.06	0.01	2.25E-03	1.34E-03	1.23E-03	0.53	0.13	N/A	14.36	1.18	0.27	0.04	0.03	0.02	10.50	2.70	N/A	1,723.72	141.17	32.95	5.40	3.21	2.95	1,260.22	323.65	N/A
On-site Construction Mobile Sources (trucks / cars)	0.02	0.00	0.00	2.65E-05	2.63E-05	2.42E-05	1.70	0.20	N/A	0.15	0.01	0.00	0.00	0.00	0.00	13.59	1.56	N/A	17.81	1.62	0.38	0.03	0.03	0.02	1,630.67	187.30	N/A
Yearly Construction Total	14.81	21.93	3.60	4.72E-02	9.52E-01	8.76E-01	9.50	1.84	N/A	123.97	191.56	31.18	0.44	7.45	6.85	96.82	19.38	N/A	8,991.09	11,470.75	1,772.35	29.02	482.51	443.91	5,669.27	1,088.85	N/A
Flares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	12.65	1.75	0.32	0.05	0.04	0.04	17.25	3.59	N/A	3,947.76	544.98	100.57	14.88	13.02	13.02	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.33	20.14	0.03	5.30E-02	3.11E-02	2.98E-02	1.22	0.32	N/A	1.60	201.29	0.31	0.52	0.31	0.29	10.93	2.91	N/A	500.60	62,802.13	97.86	163.80	96.09	91.92	3,410.67	907.05	N/A
On-site Operational Mobile Sources (trucks / cars)	0.03	1.27	0.01	3.08E-03	3.63E-03	3.47E-03	12.72	2.68	N/A	0.28	12.70	0.08	0.03	0.04	0.03	127.21	26.83	N/A	86.58	3,963.10	23.52	9.60	11.32	10.83	39,688.69	8,371.32	N/A
Yearly Operational Total	6.73	22.21	0.20	7.87E-02	5.53E-02	5.38E-02	15.66	3.36	N/A	14.54	215.74	0.71	0.60	0.39	0.37	155.39	33.33	N/A	4,534.94	67,310.22	221.95	188.28	120.43	115.78	47,994.63	10,296.59	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compost Process Emissions	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Compost Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Total	**21.54**	**44.14**	**3.80**	**0.13**	**1.01**	**0.93**	**25.16**	**5.21**	**0.00**	**138.51**	**407.30**	**31.89**	**1.04**	**7.83**	**7.22**	**252.20**	**52.71**	**0.00**	**13,526.03**	**78,780.97**	**1,994.30**	**217.30**	**602.94**	**559.68**	**53,663.90**	**11,385.44**	**0.00**

Year: 2019

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	18.98	2.62	0.48	0.07	0.06	0.06	17.25	3.59	N/A	5,921.64	817.47	150.86	22.32	19.53	19.53	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.45	29.69	0.05	7.91E-02	4.29E-02	4.10E-02	1.82	0.48	N/A	2.19	296.71	0.42	0.78	0.42	0.41	16.35	4.35	N/A	684.67	92,572.50	131.58	244.38	132.37	126.66	5,102.52	1,357.14	N/A
On-site Operational Mobile Sources (trucks / cars)	0.04	1.86	0.01	4.60E-03	4.87E-03	4.66E-03	19.08	4.02	N/A	0.39	18.63	0.10	0.05	0.05	0.05	190.81	40.25	N/A	122.00	5,811.64	32.63	14.35	15.18	14.53	59,533.10	12,557.01	N/A
Yearly Operational Total	6.86	32.34	0.21	1.06E-01	6.83E-02	6.63E-02	22.63	4.87	N/A	21.57	317.95	1.01	0.90	0.54	0.52	224.41	48.18	N/A	6,728.30	99,201.62	315.07	281.06	167.08	160.71	69,530.90	14,932.37	N/A
On-Site Compost Facility Construction Sources	11.18	13.95	1.29	0.02	0.68	0.63	0.56	0.31	N/A	89.46	111.64	10.34	0.12	5.46	5.03	4.52	2.48	N/A	11,090.94	13,526.21	1,262.45	14.76	673.98	620.06	896.12	469.16	N/A
Off-Site Compost Facility Construction Sources	0.43	0.03	0.02	0.00	0.00	0.00	0.03	0.01	N/A	3.42	0.27	0.18	0.01	0.01	0.01	0.27	0.07	N/A	443.88	35.44	23.62	1.30	0.78	0.72	103.55	27.47	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	17.53	14.66	23.26	3.16E-02	7.05E-01	6.50E-01	2.22	1.08	3.08	108.28	113.66	533.92	0.17	5.52	5.09	9.01	4.52	74.00	16,339.62	14,107.65	164,586.87	28.23	691.60	637.62	2,316.44	1,110.84	23,088.00
Yearly Total	**24.39**	**47.01**	**23.47**	**0.14**	**0.77**	**0.72**	**24.85**	**5.94**	**3.08**	**129.85**	**431.61**	**534.93**	**1.07**	**6.06**	**5.60**	**233.42**	**52.71**	**74.00**	**23,067.93**	**113,309.26**	**164,901.95**	**309.29**	**858.68**	**798.33**	**71,847.33**	**16,043.21**	**23,088.00**

Year: 2020

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	25.31	3.49	0.64	0.10	0.08	0.08	17.25	3.59	N/A	7,895.52	1,089.97	201.14	29.76	26.04	26.04	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.56	39.15	0.05	0.11	0.05	0.05	2.46	0.19	N/A	2.98	635.57	0.41	1.82	0.53	0.50	21.92	5.83	N/A	783.05	122,070.00	136.22	327.10	150.77	144.23	6,837.72	1,818.31	N/A
On-site Operational Mobile Sources (trucks / cars)	0.05	2.43	0.01	0.01	0.01	0.00	25.44	5.37	N/A	0.45	24.27	0.12	0.06	0.05	0.05	254.41	53.66	N/A	141.05	7,571.43	36.76	19.17	16.08	15.39	79,377.37	16,742.64	N/A
Yearly Operational Total	6.98	42.37	0.22	1.35E-01	7.47E-02	7.24E-02	29.63	5.92	N/A	28.74	663.33	1.17	1.98	0.66	0.64	293.58	63.08	N/A	8,819.61	130,731.40	374.12	376.03	192.89	185.65	91,110.37	19,579.16	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**12.90**	**43.04**	**22.16**	**0.15**	**0.10**	**0.09**	**31.25**	**6.67**	**3.08**	**44.14**	**665.08**	**524.57**	**2.01**	**0.71**	**0.69**	**297.80**	**65.05**	**74.00**	**13,624.41**	**131,277.40**	**163,674.92**	**388.20**	**209.74**	**202.50**	**92,427.13**	**20,193.36**	**23,088.00**

Chiquita Canyon Landfill EIR
Summary Construction and Operation Emissions
Controlled Emissions
Year: 2021

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	29.35	3.38	0.78	1.10E-01	1.04E-01	1.04E-01	17.48	3.63	N/A	277.49	32.41	7.44	1.05	0.99	0.99	174.75	36.35	N/A	17,805.95	2,100.77	481.98	67.48	64.22	64.22	9,897.24	2,058.63	N/A
Off-site Construction Mobile Sources (trucks / cars)	1.13	0.09	0.02	4.13E-03	2.59E-03	2.38E-03	1.05	0.27	N/A	45.13	3.44	0.73	0.17	0.10	0.10	42.01	10.79	N/A	5,415.42	413.31	87.67	19.80	12.44	11.43	5,040.90	1,294.59	N/A
On-site Construction Mobile Sources (trucks / cars)	0.01	0.00	0.00	1.23E-05	1.10E-05	1.01E-05	0.85	0.10	N/A	0.03	0.00	0.00	0.00	0.00	0.00	3.40	0.39	N/A	3.32	0.29	0.06	0.01	0.01	0.00	407.67	46.83	N/A
Yearly Construction Total	30.48	3.47	0.80	1.14E-01	1.06E-01	1.06E-01	19.37	4.00	N/A	322.64	35.85	8.17	1.21	1.10	1.09	220.15	47.53	N/A	23,224.69	2,514.37	569.72	87.29	76.66	75.65	15,345.80	3,400.04	N/A
Flares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	31.63	4.37	0.81	0.12	0.10	0.10	17.25	3.59	N/A	9,869.40	1,362.46	251.43	37.21	32.54	32.54	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.62	47.97	0.04	1.32E-01	4.60E-02	4.39E-02	3.07	0.81	N/A	2.55	479.42	0.37	1.31	0.45	0.43	27.34	7.27	N/A	794.43	149,578.14	114.89	407.41	140.86	134.57	8,529.57	2,268.39	N/A
On-site Operational Mobile Sources (trucks / cars)	0.05	2.95	0.01	7.66E-03	4.03E-03	3.85E-03	31.80	6.71	N/A	0.48	29.47	0.12	0.08	0.04	0.04	318.02	67.08	N/A	149.69	9,193.74	36.38	23.90	12.57	12.02	99,221.78	20,928.33	N/A
Yearly Operational Total	7.03	51.71	0.21	1.62E-01	7.06E-02	6.83E-02	36.60	7.88	N/A	34.66	513.25	1.29	1.50	0.60	0.57	362.61	77.94	N/A	10,813.51	160,134.33	402.70	468.52	185.98	179.13	112,646.63	24,214.95	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**43.44**	**55.85**	**22.95**	**0.29**	**0.20**	**0.20**	**57.59**	**12.64**	**3.08**	**372.70**	**550.86**	**532.86**	**2.75**	**1.75**	**1.71**	**586.98**	**127.43**	**74.00**	**38,843.01**	**163,194.71**	**164,273.21**	**567.98**	**279.49**	**271.63**	**129,309.20**	**28,229.19**	**23,088.00**

Year: 2022

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	37.96	5.24	0.97	0.14	0.13	0.13	17.25	3.59	N/A	11,843.28	1,634.95	301.71	44.65	39.05	39.05	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.70	57.25	0.05	0.16	0.05	0.05	3.68	0.98	N/A	2.97	572.20	0.43	1.57	0.53	0.51	32.85	8.74	N/A	925.86	178,527.26	133.72	489.77	165.34	158.15	10,248.38	2,725.35	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.50	0.01	0.01	0.00	0.00	38.16	8.05	N/A	0.57	35.03	0.14	0.09	0.05	0.04	381.62	80.49	N/A	178.32	10,928.61	42.67	28.71	14.50	13.87	119,066.06	25,113.95	N/A
Yearly Operational Total	7.13	61.55	0.22	1.90E-01	7.92E-02	7.66E-02	43.57	9.38	N/A	41.50	612.47	1.53	1.80	0.70	0.68	431.72	92.82	N/A	12,947.46	191,090.81	478.10	563.13	218.89	211.08	134,209.72	28,857.53	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**13.05**	**62.22**	**22.17**	**0.21**	**0.10**	**0.10**	**45.19**	**10.14**	**3.08**	**56.90**	**614.22**	**524.93**	**1.84**	**0.76**	**0.73**	**435.94**	**94.79**	**74.00**	**17,752.26**	**191,636.81**	**163,778.90**	**575.29**	**235.73**	**227.93**	**135,526.49**	**29,471.73**	**23,088.00**

Year: 2023

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	0.00	0.00	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.76	65.53	0.05	0.18	0.06	0.06	4.29	1.14	N/A	3.23	655.00	0.41	1.83	0.57	0.55	38.27	10.18	N/A	1,006.60	204,359.71	126.52	569.73	178.60	170.84	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.96	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.64	39.56	0.14	0.11	0.05	0.05	445.23	93.91	N/A	199.25	12,341.30	44.36	33.40	14.78	14.14	138,910.47	29,299.65	N/A
Yearly Operational Total	7.20	70.28	0.22	2.18E-01	8.37E-02	8.09E-02	48.81	10.53	N/A	48.15	700.67	1.68	2.10	0.77	0.74	500.75	107.67	N/A	15,023.00	218,608.45	522.87	655.22	238.94	230.54	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**13.12**	**70.95**	**22.16**	**0.23**	**0.10**	**0.10**	**50.43**	**11.28**	**3.08**	**63.55**	**702.42**	**525.08**	**2.14**	**0.82**	**0.79**	**504.97**	**109.64**	**74.00**	**19,827.80**	**219,154.45**	**163,823.67**	**667.39**	**255.78**	**247.39**	**157,062.75**	**34,107.52**	**23,088.00**

Year: 2024

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	0.00	0.00	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.73	65.02	0.05	0.18	0.06	0.05	4.29	1.14	N/A	3.17	649.87	0.41	1.82	0.56	0.54	38.27	10.18	N/A	988.86	202,760.17	126.87	569.23	175.32	167.70	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.93	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.64	39.25	0.14	0.11	0.05	0.04	445.23	93.91	N/A	198.97	12,246.07	43.80	33.37	14.38	13.76	138,910.47	29,299.65	N/A
Yearly Operational Total	7.17	69.73	0.22	2.17E-01	8.25E-02	7.98E-02	48.81	10.53	N/A	48.09	695.24	1.68	2.10	0.75	0.73	500.75	107.67	N/A	15,004.99	216,913.68	522.66	654.69	235.26	227.02	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**13.09**	**70.41**	**22.16**	**0.23**	**0.10**	**0.10**	**50.43**	**11.28**	**3.08**	**63.49**	**696.99**	**525.08**	**2.14**	**0.81**	**0.78**	**504.97**	**109.64**	**74.00**	**19,809.79**	**217,459.68**	**163,823.46**	**666.86**	**252.11**	**243.87**	**157,062.75**	**34,107.52**	**23,088.00**

Chiquita Canyon Landfill EIR
Summary Construction and Operation Emissions
Controlled Emissions
Year: 2025

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	29.35	3.38	0.78	1.10E-01	1.04E-01	1.04E-01	17.48	3.63	N/A	277.49	32.41	7.44	1.05	0.99	0.99	174.75	36.35	N/A	17,805.95	2,100.77	481.98	67.48	64.22	64.22	9,897.24	2,058.63	N/A
Off-site Construction Mobile Sources (trucks / cars)	0.89	0.06	0.01	3.65E-03	2.54E-03	2.33E-03	1.05	0.27	N/A	35.72	2.51	0.51	0.15	0.10	0.09	42.01	10.79	N/A	4,286.68	301.34	61.53	17.50	12.17	11.19	5,040.90	1,294.59	N/A
On-site Construction Mobile Sources (trucks / cars)	0.00	0.00	0.00	1.08E-05	9.00E-06	8.27E-06	0.85	0.10	N/A	0.02	0.00	0.00	0.00	0.00	0.00	3.40	0.39	N/A	2.32	0.20	0.04	0.01	0.00	0.00	407.67	46.83	N/A
Yearly Construction Total	30.25	3.45	0.79	1.13E-01	1.06E-01	1.06E-01	19.37	4.00	N/A	313.23	34.92	7.95	1.19	1.09	1.08	220.15	47.53	N/A	22,094.95	2,402.30	543.55	84.99	76.40	75.42	15,345.80	3,400.04	N/A
Flares	0.20	0.20	0.04	2.56E-01	1.98E-02	1.98E-02	N/A	N/A	N/A	4.68	4.68	0.94	6.14	0.47	0.47	N/A	N/A	N/A	1,708.95	1,708.95	344.27	2,241.45	173.37	173.37	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.70	64.57	0.05	1.84E-01	5.64E-02	5.39E-02	4.29	1.14	N/A	3.12	645.44	0.41	1.82	0.55	0.53	38.27	10.18	N/A	972.23	201,378.00	127.10	568.77	172.44	164.89	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.90	0.01	1.07E-02	4.50E-03	4.30E-03	44.52	9.39	N/A	0.36	5.51	0.09	0.00	0.01	0.01	445.23	93.91	N/A	198.63	12,162.10	43.28	33.34	14.03	13.42	138,910.47	29,299.65	N/A
Yearly Operational Total	7.33	69.46	0.26	4.73E-01	1.01E-01	9.85E-02	50.54	10.89	N/A	52.44	661.75	2.56	8.13	1.19	1.16	500.75	107.67	N/A	16,696.96	217,156.49	866.64	2,895.65	405.40	397.24	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**43.50**	**73.58**	**22.99**	**0.60**	**0.23**	**0.23**	**71.53**	**15.65**	**3.08**	**381.08**	**698.42**	**533.92**	**9.37**	**2.33**	**2.30**	**725.12**	**157.17**	**74.00**	**43,596.72**	**220,104.79**	**164,710.99**	**2,992.81**	**498.65**	**489.50**	**172,408.55**	**37,507.56**	**23,088.00**

Year: 2026

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	0.50	0.50	0.10	0.65	0.05	0.05	N/A	N/A	N/A	11.93	11.93	2.40	15.65	1.21	1.21	N/A	N/A	N/A	4,356.10	4,356.10	877.53	5,713.43	441.92	441.92	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.68	64.14	0.05	0.18	0.06	0.05	4.29	1.14	N/A	3.07	641.10	0.41	1.82	0.54	0.52	38.27	10.18	N/A	957.28	200,024.28	127.12	568.29	169.12	161.77	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.87	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.63	38.72	0.14	0.11	0.04	0.04	445.23	93.91	N/A	198.05	12,081.20	42.70	33.31	13.65	13.06	138,910.47	29,299.65	N/A
Yearly Operational Total	7.61	69.30	0.32	8.69E-01	1.31E-01	1.28E-01	50.54	10.89	N/A	59.92	697.87	4.08	17.75	1.94	1.92	500.75	107.67	N/A	19,328.58	218,369.02	1,399.35	6,367.12	670.25	662.32	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**13.53**	**69.97**	**22.26**	**0.88**	**0.15**	**0.15**	**52.16**	**11.64**	**3.08**	**75.32**	**699.62**	**527.48**	**17.79**	**2.00**	**1.97**	**504.97**	**109.64**	**74.00**	**24,133.38**	**218,915.02**	**164,700.15**	**6,379.29**	**687.10**	**679.16**	**157,062.75**	**34,107.52**	**23,088.00**

Year: 2027

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	0.80	0.80	0.16	1.04	0.08	0.08	N/A	N/A	N/A	19.08	19.08	3.84	25.03	1.94	1.94	N/A	N/A	N/A	6,965.29	6,965.29	1,403.15	9,135.64	706.62	706.62	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.66	63.84	0.05	0.18	0.05	0.05	4.29	1.14	N/A	3.02	638.15	0.41	1.82	0.53	0.51	38.27	10.18	N/A	942.98	199,103.80	126.77	567.92	166.69	159.45	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.85	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.63	38.52	0.14	0.11	0.04	0.04	445.23	93.91	N/A	197.50	12,019.63	42.28	33.28	13.38	12.80	138,910.47	29,299.65	N/A
Yearly Operational Total	7.89	69.28	0.38	1.26E+00	1.60E-01	1.57E-01	50.54	10.89	N/A	67.02	701.87	5.51	27.12	2.66	2.63	500.75	107.67	N/A	21,922.94	219,996.17	1,924.20	9,788.93	932.25	924.43	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**13.81**	**69.95**	**22.32**	**1.27**	**0.18**	**0.18**	**52.16**	**11.64**	**3.08**	**82.42**	**703.62**	**528.91**	**27.16**	**2.71**	**2.69**	**504.97**	**109.64**	**74.00**	**26,727.74**	**220,542.17**	**165,225.00**	**9,801.10**	**949.10**	**941.28**	**157,062.75**	**34,107.52**	**23,088.00**

Year: 2028

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	1.09	1.09	0.22	1.43E+00	1.10E-01	1.10E-01	N/A	N/A	N/A	26.10	26.10	5.26	34.23	2.65	2.65	N/A	N/A	N/A	9,527.05	9,527.05	1,919.22	12,495.62	966.51	966.51	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.64	63.58	0.05	1.83E-01	5.36E-02	5.12E-02	4.29	1.14	N/A	2.98	635.57	0.41	1.82	0.53	0.50	38.27	10.18	N/A	930.32	198,296.98	126.52	567.52	164.06	156.97	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.84	0.01	1.07E-02	4.20E-03	4.02E-03	44.52	9.39	N/A	0.63	38.36	0.13	0.11	0.04	0.04	445.23	93.91	N/A	197.08	11,967.59	41.90	33.25	13.11	12.54	138,910.47	29,299.65	N/A
Yearly Operational Total	8.16	69.30	0.43	1.64E+00	1.89E-01	1.86E-01	50.54	10.89	N/A	74.00	706.14	6.93	36.33	3.36	3.34	500.75	107.67	N/A	24,471.61	221,699.06	2,439.63	13,148.48	1,189.24	1,181.59	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	9.12	0.82	0.19	0.02	0.03	0.03	0.56	0.31	N/A	72.95	6.53	1.51	0.12	0.20	0.20	4.52	2.48	N/A	8,889.35	782.38	180.54	14.76	24.07	24.07	891.30	468.64	N/A
Off-Site Compost Facility Construction Sources	0.40	0.03	0.02	0.00	0.00	0.00	0.03	0.01	N/A	3.19	0.25	0.17	0.01	0.01	0.01	0.27	0.07	N/A	413.90	32.88	22.10	1.30	0.77	0.72	103.55	27.47	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	15.44	1.52	22.16	3.16E-02	4.66E-02	4.66E-02	2.22	1.08	3.08	91.54	8.53	525.08	0.17	0.26	0.26	9.01	4.52	74.00	14,108.06	1,361.26	163,503.44	28.23	41.69	41.64	2,311.62	1,110.32	23,088.00
Yearly Total	**23.60**	**70.82**	**22.59**	**1.67**	**0.24**	**0.23**	**52.76**	**11.96**	**3.08**	**165.54**	**714.67**	**532.00**	**36.50**	**3.62**	**3.60**	**509.75**	**112.20**	**74.00**	**38,579.66**	**223,060.32**	**165,943.07**	**13,176.71**	**1,230.93**	**1,223.22**	**158,057.61**	**34,603.63**	**23,088.00**

Chiquita Canyon Landfill EIR
Summary Construction and Operation Emissions
Controlled Emissions
Year: 2029

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	29.35	3.38	0.78	1.10E-01	1.04E-01	1.04E-01	17.48	3.63	N/A	277.49	32.41	7.44	1.05	0.99	0.99	174.75	36.35	N/A	17,805.95	2,100.77	481.98	67.48	64.22	64.22	9,897.24	2,058.63	N/A
Off-site Construction Mobile Sources (trucks / cars)	0.74	0.05	0.01	3.30E-03	2.07E-03	1.90E-03	1.05	0.27	N/A	29.66	1.97	0.39	0.13	0.08	0.08	42.01	10.79	N/A	3,559.13	236.43	46.56	15.83	9.93	9.13	5,040.90	1,294.59	N/A
On-site Construction Mobile Sources (trucks / cars)	0.00	0.00	0.00	9.60E-06	6.98E-06	6.42E-06	0.85	0.10	N/A	0.01	0.00	0.00	0.00	0.00	0.00	3.40	0.39	N/A	1.68	0.14	0.03	0.00	0.00	0.00	407.67	46.83	N/A
Yearly Construction Total	30.09	3.43	0.79	1.13E-01	1.06E-01	1.05E-01	19.37	4.00	N/A	307.16	34.38	7.83	1.18	1.07	1.07	220.15	47.53	N/A	21,366.76	2,337.33	528.57	83.32	74.15	73.36	15,345.80	3,400.04	N/A
Flares	1.37	1.37	0.28	1.80E+00	1.39E-01	1.39E-01	N/A	N/A	N/A	32.99	32.99	6.65	43.27	3.35	3.35	N/A	N/A	N/A	12,041.36	12,041.36	2,425.72	15,793.38	1,221.59	1,221.59	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.62	63.16	0.04	1.83E-01	5.20E-02	4.97E-02	4.29	1.14	N/A	2.94	631.35	0.40	1.82	0.51	0.49	38.27	10.18	N/A	916.53	196,980.02	126.34	566.94	159.53	152.60	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.81	0.01	1.06E-02	4.07E-03	3.89E-03	44.52	9.39	N/A	0.63	38.13	0.13	0.11	0.04	0.04	445.23	93.91	N/A	196.20	11,896.84	41.23	33.22	12.68	12.13	138,910.47	29,299.65	N/A
Yearly Operational Total	8.43	69.14	0.49	2.02E+00	2.16E-01	2.14E-01	50.54	10.89	N/A	80.84	708.58	8.31	45.36	4.04	4.02	500.75	107.67	N/A	26,971.25	222,825.66	2,945.29	16,445.63	1,439.36	1,431.88	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**44.44**	**73.24**	**23.22**	**2.15**	**0.34**	**0.34**	**71.53**	**15.65**	**3.08**	**403.40**	**744.71**	**539.54**	**46.58**	**5.17**	**5.14**	**725.12**	**157.17**	**74.00**	**53,142.81**	**225,708.99**	**166,774.66**	**16,541.11**	**1,530.36**	**1,522.09**	**172,408.55**	**37,507.56**	**23,088.00**

Year: 2030

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	1.66	1.66	0.33	2.17	0.17	0.17	N/A	N/A	N/A	39.75	39.75	8.01	52.13	4.03	4.03	N/A	N/A	N/A	14,508.23	14,508.23	2,922.67	19,028.92	1,471.85	1,471.85	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.60	62.86	0.04	0.18	0.05	0.05	4.29	1.14	N/A	2.90	628.39	0.40	1.82	0.50	0.48	38.27	10.18	N/A	903.48	196,058.48	125.90	566.42	155.68	148.92	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.80	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.63	37.96	0.13	0.11	0.04	0.04	445.23	93.91	N/A	195.51	11,843.66	40.78	33.19	12.35	11.82	138,910.47	29,299.65	N/A
Yearly Operational Total	8.69	69.10	0.55	2.39E+00	2.43E-01	2.41E-01	50.54	10.89	N/A	87.56	712.22	9.67	54.22	4.72	4.69	500.75	107.67	N/A	29,424.38	224,317.82	3,441.35	19,680.61	1,685.44	1,678.15	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**14.61**	**69.78**	**22.49**	**2.40**	**0.26**	**0.26**	**52.16**	**11.64**	**3.08**	**102.96**	**713.97**	**533.07**	**54.26**	**4.77**	**4.75**	**504.97**	**109.64**	**74.00**	**34,229.18**	**224,863.82**	**166,742.15**	**19,692.77**	**1,702.29**	**1,695.00**	**157,062.75**	**34,107.52**	**23,088.00**

Year: 2031

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	1.93	1.93	0.39	2.53	0.20	0.20	N/A	N/A	N/A	46.38	46.38	9.34	60.83	4.70	4.70	N/A	N/A	N/A	16,927.67	16,927.67	3,410.07	22,202.23	1,717.30	1,717.30	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.59	62.54	0.04	0.18	0.05	0.05	4.29	1.14	N/A	2.85	625.24	0.40	1.81	0.48	0.46	38.27	10.18	N/A	890.43	195,076.29	125.40	565.83	151.30	144.74	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.78	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.62	37.78	0.13	0.11	0.04	0.04	445.23	93.91	N/A	194.77	11,788.29	40.35	33.15	12.01	11.49	138,910.47	29,299.65	N/A
Yearly Operational Total	8.95	69.05	0.60	2.75E+00	2.70E-01	2.67E-01	50.54	10.89	N/A	94.14	715.52	11.00	62.91	5.37	5.35	500.75	107.67	N/A	31,830.02	225,699.70	3,927.81	22,853.30	1,926.18	1,919.09	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**14.87**	**69.72**	**22.55**	**2.77**	**0.29**	**0.29**	**52.16**	**11.64**	**3.08**	**109.54**	**717.27**	**534.40**	**62.95**	**5.43**	**5.41**	**504.97**	**109.64**	**74.00**	**36,634.82**	**226,245.70**	**167,228.61**	**22,865.47**	**1,943.03**	**1,935.94**	**157,062.75**	**34,107.52**	**23,088.00**

Year: 2032

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	2.20	2.20	0.44	2.89	0.22	0.22	N/A	N/A	N/A	52.88	52.88	10.65	69.35	5.36	5.36	N/A	N/A	N/A	19,299.66	19,299.66	3,887.90	25,313.33	1,957.94	1,957.94	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.57	62.15	0.04	0.18	0.05	0.05	4.29	1.14	N/A	2.81	621.32	0.40	1.81	0.47	0.45	38.27	10.18	N/A	877.04	193,851.89	124.89	565.12	146.06	139.72	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.76	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.62	37.57	0.13	0.11	0.04	0.04	445.23	93.91	N/A	193.98	11,721.13	39.99	33.11	11.65	11.15	138,910.47	29,299.65	N/A
Yearly Operational Total	9.20	68.90	0.66	3.11E+00	2.95E-01	2.93E-01	50.54	10.89	N/A	100.59	717.88	12.31	71.44	6.02	5.99	500.75	107.67	N/A	34,187.84	226,780.13	4,404.79	25,963.64	2,161.21	2,154.37	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**15.13**	**69.58**	**22.60**	**3.12**	**0.32**	**0.31**	**52.16**	**11.64**	**3.08**	**115.99**	**719.63**	**535.71**	**71.47**	**6.07**	**6.05**	**504.97**	**109.64**	**74.00**	**38,992.64**	**227,326.13**	**167,705.59**	**25,975.81**	**2,178.06**	**2,171.21**	**157,062.75**	**34,107.52**	**23,088.00**

Chiquita Canyon Landfill EIR
Summary Construction and Operation Emissions
Controlled Emissions
Year: 2033

	Emissions (lb/hr)									Emissions (lb/day)										Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	29.35	3.38	0.78	1.10E-01	1.04E-01	1.04E-01	17.48	3.63	N/A	277.49	32.41	7.44	1.05	0.99	0.99	174.75	36.35	N/A	17,805.95	2,100.77	481.98	67.48	64.22	64.22	9,897.24	2,058.63	N/A
Off-site Construction Mobile Sources (trucks / cars)	0.63	0.04	0.01	3.08E-03	1.63E-03	1.50E-03	1.05	0.27	N/A	25.26	1.60	0.30	0.12	0.07	0.06	42.01	10.79	N/A	3,031.77	191.65	35.95	14.80	7.84	7.21	5,040.90	1,294.59	N/A
On-site Construction Mobile Sources (trucks / cars)	0.00	0.00	0.00	8.79E-06	4.97E-06	4.57E-06	0.85	0.10	N/A	0.01	0.00	0.00	0.00	0.00	0.00	3.40	0.39	N/A	1.14	0.08	0.02	0.00	0.00	0.00	407.67	46.83	N/A
Yearly Construction Total	29.98	3.42	0.78	1.13E-01	1.05E-01	1.05E-01	19.37	4.00	N/A	302.76	34.01	7.74	1.17	1.06	1.05	220.15	47.53	N/A	20,838.86	2,292.50	517.95	82.29	72.06	71.44	15,345.80	3,400.04	N/A
Flares	2.47	2.47	0.50	3.24E+00	2.50E-01	2.50E-01	N/A	N/A	N/A	59.24	59.24	11.93	77.70	6.01	6.01	N/A	N/A	N/A	21,624.22	21,624.22	4,356.18	28,362.20	2,193.76	2,193.76	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.55	61.75	0.04	1.82E-01	4.59E-02	4.38E-02	4.29	1.14	N/A	2.77	617.28	0.40	1.81	0.45	0.43	38.27	10.18	N/A	864.11	192,590.66	124.40	564.37	140.81	134.70	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.74	0.01	1.06E-02	3.62E-03	3.46E-03	44.52	9.39	N/A	0.62	37.35	0.13	0.11	0.04	0.03	445.23	93.91	N/A	193.15	11,653.85	39.61	33.07	11.29	10.81	138,910.47	29,299.65	N/A
Yearly Operational Total	9.45	68.74	0.71	3.45E+00	3.20E-01	3.18E-01	50.54	10.89	N/A	106.92	719.99	13.59	79.79	6.64	6.62	500.75	107.67	N/A	36,498.64	227,776.17	4,872.19	29,011.72	2,391.43	2,384.83	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**45.36**	**72.84**	**23.44**	**3.58**	**0.45**	**0.44**	**71.53**	**15.65**	**3.08**	**425.08**	**755.74**	**544.73**	**81.00**	**7.75**	**7.73**	**725.12**	**157.17**	**74.00**	**62,142.30**	**230,614.67**	**168,690.94**	**29,106.18**	**2,480.34**	**2,473.11**	**172,408.55**	**37,507.56**	**23,088.00**

Year: 2034

	Emissions (lb/hr)									Emissions (lb/day)										Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	2.73	2.73	0.55	3.58	0.28	0.28	N/A	N/A	N/A	65.48	65.48	13.19	85.89	6.64	6.64	N/A	N/A	N/A	23,901.33	23,901.33	4,814.91	31,348.85	2,424.77	2,424.77	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.54	61.08	0.04	0.18	0.04	0.04	4.29	1.14	N/A	2.72	610.68	0.40	1.81	0.43	0.41	38.27	10.18	N/A	849.76	190,531.55	124.10	563.34	133.67	127.86	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.70	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.62	37.02	0.13	0.11	0.03	0.03	445.23	93.91	N/A	191.93	11,550.73	39.05	33.01	10.80	10.34	138,910.47	29,299.65	N/A
Yearly Operational Total	9.70	68.31	0.76	3.79E+00	3.44E-01	3.42E-01	50.54	10.89	N/A	113.11	719.30	14.84	87.97	7.25	7.23	500.75	107.67	N/A	38,760.18	227,891.05	5,330.05	31,997.29	2,614.80	2,608.54	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**15.62**	**68.98**	**22.71**	**3.81**	**0.37**	**0.36**	**52.16**	**11.64**	**3.08**	**128.51**	**721.05**	**538.24**	**88.00**	**7.31**	**7.29**	**504.97**	**109.64**	**74.00**	**43,564.98**	**228,437.05**	**168,630.85**	**32,009.45**	**2,631.65**	**2,625.38**	**157,062.75**	**34,107.52**	**23,088.00**

Year: 2035

	Emissions (lb/hr)									Emissions (lb/day)										Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	2.98	2.98	0.60	3.91	0.30	0.30	N/A	N/A	N/A	71.59	71.59	14.42	93.90	7.26	7.26	N/A	N/A	N/A	26,131.01	26,131.01	5,264.07	34,273.28	2,650.97	2,650.97	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.53	60.65	0.04	0.18	0.04	0.04	4.29	1.14	N/A	2.68	606.33	0.40	1.80	0.42	0.40	38.27	10.18	N/A	837.04	189,176.03	123.61	562.63	129.64	124.02	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.68	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.61	36.80	0.12	0.11	0.03	0.03	445.23	93.91	N/A	190.95	11,481.50	38.61	32.97	10.50	10.05	138,910.47	29,299.65	N/A
Yearly Operational Total	9.94	68.10	0.81	4.13E+00	3.69E-01	3.67E-01	50.54	10.89	N/A	119.17	720.84	16.07	95.98	7.86	7.84	500.75	107.67	N/A	40,976.16	228,695.98	5,778.29	34,920.97	2,836.68	2,830.60	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**15.86**	**68.78**	**22.76**	**4.14**	**0.39**	**0.39**	**52.16**	**11.64**	**3.08**	**134.57**	**722.59**	**539.47**	**96.01**	**7.91**	**7.89**	**504.97**	**109.64**	**74.00**	**45,780.96**	**229,241.98**	**169,079.09**	**34,933.14**	**2,853.53**	**2,847.45**	**157,062.75**	**34,107.52**	**23,088.00**

Year: 2036

	Emissions (lb/hr)									Emissions (lb/day)										Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	3.23	3.23	0.65	4.24	0.33	0.33	N/A	N/A	N/A	77.57	77.57	15.63	101.74	7.87	7.87	N/A	N/A	N/A	28,313.24	28,313.24	5,703.68	37,135.48	2,872.36	2,872.36	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.51	60.30	0.04	0.18	0.04	0.04	4.29	1.14	N/A	2.65	602.88	0.39	1.80	0.41	0.40	38.27	10.18	N/A	826.89	188,098.14	123.22	562.17	129.06	123.46	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.66	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.61	36.62	0.12	0.11	0.03	0.03	445.23	93.91	N/A	190.17	11,425.53	38.28	32.95	10.40	9.95	138,910.47	29,299.65	N/A
Yearly Operational Total	10.17	67.99	0.86	4.45E+00	3.94E-01	3.92E-01	50.54	10.89	N/A	125.12	723.18	17.27	103.82	8.46	8.44	500.75	107.67	N/A	43,147.45	229,744.36	6,217.18	37,782.70	3,057.38	3,051.33	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**16.10**	**68.66**	**22.81**	**4.47**	**0.41**	**0.41**	**52.16**	**11.64**	**3.08**	**140.52**	**724.93**	**540.67**	**103.85**	**8.52**	**8.50**	**504.97**	**109.64**	**74.00**	**47,952.25**	**230,290.36**	**169,517.98**	**37,794.87**	**3,074.23**	**3,068.18**	**157,062.75**	**34,107.52**	**23,088.00**

Chiquita Canyon Landfill EIR
Summary Construction and Operation Emissions
Controlled Emissions
Year: 2037

	Emissions (lb/hr)									Emissions (lb/day)										Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	29.35	3.38	0.78	1.10E-01	1.04E-01	1.04E-01	17.48	3.63	N/A	277.49	32.41	7.44	1.05	0.99	0.99	174.75	36.35	N/A	17,805.95	2,100.77	481.98	67.48	64.22	64.22	9,897.24	2,058.63	N/A
Off-site Construction Mobile Sources (trucks / cars)	0.55	0.03	0.01	2.96E-03	1.30E-03	1.20E-03	1.05	0.27	N/A	21.88	1.37	0.24	0.12	0.05	0.05	42.01	10.79	N/A	2,626.00	164.51	28.55	14.21	6.26	5.75	5,040.90	1,294.59	N/A
On-site Construction Mobile Sources (trucks / cars)	0.00	0.00	0.00	8.27E-06	3.76E-06	3.46E-06	0.85	0.10	N/A	0.01	0.00	0.00	0.00	0.00	0.00	3.40	0.39	N/A	0.84	0.06	0.01	0.00	0.00	0.00	407.67	46.83	N/A
Yearly Construction Total	29.90	3.42	0.78	1.13E-01	1.05E-01	1.05E-01	19.37	4.00	N/A	299.38	33.78	7.68	1.17	1.04	1.04	220.15	47.53	N/A	20,432.79	2,265.34	510.55	81.70	70.48	69.97	15,345.80	3,400.04	N/A
Flares	3.48	3.48	0.70	4.56E+00	3.53E-01	3.53E-01	N/A	N/A	N/A	83.42	83.42	16.80	109.41	8.46	8.46	N/A	N/A	N/A	30,448.04	30,448.04	6,133.74	39,935.47	3,088.93	3,088.93	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.50	59.99	0.04	1.81E-01	4.20E-02	4.01E-02	4.29	1.14	N/A	2.62	599.77	0.39	1.80	0.41	0.40	38.27	10.18	N/A	818.14	187,129.11	123.01	561.96	129.20	123.60	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.65	0.01	1.06E-02	3.31E-03	3.17E-03	44.52	9.39	N/A	0.61	36.46	0.12	0.11	0.03	0.03	445.23	93.91	N/A	189.35	11,376.03	37.93	32.94	10.33	9.89	138,910.47	29,299.65	N/A
Yearly Operational Total	10.41	67.91	0.91	4.77E+00	4.18E-01	4.17E-01	50.54	10.89	N/A	130.93	725.77	18.45	111.49	9.06	9.04	500.75	107.67	N/A	45,272.68	230,860.62	6,646.67	40,582.45	3,274.03	3,267.98	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**46.23**	**72.00**	**23.64**	**4.90**	**0.54**	**0.54**	**71.53**	**15.65**	**3.08**	**445.71**	**761.30**	**549.53**	**112.69**	**10.15**	**10.13**	**725.12**	**157.17**	**74.00**	**70,510.26**	**233,671.96**	**170,458.02**	**40,676.32**	**3,361.36**	**3,354.80**	**172,408.55**	**37,507.56**	**23,088.00**

Year: 2038

	Emissions (lb/hr)									Emissions (lb/day)										Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	3.71	3.71	0.75	4.87E+00	3.77E-01	3.77E-01	N/A	N/A	N/A	89.14	89.14	17.96	116.91	9.04	9.04	N/A	N/A	N/A	32,535.39	32,535.39	6,554.23	42,673.23	3,300.69	3,300.69	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.49	59.59	0.04	1.81E-01	4.23E-02	4.05E-02	4.29	1.14	N/A	2.60	595.74	0.40	1.80	0.42	0.40	38.27	10.18	N/A	811.46	185,871.97	123.38	561.98	130.36	124.70	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.63	0.01	1.06E-02	3.30E-03	3.16E-03	44.52	9.39	N/A	0.60	36.26	0.12	0.11	0.03	0.03	445.23	93.91	N/A	188.44	11,314.46	37.52	32.94	10.30	9.85	138,910.47	29,299.65	N/A
Yearly Operational Total	10.64	67.72	0.96	5.09E+00	4.43E-01	4.41E-01	50.54	10.89	N/A	136.63	727.26	19.60	118.99	9.64	9.62	500.75	107.67	N/A	47,352.45	231,629.26	7,067.13	43,320.24	3,486.92	3,480.80	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	9.12	0.82	0.19	0.02	0.03	0.03	0.56	0.31	N/A	72.95	6.53	1.51	0.12	0.20	0.20	4.52	2.48	N/A	8,889.35	782.38	180.54	14.76	24.07	24.07	891.30	468.64	N/A
Off-Site Compost Facility Construction Sources	0.40	0.03	0.02	0.00	0.00	0.00	0.03	0.01	N/A	3.19	0.25	0.17	0.01	0.01	0.01	0.27	0.07	N/A	413.90	32.88	22.10	1.30	0.77	0.72	103.55	27.47	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	15.44	1.52	22.16	3.16E-02	4.66E-02	4.66E-02	2.22	1.08	3.08	91.54	8.53	525.08	0.17	0.26	0.26	9.01	4.52	74.00	14,108.06	1,361.26	163,503.44	28.23	41.69	41.64	2,311.62	1,110.32	23,088.00
Yearly Total	**26.08**	**69.24**	**23.11**	**5.12**	**0.49**	**0.49**	**52.76**	**11.96**	**3.08**	**228.16**	**735.79**	**544.68**	**119.16**	**9.90**	**9.88**	**509.75**	**112.20**	**74.00**	**61,460.50**	**232,990.52**	**170,570.57**	**43,348.47**	**3,528.61**	**3,522.44**	**158,057.61**	**34,603.63**	**23,088.00**

Year: 2039

	Emissions (lb/hr)									Emissions (lb/day)										Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	3.95	3.95	0.80	5.18	0.40	0.40	N/A	N/A	N/A	94.73	94.73	19.08	124.24	9.61	9.61	N/A	N/A	N/A	34,575.31	34,575.31	6,965.17	45,348.77	3,507.64	3,507.64	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.49	59.30	0.04	0.18	0.04	0.04	4.29	1.14	N/A	2.59	592.84	0.40	1.80	0.43	0.41	38.27	10.18	N/A	808.53	184,966.09	124.32	562.95	133.87	128.06	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.61	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.60	36.12	0.12	0.11	0.03	0.03	445.23	93.91	N/A	187.73	11,270.28	37.19	32.99	10.39	9.94	138,910.47	29,299.65	N/A
Yearly Operational Total	10.86	67.65	1.01	5.39E+00	4.68E-01	4.66E-01	50.54	10.89	N/A	142.21	729.80	20.73	126.32	10.22	10.20	500.75	107.67	N/A	49,388.72	232,719.12	7,478.68	45,996.79	3,697.46	3,691.20	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**16.79**	**68.32**	**22.95**	**5.41**	**0.49**	**0.49**	**52.16**	**11.64**	**3.08**	**157.61**	**731.55**	**544.13**	**126.36**	**10.27**	**10.25**	**504.97**	**109.64**	**74.00**	**54,193.52**	**233,265.12**	**170,779.48**	**46,008.96**	**3,714.31**	**3,708.05**	**157,062.75**	**34,107.52**	**23,088.00**

Year: 2040

	Emissions (lb/hr)									Emissions (lb/day)										Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	3.92	3.92	0.79	5.14	0.40	0.40	N/A	N/A	N/A	94.08	94.08	18.95	123.39	9.54	9.54	N/A	N/A	N/A	34,338.11	34,338.11	6,917.39	45,037.66	3,483.58	3,483.58	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.48	58.78	0.04	0.18	0.04	0.04	4.29	1.14	N/A	2.59	587.69	0.40	1.81	0.44	0.43	38.27	10.18	N/A	807.83	183,360.47	126.00	564.11	138.82	132.80	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.59	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.60	35.87	0.12	0.11	0.03	0.03	445.23	93.91	N/A	186.98	11,192.12	36.81	33.05	10.53	10.07	138,910.47	29,299.65	N/A
Yearly Operational Total	10.83	67.08	1.00	5.36E+00	4.67E-01	4.64E-01	50.54	10.89	N/A	141.55	723.76	20.60	125.47	10.17	10.15	500.75	107.67	N/A	49,150.07	230,798.14	7,432.20	45,686.91	3,678.49	3,672.01	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**16.76**	**67.76**	**22.95**	**5.37**	**0.49**	**0.49**	**52.16**	**11.64**	**3.08**	**156.95**	**725.51**	**544.00**	**125.51**	**10.22**	**10.20**	**504.97**	**109.64**	**74.00**	**53,954.87**	**231,344.14**	**170,733.00**	**45,699.08**	**3,695.34**	**3,688.86**	**157,062.75**	**34,107.52**	**23,088.00**

Chiquita Canyon Landfill EIR
Summary Construction and Operation Emissions
Controlled Emissions
Year: 2041

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)							
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	29.35	3.38	0.78	1.10E-01	1.04E-01	1.04E-01	17.48	3.63	N/A	277.49	32.41	7.44	1.05	0.99	0.99	174.75	36.35	N/A	17,805.95	2,100.77	481.98	67.48	64.22	64.22	9,897.24	2,058.63	N/A
Off-site Construction Mobile Sources (trucks / cars)	0.51	0.03	0.01	2.90E-03	1.10E-03	1.01E-03	1.05	0.27	N/A	20.21	1.27	0.21	0.12	0.04	0.04	42.01	10.79	N/A	2,425.76	152.72	25.52	13.93	5.27	4.83	5,040.90	1,294.59	N/A
On-site Construction Mobile Sources (trucks / cars)	0.00	0.00	0.00	7.97E-06	3.09E-06	2.84E-06	0.85	0.10	N/A	0.01	0.00	0.00	0.00	0.00	0.00	3.40	0.39	N/A	0.73	0.05	0.01	0.00	0.00	0.00	407.67	46.83	N/A
Yearly Construction Total	29.86	3.42	0.78	1.13E-01	1.05E-01	1.05E-01	19.37	4.00	N/A	297.71	33.68	7.65	1.16	1.04	1.03	220.15	47.53	N/A	20,232.44	2,253.54	507.51	81.42	69.49	69.06	15,345.80	3,400.04	N/A
Flares	3.74	3.74	0.75	4.91E+00	3.80E-01	3.80E-01	N/A	N/A	N/A	89.79	89.79	18.09	117.77	9.11	9.11	N/A	N/A	N/A	32,772.59	32,772.59	6,602.01	42,984.34	3,324.76	3,324.76	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.48	58.02	0.04	1.82E-01	4.69E-02	4.48E-02	4.29	1.14	N/A	2.59	580.08	0.41	1.81	0.46	0.44	38.27	10.18	N/A	808.95	180,984.81	128.23	565.19	144.67	138.41	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.55	0.01	1.06E-02	3.44E-03	3.29E-03	44.52	9.39	N/A	0.60	35.50	0.12	0.11	0.03	0.03	445.23	93.91	N/A	186.33	11,074.74	36.49	33.10	10.72	10.25	138,910.47	29,299.65	N/A
Yearly Operational Total	10.65	66.10	0.97	5.12E+00	4.50E-01	4.48E-01	50.54	10.89	N/A	137.26	711.48	19.74	119.85	9.75	9.73	500.75	107.67	N/A	47,585.03	226,739.58	7,118.73	43,634.72	3,525.71	3,518.98	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**46.43**	**70.19**	**23.69**	**5.25**	**0.58**	**0.57**	**71.53**	**15.65**	**3.08**	**450.37**	**746.91**	**550.80**	**121.05**	**10.84**	**10.82**	**725.12**	**157.17**	**74.00**	**72,622.26**	**229,539.12**	**170,927.04**	**43,728.31**	**3,612.04**	**3,604.89**	**172,408.55**	**37,507.56**	**23,088.00**

Year: 2042

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)							
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	3.57	3.57	0.72	4.68	0.36	0.36	N/A	N/A	N/A	85.63	85.63	17.25	112.31	8.69	8.69	N/A	N/A	N/A	31,254.52	31,254.52	6,296.20	40,993.24	3,170.75	3,170.75	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.48	56.98	0.04	0.18	0.05	0.05	4.29	1.14	N/A	2.60	569.63	0.42	1.81	0.48	0.46	38.27	10.18	N/A	810.79	177,723.46	130.39	565.55	150.04	143.53	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.50	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.60	34.97	0.12	0.11	0.04	0.03	445.23	93.91	N/A	186.07	10,909.12	36.37	33.12	10.92	10.45	138,910.47	29,299.65	N/A
Yearly Operational Total	10.48	64.83	0.93	4.90E+00	4.35E-01	4.32E-01	50.54	10.89	N/A	133.11	696.33	18.91	114.40	9.35	9.33	500.75	107.67	N/A	46,068.53	221,794.53	6,814.96	41,644.00	3,377.27	3,370.29	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**16.40**	**65.51**	**22.88**	**4.91**	**0.46**	**0.45**	**52.16**	**11.64**	**3.08**	**148.51**	**698.08**	**542.31**	**114.44**	**9.40**	**9.38**	**504.97**	**109.64**	**74.00**	**50,873.33**	**222,340.53**	**170,115.76**	**41,656.17**	**3,394.11**	**3,387.14**	**157,062.75**	**34,107.52**	**23,088.00**

Year: 2043

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)							
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	3.39	3.39	0.68	4.45	0.34	0.34	N/A	N/A	N/A	81.47	81.47	16.41	106.86	8.27	8.27	N/A	N/A	N/A	29,736.44	29,736.44	5,990.38	39,002.14	3,016.74	3,016.74	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.48	55.30	0.05	0.18	0.05	0.05	4.29	1.14	N/A	2.62	552.87	0.43	1.81	0.50	0.48	38.27	10.18	N/A	816.17	172,494.28	133.88	565.53	157.22	150.41	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.41	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.60	34.11	0.12	0.11	0.04	0.03	445.23	93.91	N/A	186.14	10,641.16	36.43	33.12	11.23	10.74	138,910.47	29,299.65	N/A
Yearly Operational Total	10.30	62.90	0.90	4.67E+00	4.19E-01	4.17E-01	50.54	10.89	N/A	128.97	674.56	18.09	108.94	8.95	8.93	500.75	107.67	N/A	44,555.91	214,779.32	6,512.69	39,652.87	3,230.75	3,223.45	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**16.22**	**63.57**	**22.84**	**4.68**	**0.44**	**0.44**	**52.16**	**11.64**	**3.08**	**144.37**	**676.31**	**541.49**	**108.98**	**9.00**	**8.98**	**504.97**	**109.64**	**74.00**	**49,360.71**	**215,325.32**	**169,813.49**	**39,665.04**	**3,247.60**	**3,240.30**	**157,062.75**	**34,107.52**	**23,088.00**

Year: 2044

	Emissions (lb/hr)									Emissions (lb/day)									Emissions (lb/yr)							
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	3.23	3.23	0.65	4.23	0.33	0.33	N/A	N/A	N/A	77.44	77.44	15.60	101.57	7.86	7.86	N/A	N/A	N/A	28,265.80	28,265.80	5,694.13	37,073.26	2,867.55	2,867.55	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.48	52.03	0.05	0.18	0.05	0.05	4.29	1.14	N/A	2.66	520.14	0.45	1.81	0.54	0.52	38.27	10.18	N/A	828.55	162,283.54	140.24	564.88	168.81	161.50	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.24	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.60	32.43	0.12	0.11	0.04	0.04	445.23	93.91	N/A	186.44	10,119.55	36.59	33.09	11.72	11.21	138,910.47	29,299.65	N/A
Yearly Operational Total	10.14	59.29	0.87	4.45E+00	4.06E-01	4.04E-01	50.54	10.89	N/A	124.98	636.13	17.30	103.65	8.58	8.56	500.75	107.67	N/A	43,097.95	202,576.34	6,222.95	37,723.32	3,093.64	3,085.81	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**16.06**	**59.96**	**22.81**	**4.46**	**0.43**	**0.42**	**52.16**	**11.64**	**3.08**	**140.38**	**637.88**	**540.70**	**103.69**	**8.63**	**8.61**	**504.97**	**109.64**	**74.00**	**47,902.75**	**203,122.34**	**169,523.75**	**37,735.49**	**3,110.48**	**3,102.66**	**157,062.75**	**34,107.52**	**23,088.00**

Chiquita Canyon Landfill EIR

Summary Construction and Operation Emissions

Controlled Emissions

Year: 2045

	Emissions (lb/hr)									Emissions (lb/day)										Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	3.06	3.06	0.62	4.02	0.31	0.31	N/A	N/A	N/A	73.54	73.54	14.81	96.46	7.46	7.46	N/A	N/A	N/A	26,842.61	26,842.61	5,407.42	35,206.61	2,723.16	2,723.16	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.49	48.26	0.05	0.18	0.06	0.06	4.29	1.14	N/A	2.71	482.45	0.48	1.81	0.58	0.56	38.27	10.18	N/A	846.15	150,523.38	148.61	564.13	181.75	173.88	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	3.05	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.60	30.50	0.12	0.11	0.04	0.04	445.23	93.91	N/A	187.01	9,517.28	36.86	33.05	12.26	11.73	138,910.47	29,299.65	N/A
Yearly Operational Total	9.98	55.16	0.84	4.23E+00	3.94E-01	3.91E-01	50.54	10.89	N/A	121.14	592.61	16.54	98.54	8.23	8.20	500.75	107.67	N/A	41,692.92	188,790.70	5,944.89	35,855.88	2,962.74	2,954.33	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**15.90**	**55.84**	**22.78**	**4.25**	**0.41**	**0.41**	**52.16**	**11.64**	**3.08**	**136.54**	**594.36**	**539.94**	**98.58**	**8.28**	**8.26**	**504.97**	**109.64**	**74.00**	**46,497.72**	**189,336.70**	**169,245.69**	**35,868.05**	**2,979.59**	**2,971.18**	**157,062.75**	**34,107.52**	**23,088.00**

Year: 2046

	Emissions (lb/hr)									Emissions (lb/day)										Emissions (lb/yr)								
Emission Activity	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**PM_{10} Fugitive**	**$PM_{2.5}$ Fugitive**	**Ammonia**
Construction (exhaust / fugitive from earth moving/service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yearly Construction Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flares	2.90	2.90	0.58	3.81	0.29	0.29	N/A	N/A	N/A	69.64	69.64	14.03	91.34	7.07	7.07	N/A	N/A	N/A	25,419.41	25,419.41	5,120.72	33,339.95	2,578.78	2,578.78	N/A	N/A	N/A
Landfill gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation (exhaust / fugitive from earth moving)	6.37	0.79	0.16	0.02	0.02	0.02	1.72	0.36	N/A	44.29	6.11	1.13	0.17	0.15	0.15	17.25	3.59	N/A	13,817.16	1,907.44	352.00	52.09	45.56	45.56	4,895.28	1,018.22	N/A
Off-site Operational Mobile Sources (trucks / cars)	0.49	43.82	0.05	0.18	0.06	0.06	4.29	1.14	N/A	2.80	438.03	0.51	1.81	0.63	0.60	38.27	10.18	N/A	872.28	136,664.87	160.27	563.22	196.26	187.76	11,940.23	3,175.44	N/A
On-site Operational Mobile Sources (trucks / cars)	0.06	2.82	0.01	0.01	0.00	0.00	44.52	9.39	N/A	0.60	28.22	0.12	0.11	0.04	0.04	445.23	93.91	N/A	188.04	8,804.35	37.33	33.01	12.86	12.30	138,910.47	29,299.65	N/A
Yearly Operational Total	9.82	50.33	0.81	4.02E+00	3.82E-01	3.79E-01	50.54	10.89	N/A	117.33	542.00	15.79	93.42	7.88	7.85	500.75	107.67	N/A	40,296.89	172,796.08	5,670.32	33,988.27	2,833.46	2,824.41	155,745.99	33,493.31	N/A
On-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Off-Site Compost Facility Construction Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-Site Compost Facility Operation Sources	5.92	0.67	0.15	0.02	0.02	0.02	1.62	0.76	N/A	15.40	1.75	0.40	0.04	0.05	0.05	4.22	1.97	N/A	4,804.80	546.00	124.80	12.17	16.85	16.85	1,316.76	614.20	N/A
Compost Process Emissions	N/A	N/A	21.79	N/A	N/A	N/A	N/A	N/A	3.08	N/A	N/A	523.00	N/A	N/A	N/A	N/A	N/A	74.00	N/A	N/A	163,176.00	N/A	N/A	N/A	N/A	N/A	23,088.00
Yearly Compost Total	5.92	0.67	21.95	1.50E-02	2.08E-02	2.08E-02	1.62	0.76	3.08	15.40	1.75	523.40	0.04	0.05	0.05	4.22	1.97	74.00	4,804.80	546.00	163,300.80	12.17	16.85	16.85	1,316.76	614.20	23,088.00
Yearly Total	**15.75**	**51.01**	**22.75**	**4.04**	**0.40**	**0.40**	**52.16**	**11.64**	**3.08**	**132.73**	**543.75**	**539.19**	**93.46**	**7.94**	**7.91**	**504.97**	**109.64**	**74.00**	**45,101.69**	**173,342.08**	**168,971.12**	**34,000.44**	**2,850.31**	**2,841.25**	**157,062.75**	**34,107.52**	**23,088.00**

Summary Data Request

Construction

Sources included in the proposed project:

	Schedule	*Notes and Assumptions*
Construction Sources / Assumptions (See Construction Tab for information provided by CCL - for rows 6-12)		
Construction of module 6	4/1/2017 - 9/30/2017	Construction equipment assumptions based on data provided on July 20, 2011 and included in construction tab (attached). Since construction contractors would be large operators of diesel off-road equipment, all off-road diesel equipment would be compliant with CARB requirements at the time of construction. After 2020, all off-road diesel equipment would meet Tier 4 Final emission standards. When there are inconsistencies associated with the # and type of equipment for the activities (i.e. water truck should be used for the entire project duration, need a paver for paving activities), the project specific data provided have been supplemented with the appropriate equipment for consistency. The total area for the proposed lateral expansion is 142.7 acres as per Figure 2-1, Existing and Proposed Landfill footprint. Schedule information provided by CCL team via email from Brenda Eells/CH2M on 8/13/15 (CCL - construction operation schedule and information.msg).
Construction of module 7	4/1/2021 - 9/30/2021	
Construction of module 8	4/1/2025 - 9/30/2025	
Construction of module 9	4/1/2029 - 9/30/2029	
Construction of module 10	4/1/2033 - 9/30/2033	
Construction of module 11	4/1/2037 - 9/30/2037	
Construction of module 12	4/1/2041 - 9/30/2041	
New Entrance Area and Construction		
Construction of new paved road entrance	**10 days**	**Area paved: 1.5 miles long from entrance into landfill - assumes an average road width of 20 feet wide for total area to be paved of approximately 8 acres**. Note: we have modified the equipment provided to include a paver based on the construction of the paved entrance. **2 weeks to pave road**
Other Construction Activities (Construction of parking, administration building, larger berm, and scale house)	4/1/2018 - 9/30/2018	Size and volumes were estimated from site plans. Approximate size of buildings: 22,925 square feet. Approximate area to be paved for parking: 116,875 square feet (~2.7 acres). Approximate volume of soil to be cut / filled for construction of the berm 1,317,911 cubic feet. Air Quality team made assumptions regarding the type and number of equipment needed to build these buildings based on model default schedule and # of equipment. Assumed the berm material was excavated from onsite soil and not imported. Total area for new entrance (including new paved road): Approx. 30 acres (based on maps and estimated areas) -> provided by CCL team via email from Brenda Eells/CH2M on 8/13/15 (CCL - construction operation schedule and information.msg).

Construction Truck Trips (See Construction Tab for information provided by CCL - also taken from previous analysis)		
Construction employees: Data provided on 07/20/2011 will be used instead of what is provided in project description which indicates 100 daily construction workers and is not schedule specific	Corresponds with construction module schedule	40 workers for module construction, 10 workers for new entrance construction, workers for other construction activities based on AQ model to generate default # of construction workers for other construction activities based on size of buildings. All construction worker travel would be offsite on paved roads and is about 20 miles one-way (including 3 miles from the interstate to the facility entrance).
Onsite pickup trucks:		Based on previous data provided it is assumed that an onsite truck travels about 1.25 miles / hr (~10 miles in an 8 hr day). Based on previous data 20% of that travel is on paved roads and 80% is on unpaved roads. Based on data provided on construction tab (07/20/2011) indicating that the truck would operate 4hrs / day: each truck would travel ~1 mile on paved roads and ~4 miles on unpaved roads per day.
Other construction equipment:		Additional travel other than equipment operation is minimal and not included in analysis.

Summary Data Request

Operation

Operational Sources / Assumptions:	*Schedule*	*Notes and Assumptions*
Landfill operational emissions based on disposal capacity: Total from build out (89.3 total - 23.2 from existing facility) = 66.1 MMCY spread out over construction of 7 new modules = 9.44 MMCY per module increase.	Emissions calculated for all years during which construction and operation would overlap.	***Source of Data - Based on data provided by Golder Associates (04/2011 , updated 03/2015)*** Annual LFG recovery rate will be 85% with implementation of project BMPs (SCS, 2016a), therefore it is assumed that 85% of the LFG will be combusted by the flares and 15% will be fugitive. The fugitive landfill emissions will be calculated using the LFG generation for each year, the amount not recovered (15%), and emission factors for CH4 and CO2 based on the 2011 % concentration (50 / 50%) and the toxic pollutants based on the landfill source test data. For air dispersion modeling the source characteristics will be chosen so that they are representative of the landfill area. (representative data will be used)

Operation of 2 additional flares (Source: Golder Associates 09/16)		***The project does not include the operation of the existing two flares. The operating schedule is based Golder Associates 09/16 LFG report***
Flare 1 Location: (UTM NAD 83, Zone 11): **348,900 Easting, 3,811,085 Northing (meters)**		Flare emissions: **Flare emission rates (lbs/dscf) from the Flare 2 2012 source test (report dated 02/16/12) will be used to represent the emissions associated with the two new flares.**
Flare 2 Location (UTM NAD 83, Zone 11): **348,888 Easting, 3,811,078 Northing (meters)**		Flare Stack parameters (temperature, flow rate, stack diameter): Based on SCAQMD records and source test results for the existing flares (height 50 feet, diameter 12 feet, exhaust temperature 1,596.4 F, exhaust velocity 15.6 feet per second)

Operation Assumptions (See Operation Tab for information provided by CCL - also taken from previous analysis)	*Schedule*	*Notes and Assumptions*
Operation Workers: includes 22 new staff - **Source: Project Description, Table 2-5 (dated October 3, 2016)**	Ramp-up: 2017-2023 Full Operation: 2024	Assumes operation of the Proposed Project would ramp up evenly over a seven year period starting January 1, 2017, with full operation beginning January 1, 2024. This assumes that the new equipment and employees will be used to operate the additional capacity from the existing landfill.**(Air Quality Assumption)**
Operation Onsite Off-road Equipment: **Source Data Provided 7-20-11: Project description data inconsistent and less specific, therefore it is not used: (***18 new pieces of equipment (two motor graders, three bulldozers, three landfill compactors, two scrapers, two water trucks, five trailer-mounted light plants, and one water wagon*)	Ramp-up: 2017-2023 Full Operation: 2024	Assumes operation of the Proposed Project would ramp up evenly over a seven year period starting January 1, 2017, with full operation beginning January 1, 2024. Approximate hours of use for each piece of equipment are based on data provided on July 20, 2011 and are included in the operation tab (attached).***All equipment used for operation of the proposed project would meet Tier 4 Final emission standards. Note that the values provided are different that what is included in the project description - Air Quality Team will use specific data provided on 7-20-11 unless otherwise indicated.***

Summary Data Request

Operational Waste Deliveries Assumptions		*Schedule*	*Notes and Assumptions*
Truck Trips			All truck deliveries will start at the beginning of the operation of the project and will continue at the same rate for the duration of the project. **All distances are roundtrip.**
Average Operational Truck deliveries (from Project Description: Tables 2-5 in the Project Description dated 10/03/16): [1]		Net increase in number of vehicles	**Waste Trucks**: Onsite travel on paved roads: 4 miles, Onsite travel on unpaved roads (gravel): 0.568 miles (3,000 ft RT from end of paved road to working face); road paved as much as possible as project control. Offsite travel on paved roads: 90.6 miles for transfer trucks and 28.2 miles for collection trucks.
	HHDT	234	**Onsite service truck**: Operate 4hrs per day which equates to 5 miles traveled total (~1 miles on paved and 4 miles on unpaved roads - same assumption as for construction service trucks.
	MHDT	158	**Offsite vehicle travel** (employees, waste trucks): 40 miles on paved roads (Includes 6 miles on paved roads from the interstate)
	LHDT2	0	Total duration of waste truck idling time is 3.5 min.
	LDT2	0	***Assumes operation of the Proposed Project would ramp up evenly over a seven year period starting January 1, 2017, with full operation beginning January 1, 2024.***
	LDT1	0	
	LDA	22	

Sources not a part of the proposed project and not included in the evaluation:

Operation of 2 existing flares
Operation of the waste to energy generation unit.

Notes:

[1] *Per EMFAC Users guide truck classification is as follows: HHDT (33001 - 60000), MHDT (14001 - 33000), LHDT2 (100001 - 14000), LHDT1 (8501 - 10000), LDT2 (3751- 5750), LDT1 (0 - 3750), LDA (all passenger cars))*

Methodology Assumptions:

The project would include mitigation measures to reduce fugitive dust emissions during construction and operation.
Total annual project emissions are compared to the SCAQMD emission thresholds
Mitigation measures are used whenever the annual project emissions exceed the SCAQMD daily thresholds
Annual construction and operation emissions estimated for each year of construction activity.

Chiquita Canyon Landfill EIR

Summary of Construction and Operation Sources Used in LST and Criteria Modeling

Source Group	Name of Source(s) In AERMOD	Source Type	Number of Sources	Source Area (m^2)	Description of Sources
Flares	FLARE(1-2)	Point	2	N/A	Landfill Gas Flares
Module 11 Operation Exhaust	M11_(001-153)	Point	153	N/A	Offroad Construction Equipment and Truck Exhaust
Module 12 Construction Exhaust	M12_(001-108)	Point	108	N/A	Offroad Operational Equipment and Truck Exhaust
Composting Operation Exhaust	COMP_(001-268)	Point	268	N/A	Offroad Composting Equipment and Truck Exhaust
Truck Idle	IDLE_(01-22)	Point	22	N/A	Waste Collection Truck Exhaust
Onsite Paved Roads	OSP_OP(18-44)	Volume	27	N/A	Exhaust and Fugitive Emissions From On-site Paved Road Travel
Onsite Unpaved Roads	OSU_(0002-0016)	Volume	15	N/A	Exhaust and Fugitive Emissions From On-site Unpaved Road Travel
Module 11 Operation Fugitive Dust	MODULE11	Area	1	96,261	Offroad Construction Fugitive Dust
Module 12 Construction Fugitive Dust	MODULE12	Area	1	67,074	Offroad Operational Fugitive Dust
Composting Operation Fugitive Dust	COMP	Area	1	166,005	Offroad Composting Fugitive Dust

Chiquita Canyon Landfill EIR

Summary of Construction and Operation Emissions Used in LST and Criteria Modeling

	Emissions (pound per hour total for all sources)										
Point/Volume Sources	**1-hr CO**	**8-hr CO**	**1-hr NO_2**	**Annual NO_2**	**1-hr SO_2**	**3-hr SO_2**	**24-hr SO_2**	**24-hr PM_{10}**	**Annual PM_{10}**	**24-hr $PM_{2.5}$**	**Annual $PM_{2.5}$**
Flares	3.95	3.95	3.95	3.95	5.18	5.18	5.18	0.40	0.40	0.40	0.40
Module 11 Operation Exhaust	6.37	6.37	0.79	0.22	0.023	0.023	0.0070	0.0061	0.0052	0.0061	0.0052
Module 12 Construction Exhaust	29.4	29.4	3.4	0.24	0.110	0.110	0.044	0.041	0.007	0.041	0.007
Composting Operation Exhaust	5.92	5.92	0.67	0.06	0.015	0.015	0.0016	0.002	0.002	0.002	0.002
Truck Idle	3.33E-02	3.33E-02	5.82E-01	2.07E-01	3.44E-04	3.44E-04	1.43E-04	3.27E-04	2.79E-04	3.13E-04	2.67E-04
Onsite Paved Roads	2.32E-02	2.32E-02	2.60E+00	9.25E-01	8.99E-03	8.99E-03	3.75E-03	1.41E+01	1.21E+01	3.47E+00	2.97E+00
Onsite Unpaved Roads	3.29E-03	3.29E-03	3.69E-01	1.31E-01	1.28E-03	1.28E-03	5.32E-04	4.43E+00	3.78E+00	4.43E-01	3.79E-01

	Emissions (pounds per hour)			
Area Sources	**24-hr PM_{10}**	**Annual PM_{10}**	**24-hr $PM_{2.5}$**	**Annual $PM_{2.5}$**
Module 11 Operation Fugitive Dust	0.72	0.15	0.56	0.12
Module 12 Construction Fugitive Dust	7.42	1.53	1.18	0.24
Composting Operation Fugitive Dust	0.18	0.08	0.15	0.07

	Emissions (gram per second per source)										
Point/Volume Sources	**1-hr CO**	**8-hr CO**	**1-hr NO_2**	**Annual NO_2**	**1-hr SO_2**	**3-hr SO_2**	**24-hr SO_2**	**24-hr PM_{10}**	**Annual PM_{10}**	**24-hr $PM_{2.5}$**	**Annual $PM_{2.5}$**
Flares	2.49E-01	2.49E-01	2.49E-01	2.49E-01	3.26E-01	3.26E-01	3.26E-01	2.52E-02	2.52E-02	2.52E-02	2.52E-02
Module 11 Operation Exhaust	5.24E-03	5.24E-03	6.52E-04	1.79E-04	1.86E-05	1.86E-05	5.73E-06	5.01E-06	4.28E-06	5.01E-06	4.28E-06
Module 12 Construction Exhaust	3.42E-02	3.42E-02	3.95E-03	2.80E-04	1.28E-04	1.28E-04	5.09E-05	4.82E-05	8.55E-06	4.82E-05	8.55E-06
Composting Operation Exhaust	2.78E-03	2.78E-03	3.16E-04	2.93E-05	7.05E-06	7.05E-06	7.64E-07	1.06E-06	9.04E-07	1.06E-06	9.04E-07
Truck Idle	1.90E-04	1.90E-04	3.34E-03	1.19E-03	1.97E-06	1.97E-06	8.21E-07	1.87E-06	1.60E-06	1.79E-06	1.53E-06
Onsite Paved Roads	1.08E-04	1.08E-04	1.21E-02	4.32E-03	4.20E-05	4.20E-05	1.75E-05	6.59E-02	5.64E-02	1.62E-02	1.38E-02
Onsite Unpaved Roads	2.76E-05	2.76E-05	3.10E-03	1.10E-03	1.07E-05	1.07E-05	4.47E-06	3.72E-02	3.18E-02	3.72E-03	3.18E-03

	Emissions (grams per second per square meter)			
Area Sources	**24-hr PM_{10}**	**Annual PM_{10}**	**24-hr $PM_{2.5}$**	**Annual $PM_{2.5}$**
Module 11 Operation Fugitive Dust	9.41E-07	7.31E-07	1.96E-07	1.52E-07
Module 12 Construction Fugitive Dust	1.39E-05	2.21E-06	2.88E-06	4.52E-07
Composting Operation Fugitive Dust	1.33E-07	1.14E-07	6.23E-08	5.32E-08

HARP Area sources

Module	Area Source Size (m^2)	AERMOD Input
Module 6	60,278.88	1.65896E-05
Module 7	71,055.57	1.40735E-05
Module 8	47,837.00	2.09043E-05
Module 9	117,479.77	8.5121E-06
Module 10	110,803.29	9.025E-06
Module 11	96,260.55	1.03885E-05
Module 12	67,073.74	1.4909E-05
Main	716,292.38	1.39608E-06
Compost - 2039	166005.43	6.0239E-06

2039 Total active landfill area	30 year average Total active landfill area
1,220,007.44	1,287,081.18

Note:
Each area source was modeled as 1/area
Long term compost emissions are allocated evenly over the entire landfill footprint

		30 year average	
Diesel PM Exhaust Emissions	**# of sources**	**lb/hr**	**lb/yr**
Compost Operation	Added to modules	No DPM health values for acute health index	8.120E-03
Compost Construction	Added to modules		1.160E-02
Main Landfill Operation	1146		2.788E-02
Module 6 Operation	101		2.788E-02
Module 6 Construction	101		5.554E-01
Module 6 Total			**5.833E-01**
Module 7 Operation	115		2.788E-02
Module 7 Construction	115		3.022E-02
Module 7 Total			**5.810E-02**
Module 8 Operation	81		2.788E-02
Module 8 Construction	81		3.803E-02
Module 8 Total			**6.591E-02**
Module 9 Operation	176		2.788E-02
Module 9 Construction	176		2.376E-02
Module 9 Total			**5.164E-02**
Module 10 Operation	193		2.788E-02
Module 10 Construction	193		2.269E-02
Module 10 Total			**5.057E-02**
Module 11 Operation	155		2.788E-02
Module 11 (construction)	155		2.541E-02
Module 11 Total			**5.329E-02**
Module 12 (operation)	108		2.788E-02
Module 12 (construction)	108		3.142E-02
Module 12 Total			**5.930E-02**
Operation Onsite unpaved	15		7.667E-02
Construction Onsite unpaved	15		9.030E-05
Total Onsite Unpaved			**7.676E-02**
Operation Onsite paved	27		2.999E-01
Construction Onsite paved	27		1.254E-05
Total Onsite Paved			**3.000E-01**
Compost Construction Offsite	150		5.152E-04
Operation Offsite	150		8.152E-02
Construction Offsite	150		2.335E-03
Total Offsite			**8.437E-02**
Idle	22		1.292E-01
Entrance Construction	22		7.262E-01
Entrance Total			**8.554E-01**

Note:
Each individual source was modeled in 1 g/s in AERMOD. Emissions were divided by number of individual sources per source group
Onsite emissions are unpaved source group (OSUP) plus onsite paved (OSP)
Onsite compost operation/construction emissions are allocated over the entire facility
Long term emissions are based on a 30 year average
Diesel PM exhaust does not have acute values therefore short term emissions were not included

HARP Emissions

	Short Term 2039; Long Term 30 year average																					
	Compost		Flare		Per Flare		Total Operation LFG		Main Landfill		Module 6		Module 7		Module 8		Module 9		Module 10		Module 11		Module 12	
	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year	lb/hr	lb/year
Hydrogen sulfide 2	0	0	6.317E-04	3.591E+00	3.158E-04	1.796	8.421E-01	6247.1	4.944E-01	3477	4.161E-02	292.6	4.905E-02	344.9	3.302E-02	232.2	8.109E-02	570.2	7.648E-02	537.8	6.645E-02	467.2	0	325.6
Benzene 2	0	0	5.791E-06	3.293E-02	2.896E-06	0.01646	9.741E-02	722.6	5.719E-02	402.1	4.813E-03	33.84	5.673E-03	39.89	3.819E-03	26.86	9.380E-03	65.95	8.847E-03	62.21	7.685E-03	54.04	0	37.66
Benzylchloride 2	0	0	1.760E-05	1.000E-01	8.798E-06	0.05002	9.228E-03	68.46	5.418E-03	38.10	4.559E-04	3.206	5.375E-04	3.779	3.618E-04	2.544	8.886E-04	6.248	8.381E-04	5.893	7.281E-04	5.120	0	3.567
Chlorobenzene 2	0	0	1.043E-05	5.931E-02	5.216E-06	0.02965	6.910E-03	51.26	4.057E-03	28.53	3.414E-04	2.401	4.025E-04	2.830	2.710E-04	1.905	6.654E-04	4.679	6.276E-04	4.413	5.452E-04	3.834	0	2.671
Dichlorobenzene 2	0	0	2.725E-05	1.549E-01	1.362E-05	0.07746	3.407E-02	252.7	2.000E-02	140.6	1.683E-03	11.84	1.984E-03	13.95	1.336E-03	9.393	3.281E-03	23.07	3.094E-03	21.76	2.688E-03	18.90	0	13.17
31,1-Dichloroethane 2	0	0	9.172E-06	5.215E-02	4.586E-06	0.02607	6.076E-03	45.07	3.567E-03	25.08	3.002E-04	2.111	3.539E-04	2.488	2.382E-04	1.675	5.851E-04	4.114	5.518E-04	3.880	4.794E-04	3.371	0	2.349
1,2-Dichloroethane 2	0	0	9.171E-06	5.214E-02	4.586E-06	0.02607	1.526E-02	113.2	8.962E-03	63.02	7.542E-04	5.303	8.890E-04	6.251	5.985E-04	4.209	1.470E-03	10.34	1.386E-03	9.748	1.204E-03	8.469	0	5.901
1,1-Dichloroethylene 2	0	0	8.984E-06	5.108E-02	4.492E-06	0.02554	5.951E-03	44.15	3.494E-03	24.57	2.940E-04	2.068	3.466E-04	2.437	2.334E-04	1.641	5.731E-04	4.030	5.405E-04	3.801	4.696E-04	3.302	0	2.301
Dichloromethane 2	0	0	1.679E-05	9.548E-02	8.397E-06	0.04774	2.112E-02	156.7	1.240E-02	87.19	1.043E-03	7.337	1.230E-03	8.649	8.281E-04	5.823	2.034E-03	14.30	1.918E-03	13.49	1.666E-03	11.72	0	8.164
1,2-dibromoethane 2	0	0	1.741E-05	9.899E-02	8.705E-06	0.04949	1.153E-02	85.56	6.771E-03	47.61	5.698E-04	4.007	6.717E-04	4.723	4.522E-04	3.180	1.111E-03	7.809	1.047E-03	7.365	9.100E-04	6.399	0	4.459
Perchloroethene 2	0	0	1.229E-05	6.990E-02	6.147E-06	0.03495	3.519E-02	261.0	2.066E-02	145.3	1.739E-03	12.22	2.049E-03	14.41	1.380E-03	9.701	3.388E-03	23.83	3.196E-03	22.47	2.776E-03	19.52	0	13.60
Carbon tetrachloride 2	0	0	1.140E-05	6.484E-02	5.702E-06	0.03242	8.263E-03	61.30	4.851E-03	34.11	4.083E-04	2.871	4.812E-04	3.384	3.240E-04	2.278	7.957E-04	5.595	7.505E-04	5.277	6.520E-04	4.584	0	3.194
Toluene 2	0	0	3.307E-05	1.880E-01	1.654E-05	0.09401	9.262E-01	6871	5.438E-01	3824	4.576E-02	321.8	5.394E-02	379.3	3.632E-02	255.4	8.919E-02	627.1	8.412E-02	591.5	7.308E-02	513.9	0	358.0
1,1,1-trichloroethane 2	0	0	9.891E-06	5.623E-02	4.945E-06	0.02812	7.166E-03	53.16	4.207E-03	29.58	3.541E-04	2.490	4.174E-04	2.935	2.810E-04	1.976	6.900E-04	4.852	6.508E-04	4.576	5.654E-04	3.976	0	2.770
Trichloroethene 2	0	0	9.742E-06	5.539E-02	4.871E-06	0.02769	7.059E-03	52.36	4.144E-03	29.14	3.488E-04	2.452	4.111E-04	2.891	2.768E-04	1.946	6.797E-04	4.779	6.411E-04	4.508	5.569E-04	3.916	0	2.729
Chloroform 2	0	0	8.851E-06	5.032E-02	4.426E-06	0.02516	6.413E-03	47.57	3.765E-03	26.47	3.169E-04	2.228	3.735E-04	2.626	2.515E-04	1.768	6.175E-04	4.342	5.824E-04	4.095	5.060E-04	3.558	0	2.479
Vinyl chloride 2	0	0	5.792E-06	3.293E-02	2.896E-06	0.01647	3.357E-03	24.91	1.971E-03	13.86	1.659E-04	1.166	1.955E-04	1.375	1.316E-04	0.926	3.233E-04	2.273	3.049E-04	2.144	2.649E-04	1.863	0	1.298
m-Xylene 2	0	0	9.839E-06	5.594E-02	4.919E-06	0.02797	5.132E-01	3807	3.013E-01	2119	2.536E-02	178.3	2.989E-02	210.2	2.012E-02	141.5	4.942E-02	347.5	4.661E-02	327.8	4.050E-02	284.8	0	198.4
o+p-Xylene 2	0	0	9.839E-06	5.594E-02	4.919E-06	0.02797	1.479E-01	1097	8.681E-02	610.4	7.306E-03	51.37	8.612E-03	60.56	5.798E-03	40.77	1.424E-02	100.1	1.343E-02	94.43	1.167E-02	82.04	0	57.16
Total Xylenes	0	0	**1.968E-05**	**1.119E-01**	**9.839E-06**	**0.05594**	**6.611E-01**	**4904**	**3.882E-01**	**2729**	**3.266E-02**	**229.7**	**3.850E-02**	**270.7**	**2.592E-02**	**182.3**	**6.366E-02**	**447.6**	**6.004E-02**	**422.2**	**5.216E-02**	**366.8**	**0**	**255.6**
Ammonia	3.08		0	0	0	0	0	23,088	0	12849	0	1081	0	1275	0	858.1	0	2107	0	1988		1727	0	1203

Notes:

1-g= 0.0022 lb

Short term LFG/Flares emissions are based on 2039 (the maxiumum flare emissions year) following the LST methodology

Long term LFG/Flares emissions are based on 30 year average

Chiquita Canyon Landfill EIR

Compost Facility Emissions - Construction and Operation

Source

Supplemental Air Quality Impact Assessment for Chiquita Landfill Compost Operation. SCS Engineers. November, 2016. (SCS, 2016b)

Assumptions:

Construction Schedule:	8	hrs/day
Paving	80	days/year
Grading	80	days/year
Site Preparation	80	days/year

Note: Phase duration based on May-August compost construction schedule provided by CCL and 5 working days per week. Conservatively assumes all phases would occur for the entire 4 months.

Operation Schedule:	2.6	hrs/day (Equipment)
	24	hrs/day (Process)
	6	days/week
	52	weeks/year

Process Emissions (2019 - 2046)

Scenario	Process Rate	VOC EF	Uncontrolled VOC Emissions	Controlled VOC Emissions	Ammonia EF	Uncontrolled Ammonia Emissions	Controlled Ammonia Emissions
	(tpd)	(lb/ton processed)	(lb/day)	(lb/day)	(lb/ton processed)	(lb/day)	(lb/day)
Greater than 10% Foodwaste	560	4.67	2,615	523	0.66	370	74
Less than 10% Foodwaste	560	4.67	2,615	1,663	0.66	370	318

Operation Emissions (2019-2046)

	Exhaust Emissions (lbs/day)						Fugitive Emissions (lbs/day)	
	CO	NOx	ROG	SOx	PM10	PM2.5	PM10	PM2.5
On-Site Operation Sources	15.4	1.75	0.4	0.039	0.054	0.054	4.2204	1.9686

Note: Off-site vechicle travel associated with operation of the compost facility is included with off-site vehicle travel for landfill operation.

Construction Emissions

2019

	Exhaust Emissions (lbs/day)						Fugitive Emissions (lbs/day)	
	CO	NOx	ROG	SOx	PM10	PM2.5	PM10	PM2.5
Paving On-Site Sources	14.3652	14.9353	1.4259	0.0223	0.8094	0.7447	0	0
Paving Off-Site Sources	0.9678	0.0773	0.0515	0.00284	0.00169	0.00157	0.2258	0.0599
Grading On-Site Sources	40.2888	54.1978	4.8912	0.0617	2.5049	2.3045	2.1683	0.8991
Grading Off-Site Sources	1.2903	0.103	0.0687	0.00378	0.00226	0.00209	0.301	0.0798
Site Prep On-Site Sources	34.8088	42.5046	4.0188	0.0391	2.1505	1.9784	4.5166	2.4827
Site Prep Off-Site Sources	1.1613	0.0927	0.0618	0.00341	0.00203	0.00188	0.2709	0.0719
Maximum Day On-Site	89.4628	111.6377	10.3359	0.1231	5.4648	5.0276	6.6849	3.3818
Maximum Day Off-Site	3.4194	0.273	0.182	0.01003	0.00598	0.00554	0.7977	0.2116

Note: Maximum daily emissions assume all phases could overlap.

2028 & 2038

	Exhaust Emissions (lbs/day)						Fugitive Emissions (lbs/day)	
	CO	NOx	ROG	SOx	PM10	PM2.5	PM10	PM2.5
Paving On-Site Sources	16.9276	1.1895	0.2745	0.0223	0.0366	0.0366	0	0
Paving Off-Site Sources	0.9024	0.0717	0.0482	0.00284	0.00168	0.00156	0.2258	0.0599
Grading On-Site Sources	34.7787	3.2778	0.7564	0.0617	0.1009	0.1009	2.1081	0.8926
Grading Off-Site Sources	1.2032	0.0956	0.0642	0.00378	0.00224	0.00208	0.301	0.0798
Site Prep On-Site Sources	21.2415	2.0615	0.4757	0.0391	0.0634	0.0634	4.5166	2.4827
Site Prep Off-Site Sources	1.0829	0.086	0.0578	0.00341	0.00202	0.00187	0.2709	0.0719
Grading On-Site Sources	72.9478	6.5288	1.5066	0.1231	0.2009	0.2009	6.6247	3.3753
Grading Off-Site Sources	3.1885	0.2533	0.1702	0.01003	0.00594	0.00551	0.7977	0.2116

Note: Maximum daily emissions assume all phases could overlap.

Assumptions:
All details for facility construction and EV surface for new entrance construction crew company construction includes current site of the retired building, audio house, and tennis.
Operation of the Proposed Project would ramp up quickly over a one-year period starting January 1, 2017, with full operation beginning in 2018. Number of vehicles for 2017 2018 have been
Vehicle trips are based on the number of vehicles per day.
Worker trips are 1 per day on gravel roads accessed a mile or all paved roads from the nearest.
Trips to the site would be 20 miles for workers and 100 miles for materials.
Travel Time was assumed to occur on the paved and improved roads.
Travel speeds assumed were 25 mph on gravel roads and 45 mph on paved roads to the dump site would be posted at a posted control.

Operating Schedule	Mon-Fri Construction Hours	Saturday Construction Hours	Sunday Construction Hours	Mon-Fri Worker Arrivals	Mon-Fri Worker Departures	Saturday Worker Arrivals	Saturday Worker Departures	Sunday Worker Arrivals	Sunday Worker Departures
Number	10	0	0	07	17	00	00	00	00
Is Construction Occurring During This Period?	Yes	No	No	Yes	Yes	No	No	No	No
Additional	N	N	N	N	N	N	N	N	N
Additional	N	N	N	N	N	N	N	N	N
Holiday	N	N	N	N	N	N	N	N	N

| On Road Vehicles | # Trip Ends | # Trip Ends | # Trip Ends

Chiquita Canyon Landfill EIR
Construction Emissions - Proposed Project Exhaust Emissions

Assumptions: [1]

Construction Schedule:	4	weeks/month
	5	days/week
	10	hrs/day

Additional travel other than equipment operation is minimal and not included in this analysis.
Since construction contractors would be large operators of diesel off-road equipment, all off-road diesel equipment would be compliant with CARB requirements at the time of construction.
After 2020, all off-road diesel construction equipment would meet Tier 4 Final emission standards.

Entrance Construction

Construction Period:	4/1/2018	to	9/30/2018
Number of workers: [2]	20	Duration (weeks):	24

Off Road Equipment Type	Number (ea)	Daily Hours	Annual Days Equipment Used [3]
Demolition			
Scraper - CAT 657	6	10	12
Water Truck - 4000 gal, 3 axle, 58000 gvw	2	8	12
Site Preparation			
Bulldozer - CAT D9, D7	2	8	30
Compactor - CAT 825/835	1	10	20
Trailer Mounted Light Plant	2	8	30
Tractors/Loaders/Backhoes [4, 5]	4	8	20
Rubber Tired Dozers [4, 5]	3	8	30
Water Truck - 4000 gal, 3 axle, 58000 gvw	2	8	30
Grading			
Graders - CAT 14G	2	8	12
Backhoe/Loader - CAT 440	2	8	20
Rubber Tired Dozers [4, 5]	1	8	20
Tractors/Loaders/Backhoes [4, 5]	3	8	20
Graders [4, 5]	1	8	12
Excavators [4, 5]	1	8	12
Water Truck - 4000 gal, 3 axle, 58000 gvw	2	8	20
Berm Construction [6]			
Grader	1	6	62
Tractors/Loaders/Backhoes	1	6	62
Rubber Tired Dozers	1	7	62
Soil Haul Trucks [7]	5	8	62
Water Truck - 4000 gal, 3 axle, 58000 gvw	1	8	62
Building Construction [4,8]			
Cranes	1	4	48
Forklifts	2	6	48
Tractors/Loaders/Backhoes	2	8	48
Water Truck - 4000 gal, 3 axle, 58000 gvw	2	8	48
Paving [9]			
Paver	2	8	10
Cement and Mortar Mixers	1	8	10
Rollers	2	8	10
Tractors/Loaders/Backhoes	1	8	10
Paving Equipment	1	8	10

Chiquita Canyon Landfill EIR
Construction Emissions - Proposed Project Exhaust Emissions

Entrance Construction

Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit
Demolition				
Scraper	Scrapers	1	2018	lb/hr
Water Truck	Off-Highway Trucks	1	2018	lb/hr
Site Preparation				
Bulldozer	Rubber Tired Dozers	1	2018	lb/hr
Compactor	Plate Compactors	1	2018	lb/hr
Trailer Mounted Light Plant	Generator Sets	1	2018	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2018	lb/hr
Bulldozer	Rubber Tired Dozers	1	2018	lb/hr
Water Truck	Off-Highway Trucks	1	2018	lb/hr
Grading				
Graders	Graders	1	2018	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2018	lb/hr
Bulldozer	Rubber Tired Dozers	1	2018	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2018	lb/hr
Graders	Graders	1	2018	lb/hr
Excavator	Excavators	1	2018	lb/hr
Water Truck	Off-Highway Trucks	1	2018	lb/hr
Berm Construction				
Graders	Graders	1	2018	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2018	lb/hr
Bulldozer	Rubber Tired Dozers	1	2018	lb/hr
Haul Truck	Off-Highway Trucks	1	2018	lb/hr
Water Truck	Off-Highway Trucks	1	2018	lb/hr
Building Construction				
Crane	Cranes	1	2018	lb/hr
Forklifts	Forklifts	1	2018	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2018	lb/hr
Water Truck	Off-Highway Trucks	1	2018	lb/hr
Paving				
Paver	Pavers	1	2018	lb/hr
Cement and Mortar Mixer	Cement and Mortar Mixers	1	2018	lb/hr
Roller	Rollers	1	2018	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2018	lb/hr
Paving Equipment	Paving Equipment	1	2018	lb/hr

Chiquita Canyon Landfill EIR
Construction Emissions - Proposed Project

CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
9.16E-01	1.53E+00	2.46E-01	3.15E-03	7.07E-02	6.50E-02	3.21E+02	2.22E-02
5.58E-01	1.34E+00	1.66E-01	2.67E-03	3.51E-02	3.23E-02	2.72E+02	1.49E-02
1.03E+00	9.22E-01	2.53E-01	2.60E-03	7.87E-02	7.24E-02	2.65E+02	2.28E-02
2.63E-02	3.56E-02	5.02E-03	6.71E-05	1.23E-03	1.13E-03	4.31E+00	4.53E-04
4.69E-01	6.58E-01	6.42E-02	9.14E-04	3.33E-02	3.06E-02	7.79E+01	5.79E-03
3.43E-01	3.84E-01	4.35E-02	6.07E-04	1.84E-02	1.69E-02	5.17E+01	3.92E-03
1.03E+00	9.22E-01	2.53E-01	2.60E-03	7.87E-02	7.24E-02	2.65E+02	2.28E-02
5.58E-01	1.34E+00	1.66E-01	2.67E-03	3.51E-02	3.23E-02	2.72E+02	1.49E-02
7.29E-01	6.49E-01	1.06E-01	1.39E-03	3.85E-02	3.54E-02	1.24E+02	9.56E-03
3.43E-01	3.84E-01	4.35E-02	6.07E-04	1.84E-02	1.69E-02	5.17E+01	3.92E-03
1.03E+00	9.22E-01	2.53E-01	2.60E-03	7.87E-02	7.24E-02	2.65E+02	2.28E-02
3.43E-01	3.84E-01	4.35E-02	6.07E-04	1.84E-02	1.69E-02	5.17E+01	3.92E-03
7.29E-01	6.49E-01	1.06E-01	1.39E-03	3.85E-02	3.54E-02	1.24E+02	9.56E-03
6.64E-01	5.87E-01	8.24E-02	1.26E-03	2.64E-02	2.43E-02	1.12E+02	7.43E-03
5.58E-01	1.34E+00	1.66E-01	2.67E-03	3.51E-02	3.23E-02	2.72E+02	1.49E-02
7.29E-01	6.49E-01	1.06E-01	1.39E-03	3.85E-02	3.54E-02	1.24E+02	9.56E-03
3.43E-01	3.84E-01	4.35E-02	6.07E-04	1.84E-02	1.69E-02	5.17E+01	3.92E-03
1.03E+00	9.22E-01	2.53E-01	2.60E-03	7.87E-02	7.24E-02	2.65E+02	2.28E-02
5.58E-01	1.34E+00	1.66E-01	2.67E-03	3.51E-02	3.23E-02	2.72E+02	1.49E-02
5.58E-01	1.34E+00	1.66E-01	2.67E-03	3.51E-02	3.23E-02	2.72E+02	1.49E-02
2.52E-01	5.92E-01	7.87E-02	1.26E-03	2.12E-02	1.95E-02	1.12E+02	7.10E-03
2.12E-01	1.88E-01	2.65E-02	3.66E-04	1.08E-02	9.94E-03	3.12E+01	2.39E-03
3.43E-01	3.84E-01	4.35E-02	6.07E-04	1.84E-02	1.69E-02	5.17E+01	3.92E-03
5.58E-01	1.34E+00	1.66E-01	2.67E-03	3.51E-02	3.23E-02	2.72E+02	1.49E-02
7.63E-01	5.02E-01	1.37E-01	1.44E-03	5.39E-02	4.96E-02	1.28E+02	1.23E-02
3.86E-02	5.22E-02	7.36E-03	9.83E-05	1.82E-03	1.67E-03	6.32E+00	6.64E-04
3.92E-01	3.26E-01	6.80E-02	6.92E-04	3.41E-02	3.14E-02	5.90E+01	6.14E-03
3.43E-01	3.84E-01	4.35E-02	6.07E-04	1.84E-02	1.69E-02	5.17E+01	3.92E-03
5.97E-01	4.47E-01	1.06E-01	1.14E-03	4.24E-02	3.90E-02	1.01E+02	9.59E-03

Entrance Construction

	Hourly Emissions (lb/hr)								
Equipment Type	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO
Demolition									
Scraper	5.499	9.194	1.475	0.019	0.424	0.390	1,929	0.133	54.988
Water Truck	1.116	2.681	0.331	0.005	0.070	0.065	545	0.030	8.925
Site Preparation									
Bulldozer	2.068	1.844	0.506	0.005	0.157	0.145	530	0.046	16.540
Compactor	0.026	0.036	0.005	0.000	0.001	0.001	4	0.000	0.263
Trailer Mounted Light Plant	0.939	1.316	0.128	0.002	0.067	0.061	156	0.012	7.511
Backhoe/Loader	1.370	1.535	0.174	0.002	0.073	0.068	207	0.016	10.964
Bulldozer	3.101	2.766	0.759	0.008	0.236	0.217	795	0.069	24.810
Water Truck	1.116	2.681	0.331	0.005	0.070	0.065	545	0.030	8.925
Grading									
Graders	1.459	1.297	0.212	0.003	0.077	0.071	248	0.019	11.671
Backhoe/Loader	0.685	0.767	0.087	0.001	0.037	0.034	103	0.008	5.482
Bulldozer	1.034	0.922	0.253	0.003	0.079	0.072	265	0.023	8.270
Backhoe/Loader	1.028	1.151	0.130	0.002	0.055	0.051	155	0.012	8.223
Graders	0.729	0.649	0.106	0.001	0.038	0.035	124	0.010	5.835
Excavator	0.664	0.587	0.082	0.001	0.026	0.024	112	0.007	5.313
Water Truck	1.116	2.681	0.331	0.005	0.070	0.065	545	0.030	8.925
Berm Construction									
Graders	0.729	0.649	0.106	0.001	0.038	0.035	124	0.010	4.376
Backhoe/Loader	0.343	0.384	0.043	0.001	0.018	0.017	52	0.004	2.056
Bulldozer	1.034	0.922	0.253	0.003	0.079	0.072	265	0.023	7.236
Haul Truck	2.789	6.702	0.828	0.013	0.176	0.162	1,362	0.075	22.314
Water Truck	0.558	1.340	0.166	0.003	0.035	0.032	272	0.015	4.463
Building Construction									
Crane	0.252	0.592	0.079	0.001	0.021	0.019	112	0.007	1.009
Forklift	0.424	0.377	0.053	0.001	0.022	0.020	62	0.005	2.541
Backhoe/Loader	0.685	0.767	0.087	0.001	0.037	0.034	103	0.008	5.482
Water Truck	1.116	2.681	0.331	0.005	0.070	0.065	545	0.030	8.925
Paving									
Paver	1.526	1.003	0.273	0.003	0.108	0.099	257	0.025	12.212
Cement and Mortar Mixer	0.039	0.052	0.007	0.000	0.002	0.002	6	0.001	0.309
Roller	0.784	0.651	0.136	0.001	0.068	0.063	118	0.012	6.270
Backhoe/Loader	0.343	0.384	0.043	0.001	0.018	0.017	52	0.004	2.741
Paving Equipment	0.597	0.447	0.106	0.001	0.042	0.039	101	0.010	4.777
Total [11]	**14.073**	**21.871**	**3.300**	**0.045**	**0.951**	**0.875**	**4,548**	**0.298**	**109.459**

Daily Emissions (lb/day)							Annual Emissions (lb/yr)							
NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
91.938	14.750	0.189	4.242	3.903	19,286	1.331	659.859	1,103.255	176.999	2.272	50.903	46.830	231,429	15.970
21.447	2.650	0.043	0.562	0.517	4,357	0.239	107.106	257.359	31.798	0.513	6.742	6.203	52,288	2.869
14.752	4.049	0.042	1.259	1.158	4,238	0.365	496.206	442.547	121.471	1.248	37.766	34.744	127,139	10.960
0.356	0.050	0.001	0.012	0.011	43	0.005	5.268	7.129	1.004	0.013	0.246	0.226	863	0.091
10.525	1.027	0.015	0.533	0.490	1,247	0.093	225.323	315.738	30.803	0.439	15.987	14.708	37,416	2.779
12.279	1.392	0.019	0.587	0.540	1,655	0.126	219.278	245.574	27.832	0.388	11.749	10.809	33,106	2.511
22.127	6.074	0.062	1.888	1.737	6,357	0.548	744.308	663.820	182.207	1.872	56.648	52.117	190,708	16.440
21.447	2.650	0.043	0.562	0.517	4,357	0.239	267.765	643.396	79.495	1.283	16.855	15.506	130,720	7.173
10.377	1.695	0.022	0.616	0.567	1,983	0.153	140.047	124.520	20.335	0.268	7.390	6.799	23,793	1.835
6.139	0.696	0.010	0.294	0.270	828	0.063	109.639	122.787	13.916	0.194	5.874	5.404	16,553	1.256
7.376	2.025	0.021	0.629	0.579	2,119	0.183	165.402	147.516	40.490	0.416	12.589	11.581	42,380	3.653
9.209	1.044	0.015	0.441	0.405	1,241	0.094	164.459	184.181	20.874	0.291	8.812	8.107	24,829	1.883
5.188	0.847	0.011	0.308	0.283	991	0.076	70.024	62.260	10.167	0.134	3.695	3.400	11,896	0.917
4.697	0.659	0.010	0.211	0.195	898	0.059	63.751	56.370	7.909	0.121	2.537	2.334	10,773	0.714
21.447	2.650	0.043	0.562	0.517	4,357	0.239	178.510	428.931	52.997	0.855	11.236	10.338	87,147	4.782
3.891	0.635	0.008	0.231	0.212	744	0.057	271.342	241.258	39.398	0.519	14.319	13.173	46,099	3.555
2.302	0.261	0.004	0.110	0.101	310	0.024	127.456	142.740	16.177	0.226	6.829	6.283	19,243	1.460
6.454	1.771	0.018	0.551	0.507	1,854	0.160	448.652	400.136	109.830	1.128	34.146	31.415	114,955	9.910
53.616	6.625	0.107	1.405	1.292	10,893	0.598	1,383.451	3,324.214	410.724	6.629	87.082	80.116	675,388	37.059
10.723	1.325	0.021	0.281	0.258	2,179	0.120	276.690	664.843	82.145	1.326	17.416	16.023	135,078	7.412
2.370	0.315	0.005	0.085	0.078	449	0.028	48.410	113.743	15.103	0.242	4.068	3.743	21,535	1.363
2.260	0.318	0.004	0.130	0.119	375	0.029	121.974	108.497	15.248	0.211	6.222	5.724	17,986	1.376
6.139	0.696	0.010	0.294	0.270	828	0.063	263.134	294.689	33.398	0.466	14.099	12.971	39,727	3.013
21.447	2.650	0.043	0.562	0.517	4,357	0.239	428.424	1,029.434	127.192	2.053	26.967	24.810	209,152	11.476
8.027	2.184	0.023	0.863	0.794	2,053	0.197	122.120	80.268	21.840	0.231	8.631	7.941	20,526	1.971
0.418	0.059	0.001	0.015	0.013	51	0.005	3.087	4.178	0.589	0.008	0.145	0.134	506	0.053
5.212	1.088	0.011	0.546	0.502	944	0.098	62.696	52.115	10.881	0.111	5.456	5.020	9,438	0.982
3.070	0.348	0.005	0.147	0.135	414	0.031	27.410	30.697	3.479	0.049	1.469	1.351	4,138	0.314
3.577	0.850	0.009	0.339	0.312	808	0.077	47.771	35.766	8.500	0.091	3.392	3.121	8,082	0.767
190.371	**28.017**	**0.391**	**7.419**	**6.825**	**39,623**	**2.528**	**7,249.561**	**11,327.960**	**1,712.800**	**23.597**	**479.271**	**440.930**	**2,342,891**	**154.543**

Module 6-12: Excavation and Construction [10]

Number of workers: 40 Duration (weeks): 24

Equipment Type	Number (ea)	Daily Hours	Annual Days Equipment Used [3]
Scraper push/pull - CAT 657 [13]	23	10	72
Scraper elevating - CAT 623	2	10	10
Bulldozer - large - CAT D9	2	8	60
Bulldozer - large - CAT D7	2	8	60
Bulldozer - small - CAT D3	1	8	30
Compactor- CAT 825/835 [13]	1	10	72
Graders - 16G	2	8	40
Backhoe/Loader - CAT 416, 440	2	4	60
Water Truck - 4,000 gal 3 axle 58,000 gvw	3	10	72
Water Wagon - CAT 631G 10,000 gal	1	10	60
Trailer Mounted Light Plant	1	2	60
Wheel tractor - Case 535	1	8	10
Backhoe/Loader - CAT 416	1	8	20
Loader - CAT 966	1	8	20
Off road fork lift - CAT TH83	1	8	10

Chiquita Canyon Landfill EIR
Construction Emissions - Proposed Project Exhaust Emissions

Module 6: Excavation and Construction

Construction Period: 4/1/2017 to 9/30/2017

Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit
Scraper	Scrapers	1	2017	lb/hr
Scraper	Scrapers	1	2017	lb/hr
Bulldozer	Rubber Tired Dozers	1	2017	lb/hr
Bulldozer	Rubber Tired Dozers	1	2017	lb/hr
Bulldozer	Rubber Tired Dozers	1	2017	lb/hr
Compactor	Plate Compactors	1	2017	lb/hr
Graders	Graders	1	2017	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2017	lb/hr
Water Truck	Off-Highway Trucks	1	2017	lb/hr
Water Truck	Off-Highway Trucks	1	2017	lb/hr
Trailer Mounted Light Plant	Generator Sets	1	2017	lb/hr
Tractor	Tractors/Loaders/Backhoes	1	2017	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2017	lb/hr
Loader	Tractors/Loaders/Backhoes	1	2017	lb/hr
Forklifts	Forklifts	1	2017	lb/hr

Module 7: Excavation and Construction

Construction Period: 4/1/2021 to 9/30/2021

Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit
Scraper	Scrapers	1	2021	lb/hr
Scraper	Scrapers	1	2021	lb/hr
Bulldozer	Rubber Tired Dozers	1	2021	lb/hr
Bulldozer	Rubber Tired Dozers	1	2021	lb/hr
Bulldozer	Rubber Tired Dozers	1	2021	lb/hr
Compactor	Plate Compactors	1	2021	lb/hr
Graders	Graders	1	2021	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2021	lb/hr
Water Truck	Off-Highway Trucks	1	2021	lb/hr
Water Truck	Off-Highway Trucks	1	2021	lb/hr
Trailer Mounted Light Plant	Generator Sets	1	2021	lb/hr
Tractor	Tractors/Loaders/Backhoes	1	2021	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2021	lb/hr
Loader	Tractors/Loaders/Backhoes	1	2021	lb/hr
Forklifts	Forklifts	1	2021	lb/hr

Module 8: Excavation and Construction

Construction Period: 4/1/2025 to 9/30/2025

Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit
Scraper	Scrapers	1	2025	lb/hr
Scraper	Scrapers	1	2025	lb/hr

CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
9.60E-01	1.72E+00	2.59E-01	3.15E-03	7.77E-02	7.15E-02	3.21E+02	2.34E-02
9.60E-01	1.72E+00	2.59E-01	3.15E-03	7.77E-02	7.15E-02	3.21E+02	2.34E-02
1.10E+00	1.06E+00	2.66E-01	2.60E-03	8.49E-02	7.81E-02	2.65E+02	2.40E-02
1.10E+00	1.06E+00	2.66E-01	2.60E-03	8.49E-02	7.81E-02	2.65E+02	2.40E-02
1.10E+00	1.06E+00	2.66E-01	2.60E-03	8.49E-02	7.81E-02	2.65E+02	2.40E-02
2.63E-02	3.79E-02	5.02E-03	6.71E-05	1.23E-03	1.13E-03	4.31E+00	4.53E-04
7.30E-01	7.43E-01	1.14E-01	1.39E-03	4.29E-02	3.95E-02	1.24E+02	1.02E-02
3.44E-01	4.40E-01	4.77E-02	6.07E-04	2.17E-02	1.99E-02	5.17E+01	4.30E-03
5.68E-01	1.51E+00	1.75E-01	2.67E-03	3.97E-02	3.65E-02	2.72E+02	1.58E-02
5.68E-01	1.51E+00	1.75E-01	2.67E-03	3.97E-02	3.65E-02	2.72E+02	1.58E-02
4.73E-01	7.54E-01	7.25E-02	9.14E-04	3.81E-02	3.50E-02	7.79E+01	6.54E-03
3.44E-01	4.40E-01	4.77E-02	6.07E-04	2.17E-02	1.99E-02	5.17E+01	4.30E-03
3.44E-01	4.40E-01	4.77E-02	6.07E-04	2.17E-02	1.99E-02	5.17E+01	4.30E-03
3.44E-01	4.40E-01	4.77E-02	6.07E-04	2.17E-02	1.99E-02	5.17E+01	4.30E-03
2.13E-01	2.16E-01	2.87E-02	3.66E-04	1.28E-02	1.17E-02	3.12E+01	2.59E-03

Module 6: Excavation and Construction

	Hourly Emissions (lb/hr)								
Equipment Type	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO
Scraper	22.085	39.648	5.967	0.073	1.787	1.644	7,393	0.538	220.854
Scraper	1.920	3.448	0.519	0.006	0.155	0.143	643	0.047	19.205
Bulldozer	2.194	2.114	0.532	0.005	0.170	0.156	530	0.048	17.556
Bulldozer	2.194	2.114	0.532	0.005	0.170	0.156	530	0.048	17.556
Bulldozer	1.097	1.057	0.266	0.003	0.085	0.078	265	0.024	8.778
Compactor	0.026	0.038	0.005	0.000	0.001	0.001	4	0.000	0.263
Graders	1.460	1.487	0.227	0.003	0.086	0.079	248	0.020	11.682
Backhoe/Loader	0.688	0.879	0.095	0.001	0.043	0.040	103	0.009	2.753
Water Truck	1.703	4.524	0.526	0.008	0.119	0.110	817	0.047	17.029
Water Wagon	0.568	1.508	0.175	0.003	0.040	0.037	272	0.016	5.676
Trailer Mounted Light Plant	0.473	0.754	0.072	0.001	0.038	0.035	78	0.007	0.946
Tractor	0.344	0.440	0.048	0.001	0.022	0.020	52	0.004	2.753
Backhoe/Loader	0.344	0.440	0.048	0.001	0.022	0.020	52	0.004	2.753
Loader	0.344	0.440	0.048	0.001	0.022	0.020	52	0.004	2.753
Forklift	0.213	0.216	0.029	0.000	0.013	0.012	31	0.003	1.700
Total [12]	**35.655**	**59.105**	**9.089**	**0.110**	**2.771**	**2.550**	**11,069**	**0.820**	**332.258**

CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.90E-02
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.90E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.97E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.97E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.97E-02
3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
3.48E-01	4.11E-02	9.49E-03	1.39E-03	1.27E-03	1.27E-03	1.24E+02	7.70E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	3.07E-03
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.28E-02
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.28E-02
5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	4.11E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	3.07E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	3.07E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	3.07E-03
1.45E-01	1.02E-02	2.35E-03	3.66E-04	3.14E-04	3.14E-04	3.12E+01	1.87E-03

Module 7: Excavation and Construction

	Hourly Emissions (lb/hr)								
Equipment Type	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO
Scraper	19.384	2.291	0.529	0.073	0.070	0.070	7,393	0.436	193.836
Scraper	1.686	0.199	0.046	0.006	0.006	0.006	643	0.038	16.855
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.039	7.915
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.039	7.915
Bulldozer	0.495	0.058	0.013	0.003	0.002	0.002	265	0.020	3.958
Compactor	0.031	0.021	0.001	0.000	0.000	0.000	4	0.000	0.311
Graders	0.696	0.082	0.019	0.003	0.003	0.003	248	0.015	5.568
Backhoe/Loader	0.592	0.042	0.010	0.001	0.001	0.001	103	0.006	2.366
Water Truck	2.212	0.261	0.060	0.008	0.008	0.008	817	0.038	22.117
Water Wagon	0.737	0.087	0.020	0.003	0.003	0.003	272	0.013	7.372
Trailer Mounted Light Plant	0.507	0.036	0.008	0.001	0.001	0.001	78	0.004	1.014
Tractor	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Backhoe/Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Forklift	0.145	0.010	0.002	0.000	0.000	0.000	31	0.002	1.162
Total [12]	**29.350**	**3.384**	**0.777**	**0.110**	**0.104**	**0.104**	**11,069**	**0.661**	**277.489**

CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02

Module 8: Excavation and Construction

	Hourly Emissions (lb/hr)								
Equipment Type	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO
Scraper	19.384	2.291	0.529	0.073	0.070	0.070	7,393	0.364	193.836
Scraper	1.686	0.199	0.046	0.006	0.006	0.006	643	0.032	16.855

Daily Emissions (lb/day)							Annual Emissions (lb/yr)							
NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
396.482	59.672	0.726	17.865	16.436	73,929	5.384	15,901.456	28,546.732	4,296.409	52.246	1,286.282	1,183.379	5,322,856	387.658
34.477	5.189	0.063	1.553	1.429	6,429	0.468	192.047	344.767	51.889	0.631	15.535	14.292	64,286	4.682
16.910	4.256	0.042	1.359	1.250	4,238	0.384	1,053.345	1,014.619	255.371	2.496	81.513	74.992	254,278	23.042
16.910	4.256	0.042	1.359	1.250	4,238	0.384	1,053.345	1,014.619	255.371	2.496	81.513	74.992	254,278	23.042
8.455	2.128	0.021	0.679	0.625	2,119	0.192	263.336	253.655	63.843	0.624	20.378	18.748	63,569	5.760
0.379	0.050	0.001	0.012	0.011	43	0.005	18.965	27.302	3.615	0.048	0.884	0.814	3,106	0.326
11.895	1.817	0.022	0.687	0.632	1,983	0.164	467.288	475.810	72.666	0.892	27.480	25.282	79,310	6.557
3.517	0.382	0.005	0.173	0.159	414	0.034	165.204	211.040	22.902	0.291	10.396	9.564	24,829	2.066
45.239	5.260	0.080	1.191	1.096	8,170	0.475	1,226.070	3,257.194	378.690	5.774	85.754	78.894	588,241	34.169
15.080	1.753	0.027	0.397	0.365	2,723	0.158	340.575	904.776	105.192	1.604	23.821	21.915	163,400	9.491
1.507	0.145	0.002	0.076	0.070	156	0.013	56.740	90.446	8.697	0.110	4.572	4.206	9,354	0.785
3.517	0.382	0.005	0.173	0.159	414	0.034	27.534	35.173	3.817	0.049	1.733	1.594	4,138	0.344
3.517	0.382	0.005	0.173	0.159	414	0.034	55.068	70.347	7.634	0.097	3.465	3.188	8,276	0.689
3.517	0.382	0.005	0.173	0.159	414	0.034	55.068	70.347	7.634	0.097	3.465	3.188	8,276	0.689
1.727	0.230	0.003	0.102	0.094	250	0.021	17.003	17.267	2.299	0.029	1.021	0.940	2,498	0.207
563.131	**86.283**	**1.047**	**25.974**	**23.896**	**105,932**	**7.785**	**20,893.043**	**36,334.094**	**5,536.029**	**67.483**	**1,647.813**	**1,515.988**	**6,850,696**	**499.507**

Daily Emissions (lb/day)							Annual Emissions (lb/yr)							
NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
22.908	5.286	0.726	0.705	0.705	73,929	4.362	13,956.208	1,649.370	380.624	52.246	50.750	50.750	5,322,857	314.052
1.992	0.460	0.063	0.061	0.061	6,429	0.379	168.553	19.920	4.597	0.631	0.613	0.613	64,286	3.793
0.935	0.216	0.042	0.029	0.029	4,238	0.315	474.929	56.128	12.953	2.496	1.727	1.727	254,278	18.903
0.935	0.216	0.042	0.029	0.029	4,238	0.315	474.929	56.128	12.953	2.496	1.727	1.727	254,278	18.903
0.468	0.108	0.021	0.014	0.014	2,119	0.158	118.732	14.032	3.238	0.624	0.432	0.432	63,569	4.726
0.209	0.009	0.001	0.001	0.001	43	0.005	22.388	15.016	0.655	0.048	0.044	0.044	3,106	0.326
0.658	0.152	0.022	0.020	0.020	1,983	0.123	222.720	26.321	6.074	0.892	0.810	0.810	79,310	4.930
0.166	0.038	0.005	0.005	0.005	414	0.025	141.973	9.976	2.302	0.291	0.307	0.307	24,829	1.473
2.614	0.603	0.080	0.080	0.080	8,170	0.383	1,592.409	188.194	43.429	5.774	5.791	5.791	588,241	27.578
0.871	0.201	0.027	0.027	0.027	2,723	0.128	442.336	52.276	12.064	1.604	1.608	1.608	163,400	7.661
0.071	0.016	0.002	0.002	0.002	156	0.008	60.846	4.276	0.987	0.110	0.132	0.132	9,354	0.493
0.166	0.038	0.005	0.005	0.005	414	0.025	23.662	1.663	0.384	0.049	0.051	0.051	4,138	0.246
0.166	0.038	0.005	0.005	0.005	414	0.025	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.491
0.166	0.038	0.005	0.005	0.005	414	0.025	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.491
0.082	0.019	0.003	0.003	0.003	250	0.015	11.616	0.816	0.188	0.029	0.025	0.025	2,498	0.150
32.408	**7.440**	**1.047**	**0.991**	**0.991**	**105,932**	**6.289**	**17,805.949**	**2,100.767**	**481.982**	**67.483**	**64.221**	**64.221**	**6,850,697**	**404.215**

Daily Emissions (lb/day)							Annual Emissions (lb/yr)							
NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
22.908	5.286	0.726	0.705	0.705	73,929	3.643	13,956.208	1,649.370	380.624	52.246	50.750	50.750	5,322,854	262.279
1.992	0.460	0.063	0.061	0.061	6,429	0.317	168.553	19.920	4.597	0.631	0.613	0.613	64,286	3.168

Chiquita Canyon Landfill EIR
Construction Emissions - Proposed Project Exhaust Emissions

Bulldozer	Rubber Tired Dozers	1	2025	lb/hr
Bulldozer	Rubber Tired Dozers	1	2025	lb/hr
Bulldozer	Rubber Tired Dozers	1	2025	lb/hr
Compactor	Plate Compactors	1	2025	lb/hr
Graders	Graders	1	2025	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2025	lb/hr
Water Truck	Off-Highway Trucks	1	2025	lb/hr
Water Truck	Off-Highway Trucks	1	2025	lb/hr
Trailer Mounted Light Plant	Generator Sets	1	2025	lb/hr
Tractor	Tractors/Loaders/Backhoes	1	2025	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2025	lb/hr
Loader	Tractors/Loaders/Backhoes	1	2025	lb/hr
Forklifts	Forklifts	1	2025	lb/hr

Module 9: Excavation and Construction

Construction Period: 4/1/2029 to 9/30/2029

Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit
Scraper	Scrapers	1	2029	lb/hr
Scraper	Scrapers	1	2029	lb/hr
Bulldozer	Rubber Tired Dozers	1	2029	lb/hr
Bulldozer	Rubber Tired Dozers	1	2029	lb/hr
Bulldozer	Rubber Tired Dozers	1	2029	lb/hr
Compactor	Plate Compactors	1	2029	lb/hr
Graders	Graders	1	2029	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2029	lb/hr
Water Truck	Off-Highway Trucks	1	2029	lb/hr
Water Truck	Off-Highway Trucks	1	2029	lb/hr
Trailer Mounted Light Plant	Generator Sets	1	2029	lb/hr
Tractor	Tractors/Loaders/Backhoes	1	2029	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2029	lb/hr
Loader	Tractors/Loaders/Backhoes	1	2029	lb/hr
Forklifts	Forklifts	1	2029	lb/hr

Module 10: Excavation and Construction

Construction Period: 4/1/2033 to 9/30/2033

Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit
Scraper	Scrapers	1	2033	lb/hr
Scraper	Scrapers	1	2033	lb/hr
Bulldozer	Rubber Tired Dozers	1	2033	lb/hr
Bulldozer	Rubber Tired Dozers	1	2033	lb/hr
Bulldozer	Rubber Tired Dozers	1	2033	lb/hr
Compactor	Plate Compactors	1	2033	lb/hr
Graders	Graders	1	2033	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2033	lb/hr
Water Truck	Off-Highway Trucks	1	2033	lb/hr
Water Truck	Off-Highway Trucks	1	2033	lb/hr

4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
3.48E-01	4.11E-02	9.49E-03	1.39E-03	1.27E-03	1.27E-03	1.24E+02	5.88E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.06E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
1.45E-01	1.02E-02	2.35E-03	3.66E-04	3.14E-04	3.14E-04	3.12E+01	1.52E-03

Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.495	0.058	0.013	0.003	0.002	0.002	265	0.016	3.958
Compactor	0.031	0.021	0.001	0.000	0.000	0.000	4	0.000	0.311
Graders	0.696	0.082	0.019	0.003	0.003	0.003	248	0.012	5.568
Backhoe/Loader	0.592	0.042	0.010	0.001	0.001	0.001	103	0.005	2.366
Water Truck	2.212	0.261	0.060	0.008	0.008	0.008	817	0.032	22.117
Water Wagon	0.737	0.087	0.020	0.003	0.003	0.003	272	0.011	7.372
Trailer Mounted Light Plant	0.507	0.036	0.008	0.001	0.001	0.001	78	0.003	1.014
Tractor	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Backhoe/Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Forklifts	0.145	0.010	0.002	0.000	0.000	0.000	31	0.002	1.162
Total [12]	**29.350**	**3.384**	**0.777**	**0.110**	**0.104**	**0.104**	**11,069**	**0.550**	**277.489**

Module 9: Excavation and Construction

CO	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**CO_2**	**CH_4**
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
3.48E-01	4.11E-02	9.49E-03	1.39E-03	1.27E-03	1.27E-03	1.24E+02	5.88E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.06E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
1.45E-01	1.02E-02	2.35E-03	3.66E-04	3.14E-04	3.14E-04	3.12E+01	1.52E-03

	Hourly Emissions (lb/hr)								
Equipment Type	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**CO_2**	**CH_4**	**CO**
Scraper	19.384	2.291	0.529	0.073	0.070	0.070	7,393	0.364	193.836
Scraper	1.686	0.199	0.046	0.006	0.006	0.006	643	0.032	16.855
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.495	0.058	0.013	0.003	0.002	0.002	265	0.016	3.958
Compactor	0.031	0.021	0.001	0.000	0.000	0.000	4	0.000	0.311
Graders	0.696	0.082	0.019	0.003	0.003	0.003	248	0.012	5.568
Backhoe/Loader	0.592	0.042	0.010	0.001	0.001	0.001	103	0.005	2.366
Water Truck	2.212	0.261	0.060	0.008	0.008	0.008	817	0.032	22.117
Water Wagon	0.737	0.087	0.020	0.003	0.003	0.003	272	0.011	7.372
Trailer Mounted Light Plant	0.507	0.036	0.008	0.001	0.001	0.001	78	0.003	1.014
Tractor	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Backhoe/Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Forklift	0.145	0.010	0.002	0.000	0.000	0.000	31	0.002	1.162
Total [12]	**29.350**	**3.384**	**0.777**	**0.110**	**0.104**	**0.104**	**11,069**	**0.550**	**277.489**

Module 10: Excavation and Construction

CO	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**CO_2**	**CH_4**
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
3.48E-01	4.11E-02	9.49E-03	1.39E-03	1.27E-03	1.27E-03	1.24E+02	5.88E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02

	Hourly Emissions (lb/hr)								
Equipment Type	**CO**	**NOx**	**ROG**	**SOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**	**CO_2**	**CH_4**	**CO**
Scraper	19.384	2.291	0.529	0.073	0.070	0.070	7,393	0.364	193.836
Scraper	1.686	0.199	0.046	0.006	0.006	0.006	643	0.032	16.855
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.495	0.058	0.013	0.003	0.002	0.002	265	0.016	3.958
Compactor	0.031	0.021	0.001	0.000	0.000	0.000	4	0.000	0.311
Graders	0.696	0.082	0.019	0.003	0.003	0.003	248	0.012	5.568
Backhoe/Loader	0.592	0.042	0.010	0.001	0.001	0.001	103	0.005	2.366
Water Truck	2.212	0.261	0.060	0.008	0.008	0.008	817	0.032	22.117
Water Wagon	0.737	0.087	0.020	0.003	0.003	0.003	272	0.011	7.372

0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.468	0.108	0.021	0.014	0.014	2,119	0.131	118.732	14.032	3.238	0.624	0.432	0.432	63,569	3.936
0.209	0.009	0.001	0.001	0.001	43	0.005	22.388	15.016	0.655	0.048	0.044	0.044	3,106	0.326
0.658	0.152	0.022	0.020	0.020	1,983	0.094	222.720	26.321	6.074	0.892	0.810	0.810	79,310	3.763
0.166	0.038	0.005	0.005	0.005	414	0.020	141.973	9.976	2.302	0.291	0.307	0.307	24,829	1.216
2.614	0.603	0.080	0.080	0.080	8,170	0.320	1,592.409	188.194	43.429	5.774	5.791	5.791	588,241	23.060
0.871	0.201	0.027	0.027	0.027	2,723	0.107	442.336	52.276	12.064	1.604	1.608	1.608	163,400	6.406
0.071	0.016	0.002	0.002	0.002	156	0.006	60.846	4.276	0.987	0.110	0.132	0.132	9,354	0.368
0.166	0.038	0.005	0.005	0.005	414	0.020	23.662	1.663	0.384	0.049	0.051	0.051	4,138	0.203
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.082	0.019	0.003	0.003	0.003	250	0.012	11.616	0.816	0.188	0.029	0.025	0.025	2,498	0.122
32.408	**7.440**	**1.047**	**0.991**	**0.991**	**105,932**	**5.240**	**17,805.949**	**2,100.767**	**481.982**	**67.483**	**64.221**	**64.221**	**6,850,694**	**337.142**

Daily Emissions (lb/day)							Annual Emissions (lb/yr)							
NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
22.908	5.286	0.726	0.705	0.705	73,929	3.643	13,956.208	1,649.370	380.624	52.246	50.750	50.750	5,322,854	262.279
1.992	0.460	0.063	0.061	0.061	6,429	0.317	168.553	19.920	4.597	0.631	0.613	0.613	64,286	3.168
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.468	0.108	0.021	0.014	0.014	2,119	0.131	118.732	14.032	3.238	0.624	0.432	0.432	63,569	3.936
0.209	0.009	0.001	0.001	0.001	43	0.005	22.388	15.016	0.655	0.048	0.044	0.044	3,106	0.326
0.658	0.152	0.022	0.020	0.020	1,983	0.094	222.720	26.321	6.074	0.892	0.810	0.810	79,310	3.763
0.166	0.038	0.005	0.005	0.005	414	0.020	141.973	9.976	2.302	0.291	0.307	0.307	24,829	1.216
2.614	0.603	0.080	0.080	0.080	8,170	0.320	1,592.409	188.194	43.429	5.774	5.791	5.791	588,241	23.060
0.871	0.201	0.027	0.027	0.027	2,723	0.107	442.336	52.276	12.064	1.604	1.608	1.608	163,400	6.406
0.071	0.016	0.002	0.002	0.002	156	0.006	60.846	4.276	0.987	0.110	0.132	0.132	9,354	0.368
0.166	0.038	0.005	0.005	0.005	414	0.020	23.662	1.663	0.384	0.049	0.051	0.051	4,138	0.203
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.082	0.019	0.003	0.003	0.003	250	0.012	11.616	0.816	0.188	0.029	0.025	0.025	2,498	0.122
32.408	**7.440**	**1.047**	**0.991**	**0.991**	**105,932**	**5.240**	**17,805.949**	**2,100.767**	**481.982**	**67.483**	**64.221**	**64.221**	**6,850,694**	**337.142**

Daily Emissions (lb/day)							Annual Emissions (lb/yr)							
NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
22.908	5.286	0.726	0.705	0.705	73,929	3.643	13,956.208	1,649.370	380.624	52.246	50.750	50.750	5,322,854	262.279
1.992	0.460	0.063	0.061	0.061	6,429	0.317	168.553	19.920	4.597	0.631	0.613	0.613	64,286	3.168
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.468	0.108	0.021	0.014	0.014	2,119	0.131	118.732	14.032	3.238	0.624	0.432	0.432	63,569	3.936
0.209	0.009	0.001	0.001	0.001	43	0.005	22.388	15.016	0.655	0.048	0.044	0.044	3,106	0.326
0.658	0.152	0.022	0.020	0.020	1,983	0.094	222.720	26.321	6.074	0.892	0.810	0.810	79,310	3.763
0.166	0.038	0.005	0.005	0.005	414	0.020	141.973	9.976	2.302	0.291	0.307	0.307	24,829	1.216
2.614	0.603	0.080	0.080	0.080	8,170	0.320	1,592.409	188.194	43.429	5.774	5.791	5.791	588,241	23.060
0.871	0.201	0.027	0.027	0.027	2,723	0.107	442.336	52.276	12.064	1.604	1.608	1.608	163,400	6.406

Chiquita Canyon Landfill EIR
Construction Emissions - Proposed Project Exhaust Emissions

Trailer Mounted Light Plant	Generator Sets	1	2033	lb/hr
Tractor	Tractors/Loaders/Backhoes	1	2033	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2033	lb/hr
Loader	Tractors/Loaders/Backhoes	1	2033	lb/hr
Forklifts	Forklifts	1	2033	lb/hr

Module 11: Excavation and Construction

Construction Period: 4/1/2037 to 9/30/2037

Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit
Scraper	Scrapers	1	2037	lb/hr
Scraper	Scrapers	1	2037	lb/hr
Bulldozer	Rubber Tired Dozers	1	2037	lb/hr
Bulldozer	Rubber Tired Dozers	1	2037	lb/hr
Bulldozer	Rubber Tired Dozers	1	2037	lb/hr
Compactor	Plate Compactors	1	2037	lb/hr
Graders	Graders	1	2037	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2037	lb/hr
Water Truck	Off-Highway Trucks	1	2037	lb/hr
Water Truck	Off-Highway Trucks	1	2037	lb/hr
Trailer Mounted Light Plant	Generator Sets	1	2037	lb/hr
Tractor	Tractors/Loaders/Backhoes	1	2037	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2037	lb/hr
Loader	Tractors/Loaders/Backhoes	1	2037	lb/hr
Forklifts	Forklifts	1	2037	lb/hr

Module 12: Excavation and Construction

Construction Period: 4/1/2041 to 9/30/2041

Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit
Scraper	Scrapers	1	2041	lb/hr
Scraper	Scrapers	1	2041	lb/hr
Bulldozer	Rubber Tired Dozers	1	2041	lb/hr
Bulldozer	Rubber Tired Dozers	1	2041	lb/hr
Bulldozer	Rubber Tired Dozers	1	2041	lb/hr
Compactor	Plate Compactors	1	2041	lb/hr
Graders	Graders	1	2041	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2041	lb/hr
Water Truck	Off-Highway Trucks	1	2041	lb/hr
Water Truck	Off-Highway Trucks	1	2041	lb/hr
Trailer Mounted Light Plant	Generator Sets	1	2041	lb/hr
Tractor	Tractors/Loaders/Backhoes	1	2041	lb/hr
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2041	lb/hr
Loader	Tractors/Loaders/Backhoes	1	2041	lb/hr
Forklifts	Forklifts	1	2041	lb/hr

5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.06E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
1.45E-01	1.02E-02	2.35E-03	3.66E-04	3.14E-04	3.14E-04	3.12E+01	1.52E-03

Trailer Mounted Light Plant	0.507	0.036	0.008	0.001	0.001	0.001	78	0.003	1.014
Tractor	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Backhoe/Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Forklift	0.145	0.010	0.002	0.000	0.000	0.000	31	0.002	1.162
Total [12]	**29.350**	**3.384**	**0.777**	**0.110**	**0.104**	**0.104**	**11,069**	**0.550**	**277.489**

Module 11: Excavation and Construction

CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
3.48E-01	4.11E-02	9.49E-03	1.39E-03	1.27E-03	1.27E-03	1.24E+02	5.88E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.06E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
1.45E-01	1.02E-02	2.35E-03	3.66E-04	3.14E-04	3.14E-04	3.12E+01	1.52E-03

	Hourly Emissions (lb/hr)								
Equipment Type	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO
Scraper	19.384	2.291	0.529	0.073	0.070	0.070	7,393	0.364	193.836
Scraper	1.686	0.199	0.046	0.006	0.006	0.006	643	0.032	16.855
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.495	0.058	0.013	0.003	0.002	0.002	265	0.016	3.958
Compactor	0.031	0.021	0.001	0.000	0.000	0.000	4	0.000	0.311
Graders	0.696	0.082	0.019	0.003	0.003	0.003	248	0.012	5.568
Backhoe/Loader	0.592	0.042	0.010	0.001	0.001	0.001	103	0.005	2.366
Water Truck	2.212	0.261	0.060	0.008	0.008	0.008	817	0.032	22.117
Water Wagon	0.737	0.087	0.020	0.003	0.003	0.003	272	0.011	7.372
Trailer Mounted Light Plant	0.507	0.036	0.008	0.001	0.001	0.001	78	0.003	1.014
Tractor	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Backhoe/Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Forklift	0.145	0.010	0.002	0.000	0.000	0.000	31	0.002	1.162
Total [12]	**29.350**	**3.384**	**0.777**	**0.110**	**0.104**	**0.104**	**11,069**	**0.550**	**277.489**

CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
3.48E-01	4.11E-02	9.49E-03	1.39E-03	1.27E-03	1.27E-03	1.24E+02	5.88E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.06E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
2.96E-01	2.08E-02	4.80E-03	6.07E-04	6.40E-04	6.40E-04	5.17E+01	2.53E-03
1.45E-01	1.02E-02	2.35E-03	3.66E-04	3.14E-04	3.14E-04	3.12E+01	1.52E-03

	Hourly Emissions (lb/hr)								
Equipment Type	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO
Scraper	19.384	2.291	0.529	0.073	0.070	0.070	7,393	0.364	193.836
Scraper	1.686	0.199	0.046	0.006	0.006	0.006	643	0.032	16.855
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.989	0.117	0.027	0.005	0.004	0.004	530	0.033	7.915
Bulldozer	0.495	0.058	0.013	0.003	0.002	0.002	265	0.016	3.958
Compactor	0.031	0.021	0.001	0.000	0.000	0.000	4	0.000	0.311
Graders	0.696	0.082	0.019	0.003	0.003	0.003	248	0.012	5.568
Backhoe/Loader	0.592	0.042	0.010	0.001	0.001	0.001	103	0.005	2.366
Water Truck	2.212	0.261	0.060	0.008	0.008	0.008	817	0.032	22.117
Water Wagon	0.737	0.087	0.020	0.003	0.003	0.003	272	0.011	7.372
Trailer Mounted Light Plant	0.507	0.036	0.008	0.001	0.001	0.001	78	0.003	1.014
Tractor	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Backhoe/Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Loader	0.296	0.021	0.005	0.001	0.001	0.001	52	0.003	2.366
Forklift	0.145	0.010	0.002	0.000	0.000	0.000	31	0.002	1.162
Total [12]	**29.350**	**3.384**	**0.777**	**0.110**	**0.104**	**0.104**	**11,069**	**0.550**	**277.489**

0.071	0.016	0.002	0.002	0.002	156	0.006	60.846	4.276	0.987	0.110	0.132	0.132	9,354	0.368
0.166	0.038	0.005	0.005	0.005	414	0.020	23.662	1.663	0.384	0.049	0.051	0.051	4,138	0.203
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.082	0.019	0.003	0.003	0.003	250	0.012	11.616	0.816	0.188	0.029	0.025	0.025	2,498	0.122
32.408	**7.440**	**1.047**	**0.991**	**0.991**	**105,932**	**5.240**	**17,805.949**	**2,100.767**	**481.982**	**67.483**	**64.221**	**64.221**	**6,850,694**	**337.142**

Daily Emissions (lb/day)							Annual Emissions (lb/yr)							
NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
22.908	5.286	0.726	0.705	0.705	73,929	3.643	13,956.208	1,649.370	380.624	52.246	50.750	50.750	5,322,854	262.279
1.992	0.460	0.063	0.061	0.061	6,429	0.317	168.553	19.920	4.597	0.631	0.613	0.613	64,286	3.168
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.468	0.108	0.021	0.014	0.014	2,119	0.131	118.732	14.032	3.238	0.624	0.432	0.432	63,569	3.936
0.209	0.009	0.001	0.001	0.001	43	0.005	22.388	15.016	0.655	0.048	0.044	0.044	3,106	0.326
0.658	0.152	0.022	0.020	0.020	1,983	0.094	222.720	26.321	6.074	0.892	0.810	0.810	79,310	3.763
0.166	0.038	0.005	0.005	0.005	414	0.020	141.973	9.976	2.302	0.291	0.307	0.307	24,829	1.216
2.614	0.603	0.080	0.080	0.080	8,170	0.320	1,592.409	188.194	43.429	5.774	5.791	5.791	588,241	23.060
0.871	0.201	0.027	0.027	0.027	2,723	0.107	442.336	52.276	12.064	1.604	1.608	1.608	163,400	6.406
0.071	0.016	0.002	0.002	0.002	156	0.006	60.846	4.276	0.987	0.110	0.132	0.132	9,354	0.368
0.166	0.038	0.005	0.005	0.005	414	0.020	23.662	1.663	0.384	0.049	0.051	0.051	4,138	0.203
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.082	0.019	0.003	0.003	0.003	250	0.012	11.616	0.816	0.188	0.029	0.025	0.025	2,498	0.122
32.408	**7.440**	**1.047**	**0.991**	**0.991**	**105,932**	**5.240**	**17,805.949**	**2,100.767**	**481.982**	**67.483**	**64.221**	**64.221**	**6,850,694**	**337.142**

Daily Emissions (lb/day)							Annual Emissions (lb/yr)							
NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
22.908	5.286	0.726	0.705	0.705	73,929	3.643	13,956.208	1,649.370	380.624	52.246	50.750	50.750	5,322,854	262.279
1.992	0.460	0.063	0.061	0.061	6,429	0.317	168.553	19.920	4.597	0.631	0.613	0.613	64,286	3.168
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.935	0.216	0.042	0.029	0.029	4,238	0.262	474.929	56.128	12.953	2.496	1.727	1.727	254,278	15.743
0.468	0.108	0.021	0.014	0.014	2,119	0.131	118.732	14.032	3.238	0.624	0.432	0.432	63,569	3.936
0.209	0.009	0.001	0.001	0.001	43	0.005	22.388	15.016	0.655	0.048	0.044	0.044	3,106	0.326
0.658	0.152	0.022	0.020	0.020	1,983	0.094	222.720	26.321	6.074	0.892	0.810	0.810	79,310	3.763
0.166	0.038	0.005	0.005	0.005	414	0.020	141.973	9.976	2.302	0.291	0.307	0.307	24,829	1.216
2.614	0.603	0.080	0.080	0.080	8,170	0.320	1,592.409	188.194	43.429	5.774	5.791	5.791	588,241	23.060
0.871	0.201	0.027	0.027	0.027	2,723	0.107	442.336	52.276	12.064	1.604	1.608	1.608	163,400	6.406
0.071	0.016	0.002	0.002	0.002	156	0.006	60.846	4.276	0.987	0.110	0.132	0.132	9,354	0.368
0.166	0.038	0.005	0.005	0.005	414	0.020	23.662	1.663	0.384	0.049	0.051	0.051	4,138	0.203
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.166	0.038	0.005	0.005	0.005	414	0.020	47.324	3.325	0.767	0.097	0.102	0.102	8,276	0.405
0.082	0.019	0.003	0.003	0.003	250	0.012	11.616	0.816	0.188	0.029	0.025	0.025	2,498	0.122
32.408	**7.440**	**1.047**	**0.991**	**0.991**	**105,932**	**5.240**	**17,805.949**	**2,100.767**	**481.982**	**67.483**	**64.221**	**64.221**	**6,850,694**	**337.142**

Chiquita Canyon Landfill EIR
Construction Emissions - Proposed Project Exhaust Emissions

Reference: Data (Equipment Type, Number, Hours of Operation, Daily Hours Used, Number of Workers) Provided by Mike Dean on 7-20-2011 to Brenda Eells via e-mail. Schedule information provided by CCL team via email from Brenda Eells/CH2M on 8/13/15 (CCL - construction operation schedule and information.msg).
[1] Unless otherwise noted, the total number of annual days equipment are used is based on data provided by CCL on 7/2011.
[2] The number of workers were estimated by summing the value provided by CCL for the new paved road entrance (10) and the default derived from Appendix A of the CalEEMod User's Guide, which assumes 1.25 workers per construction equipment during site preparation, grading, and paving and 0.42 worker trips per 1,000 square feet during building construction.
[3] It is assumed that a water truck is used every day of construction except for during paving activities.
[4] Equipment type, quantity, and daily hours of operation added to values provided by CCL for the construction of parking, administration building, and scale house. Values are based on default data in Table 3.2 of Appendix D of the CalEEMod User's Guide, 2011 based on the total project area (5.9 acres) and building area (0.5 acres).
[5] Site Preparation, Grading, and Paving duration is assumed equal to the CCL-provided durations for similar equipment. These durations are generally consistent with the CalEEMod defaults from Table 3.1 of Appendix D of the CalEEMod User's Guide, 2011 (scaled to fit a 6-month schedule).
[6] Berm Construction: assumed to occur simultaneously with the Demolition, Site Preparation, and Grading phases for a total of 62 days. Duration is generally consistent with the default duration in URBEMIS 2007, based on the berm area (2.7 acres). Equipment type, quantity, and daily hours of operation for the Berm Construction phase taken as the default from URBEMIS 2007, based on the berm area and a cut / fill volume of 48,811 cy.
[7] Assuming a truck haul capacity of 20 cy/truck, and the berm construction duration, 40 soil haul truck trips will need to occur each day during Berm Construction. It was assumed that 1 truck would make up to 5 trips per hour of operation to accomplish this task.
[8] Assuming activities occur sequentially, the total number of annual days equipment are used during Building Construction was assumed to be the difference between the total Entrance Construction duration and the durations of the other phases. This duration is approximately half of that derived from the CalEEMod default from Table 3.1 of Appendix D of the CalEEMod User's Guide, 2011 (scaled to fit a 6-month schedule), which is reasonable given the simple nature of these buildings.
[9] Two weeks to pave the new entrance road per CCL meeting on 3/29/12. Equipment type, quantity, and daily hours of operation for the Paving phase taken from Table 3.2 of Appendix D of the CalEEMod User's Guide, 2011 based on the parking area of 116,875 square feet (2.7 acres), which was estimated from Figure 2-1 as the unused land surrounding the Administration Building, plus 1 paver used for the construction entrance as per CCL.
[10] Typical cell construction based on Module 9; 2,965,000 cy total excavation per module.
[11] Entrance Construction total daily emissions and total hourly emissions are the maximum emissions given the assumed schedule (i.e., that all phases occur sequentially except for Berm Construction, which occurs simultaneously with Demolition, Site Preparation, and Grading). The total annual emissions represent the sum of all construction activities occurring within the year.
[12] Module Construction Total Emissions: To provide flexibility, the total hourly, total daily, and total annual emissions are calculated assuming all equipment can be used at the same time.
[13] Cell construction limited from 12 hours per day to 10 hours per day. Days of equipment use increased to keep total hours of equipment use consistent with estimate provided.

Chiquita Canyon Landfill EIR
Operation Emissions - Proposed Project Exhaust Emissions

Assumptions:

Equipment for Operation During:	2017 - 2046	
Operation Schedule:	52	weeks/yr
	6	days/week
	10	hrs/day

All off-road diesel equipment used for operation will meet Tier 4 Final emission standards unless otherwise indicated.

Off-Road Equipment	2024-2046		2017 [1]		2018 [1]		2019 [1]		2020 [1]		2021 [1]		2022 [1]		2023 [1]	
	Number (ea)	Hrs of Operation (day)	Number (ea)	Hrs of Operation (day)	Number (ea)	Hrs of Operation (day)	Number (ea)	Hrs of Operation (day)	Number (ea)	Hrs of Operation (day)	Number (ea)	Hrs of Operation (day)	Number (ea)	Hrs of Operation (day)	Number (ea)	Hrs of Operation (day)
Scraper -CAT 636G	2	5.5	2	0.8	2	1.6	2	2.4	2	3.1	2	3.9	2	4.7	2	5.5
Bulldozer - CAT D8 [5], D6 [1]	3	9.5	3	1.4	3	2.7	3	4.1	3	5.4	3	6.8	3	8.1	3	9.5
Compactor - CAT 836G	3	10	3	1.4	3	2.9	3	4.3	3	5.7	3	7.1	3	8.6	3	10
Water Truck - 4,000 gal, 3 axle, 58,000 gvw [2]	1	8	1	1.1	1	2.3	1	3.4	1	4.6	1	5.7	1	6.9	1	8
Water Wagon - CAT 633G 10,000 gal [3]	1	7	1	1.0	1	2.0	1	3.0	1	4.0	1	5.0	1	6.0	1	7
Trailer Mounted Light Plant	3	5	3	0.7	3	1.4	3	2.1	3	2.9	3	3.6	3	4.3	3	5
Tipper	2	12	2	1.7	2	3.4	2	5.1	2	6.9	2	8.6	2	10.3	2	12

Emission Calculations
Operation Year: 2017
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2017	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	2.34E-02
Bulldozer	Rubber Tired Dozers	1	2017	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	2.40E-02
Compactor	Plate Compactors	1	2017	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2017	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.58E-02
Water Truck	Off-Highway Trucks	1	2017	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.58E-02
Trailer Mounted Light Plant	Generator Sets	1	2017	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	6.54E-03
Tipper	Dumpers/Tenders	1	2017	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.31E-04

Emission Calculations
Operation Year: 2018
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2018	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	2.22E-02
Bulldozer	Rubber Tired Dozers	1	2018	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	2.28E-02
Compactor	Plate Compactors	1	2018	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2018	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.49E-02
Water Truck	Off-Highway Trucks	1	2018	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.49E-02
Trailer Mounted Light Plant	Generator Sets	1	2018	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	5.79E-03
Tipper	Dumpers/Tenders	1	2018	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.31E-04

Emission Calculations
Operation Year: 2019
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2019	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	2.10E-02
Bulldozer	Rubber Tired Dozers	1	2019	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	2.16E-02
Compactor	Plate Compactors	1	2019	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2019	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.42E-02
Water Truck	Off-Highway Trucks	1	2019	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.42E-02
Trailer Mounted Light Plant	Generator Sets	1	2019	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	5.09E-03
Tipper	Dumpers/Tenders	1	2019	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.31E-04

Emission Calculations
Operation Year: 2020
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2020	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	2.00E-02
Bulldozer	Rubber Tired Dozers	1	2020	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	2.07E-02
Compactor	Plate Compactors	1	2020	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2020	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.34E-02
Water Truck	Off-Highway Trucks	1	2020	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.34E-02
Trailer Mounted Light Plant	Generator Sets	1	2020	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	4.57E-03
Tipper	Dumpers/Tenders	1	2020	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.30E-04

Emission Calculations
Operation Year: 2021
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2021	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.90E-02
Bulldozer	Rubber Tired Dozers	1	2021	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.97E-02
Compactor	Plate Compactors	1	2021	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2021	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.28E-02
Water Truck	Off-Highway Trucks	1	2021	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.28E-02
Trailer Mounted Light Plant	Generator Sets	1	2021	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	4.11E-03
Tipper	Dumpers/Tenders	1	2021	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.30E-04

Emission Calculations
Operation Year: 2022
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2022	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.81E-02
Bulldozer	Rubber Tired Dozers	1	2022	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.88E-02
Compactor	Plate Compactors	1	2022	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2022	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.22E-02
Water Truck	Off-Highway Trucks	1	2022	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.22E-02
Trailer Mounted Light Plant	Generator Sets	1	2022	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.89E-03
Tipper	Dumpers/Tenders	1	2022	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.30E-04

Emission Calculations
Operation Year: 2023
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2023	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.73E-02
Bulldozer	Rubber Tired Dozers	1	2023	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.79E-02
Compactor	Plate Compactors	1	2023	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2023	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.16E-02
Water Truck	Off-Highway Trucks	1	2023	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.16E-02
Trailer Mounted Light Plant	Generator Sets	1	2023	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.52E-03
Tipper	Dumpers/Tenders	1	2023	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.30E-04

Emission Calculations
Operation Year: 2024
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2024	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.65E-02
Bulldozer	Rubber Tired Dozers	1	2024	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.71E-02
Compactor	Plate Compactors	1	2024	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2024	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.11E-02
Water Truck	Off-Highway Trucks	1	2024	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.11E-02
Trailer Mounted Light Plant	Generator Sets	1	2024	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.28E-03
Tipper	Dumpers/Tenders	1	2024	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.30E-04

Emission Calculations
Operation Year: 2025 through 2046
Emission Factors

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	Scrapers	1	2025	lb/hr	8.43E-01	9.96E-02	2.30E-02	3.15E-03	3.06E-03	3.06E-03	3.21E+02	1.58E-02
Bulldozer	Rubber Tired Dozers	1	2025	lb/hr	4.95E-01	5.85E-02	1.35E-02	2.60E-03	1.80E-03	1.80E-03	2.65E+02	1.64E-02
Compactor	Plate Compactors	1	2025	lb/hr	3.11E-02	2.09E-02	9.10E-04	6.71E-05	6.07E-05	6.07E-05	4.31E+00	4.53E-04
Water Truck	Off-Highway Trucks	1	2025	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
Water Truck	Off-Highway Trucks	1	2025	lb/hr	7.37E-01	8.71E-02	2.01E-02	2.67E-03	2.68E-03	2.68E-03	2.72E+02	1.07E-02
Trailer Mounted Light Plant	Generator Sets	1	2025	lb/hr	5.07E-01	3.56E-02	8.22E-03	9.14E-04	1.10E-03	1.10E-03	7.79E+01	3.05E-03
Tipper	Dumpers/Tenders	1	2025	lb/hr	5.50E-02	3.69E-02	1.61E-03	9.67E-05	1.07E-04	1.07E-04	7.62E+00	8.30E-04

Chiquita Canyon Landfill EIR
Operation Emissions - Proposed Project Exhaust

Onsite Emissions

	Daily Emissions (lb/day)							Hourly Emissions (lb/hr)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	1.324	0.157	0.036	0.005	0.005	0.005	505.102	0.037	1.686	0.199	0.046	0.006	0.006	0.006	642.857	0.047	413.196	48.832	11.269	1.547	1.503	1.503	157591.801	11.477
Bulldozer	2.014	0.238	0.055	0.011	0.007	0.007	1078.409	0.098	1.484	0.175	0.040	0.008	0.005	0.005	794.618	0.072	628.433	74.269	17.139	3.303	2.285	2.285	336463.761	30.489
Compactor	0.133	0.089	0.004	0.000	0.000	0.000	18.488	0.002	0.093	0.063	0.003	0.000	0.000	0.000	12.941	0.001	41.577	27.887	1.217	0.090	0.081	0.081	5768.172	0.606
Water Truck	0.843	0.100	0.023	0.003	0.003	0.003	311.239	0.018	0.737	0.087	0.020	0.003	0.003	0.003	272.334	0.016	262.874	31.067	7.169	0.953	0.956	0.956	97108.489	5.641
Water Truck	0.737	0.087	0.020	0.003	0.003	0.003	272.334	0.016	0.737	0.087	0.020	0.003	0.003	0.003	272.334	0.016	230.015	27.184	6.273	0.834	0.836	0.836	84968.178	4.936
Trailer Mounted Light Plant	1.087	0.076	0.018	0.002	0.002	0.002	167.034	0.014	1.521	0.107	0.025	0.003	0.003	0.003	233.848	0.020	338.996	23.821	5.497	0.611	0.733	0.733	52114.760	4.372
Tipper	0.188	0.126	0.006	0.000	0.000	0.000	26.141	0.003	0.110	0.074	0.003	0.000	0.000	0.000	15.249	0.002	58.708	39.431	1.721	0.103	0.115	0.115	8155.926	1.001
Total	6.327	0.873	0.161	0.024	0.021	0.021	2378.747	0.187	6.368	0.792	0.157	0.023	0.021	0.021	2244.181	0.173	1973.879	272.492	50.285	7.441	6.509	6.509	742169.066	58.411

Onsite Emissions

	Daily Emissions (lb/day)							Hourly Emissions (lb/hr)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	2.649	0.313	0.072	0.011	0.010	0.010	1010.204	0.075	1.686	0.199	0.046	0.006	0.006	0.006	642.857	0.048	827.392	97.665	22.538	3.094	3.005	3.005	315185.585	21.786
Bulldozer	4.029	0.476	0.110	0.021	0.015	0.015	2156.819	0.186	1.484	0.175	0.040	0.008	0.005	0.005	794.618	0.069	1258.866	148.539	34.278	6.605	4.570	4.570	672927.607	58.011
Compactor	0.267	0.179	0.008	0.001	0.001	0.001	36.975	0.004	0.093	0.063	0.003	0.000	0.000	0.000	12.941	0.001	83.154	55.774	2.434	0.180	0.162	0.162	11536.344	1.212
Water Truck	1.685	0.199	0.045	0.006	0.006	0.006	622.477	0.034	0.737	0.087	0.020	0.003	0.003	0.003	272.334	0.015	525.748	62.134	14.339	1.906	1.912	1.912	194212.845	10.657
Water Truck	1.474	0.174	0.040	0.005	0.005	0.005	544.668	0.030	0.737	0.087	0.020	0.003	0.003	0.003	272.334	0.015	460.029	54.367	12.546	1.668	1.673	1.673	169935.327	9.325
Trailer Mounted Light Plant	2.173	0.153	0.035	0.004	0.005	0.005	334.069	0.027	1.521	0.107	0.025	0.003	0.003	0.003	233.848	0.019	677.993	47.643	10.994	1.223	1.466	1.466	104229.508	7.742
Tipper	0.377	0.253	0.011	0.001	0.001	0.001	52.282	0.006	0.110	0.074	0.003	0.000	0.000	0.000	15.249	0.002	117.576	78.862	3.441	0.207	0.229	0.229	16311.854	1.779
Total	12.653	1.747	0.322	0.048	0.042	0.042	4757.494	0.354	6.368	0.792	0.157	0.023	0.021	0.021	2244.181	0.163	3947.759	544.983	100.570	14.882	13.018	13.018	1484338.170	110.475

Onsite Emissions

	Daily Emissions (lb/day)							Hourly Emissions (lb/hr)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	3.973	0.470	0.108	0.015	0.014	0.014	1515.305	0.099	1.686	0.199	0.046	0.006	0.006	0.006	642.857	0.042	1239.589	146.497	33.807	4.640	4.508	4.508	472775.310	30.926
Bulldozer	6.043	0.714	0.165	0.032	0.022	0.022	3235.229	0.265	1.484	0.175	0.040	0.008	0.005	0.005	794.618	0.069	1885.299	222.808	51.417	9.908	6.856	6.856	1009391.427	82.766
Compactor	0.400	0.268	0.012	0.001	0.001	0.001	55.463	0.006	0.093	0.063	0.003	0.000	0.000	0.000	12.941	0.001	124.731	83.661	3.651	0.269	0.243	0.243	17304.516	1.818
Water Truck	2.528	0.299	0.069	0.009	0.008	0.008	933.718	0.049	0.737	0.087	0.020	0.003	0.003	0.003	272.334	0.014	788.622	93.201	21.508	2.859	2.868	2.868	291313.338	15.137
Water Truck	2.212	0.261	0.060	0.008	0.008	0.008	817.001	0.042	0.737	0.087	0.020	0.003	0.003	0.003	272.334	0.014	690.044	81.551	18.819	2.502	2.509	2.509	254904.445	13.244
Trailer Mounted Light Plant	3.260	0.229	0.053	0.006	0.007	0.007	501.104	0.040	1.521	0.107	0.025	0.003	0.003	0.003	233.848	0.020	1016.989	71.464	16.492	1.834	2.199	2.199	156334.289	12.503
Tipper	0.565	0.379	0.017	0.001	0.001	0.001	78.422	0.059	0.110	0.074	0.003	0.000	0.000	0.000	15.249	0.002	176.364	118.293	5.162	0.310	0.344	0.344	24487.795	2.668
Total	18.980	2.620	0.484	0.072	0.063	0.063	7136.241	0.502	6.368	0.792	0.157	0.023	0.021	0.021	2244.181	0.154	5921.638	817.475	150.856	22.323	19.527	19.527	2226507.190	156.771

Onsite Emissions

	Daily Emissions (lb/day)							Hourly Emissions (lb/hr)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	5.30E+00	6.26E-01	1.44E-01	1.98E-02	1.93E-02	1.93E-02	1.93E-02	1.93E-02	1.686	0.199	0.046	0.006	0.006	0.006	0.006	0.006	1652.785	195.329	45.076	6.187	6.010	6.010	6.010	6.010
Bulldozer	8.06E+00	9.52E-01	2.20E-01	4.23E-02	2.93E-02	2.93E-02	2.93E-02	2.93E-02	1.484	0.175	0.040	0.008	0.005	0.005	0.005	0.005	2513.731	297.077	68.556	13.210	9.141	9.141	9.141	9.141
Compactor	5.33E-01	3.58E-01	1.59E-02	1.15E-03	1.04E-03	1.04E-03	1.04E-03	1.04E-03	0.093	0.063	0.003	0.000	0.000	0.000	0.000	0.000	166.309	111.548	4.868	0.359	0.325	0.325	0.325	0.325
Water Truck	3.37E+00	3.98E-01	9.19E-02	1.22E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	0.737	0.087	0.020	0.003	0.003	0.003	0.003	0.003	1051.495	124.268	28.677	3.813	3.824	3.824	3.824	3.824
Water Truck	2.95E+00	3.48E-01	8.04E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	0.737	0.087	0.020	0.003	0.003	0.003	0.003	0.003	920.059	108.734	25.093	3.336	3.346	3.346	3.346	3.346
Trailer Mounted Light Plant	4.35E+00	3.05E-01	7.05E-02	7.84E-03	9.40E-03	9.40E-03	9.40E-03	9.40E-03	1.521	0.107	0.025	0.003	0.003	0.003	0.003	0.003	1355.986	95.285	21.989	2.445	2.932	2.932	2.932	2.932
Tipper	7.54E-01	5.06E-01	2.21E-02	1.53E-03	1.47E-03	1.47E-03	1.47E-03	1.47E-03	0.110	0.074	0.003	0.000	0.000	0.000	0.000	0.000	235.153	157.724	6.883	0.414	0.459	0.459	0.459	0.459
Total	25.306	3.493	0.645	0.095	0.083	0.083	0.083	0.083	6.368	0.792	0.157	0.023	0.021	0.021	0.021	0.021	7895.517	1089.967	201.141	29.764	26.035	26.035	26.035	26.035

Onsite Emissions

	Daily Emissions (lb/day)							Hourly Emissions (lb/hr)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	CO	NOx	ROG	SOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4
Scraper	6.622	0.783	0.181	0.025	0.024	0.024	2525.510	0.149	1.686	0.199	0.046

Chiquita Canyon Landfill EIR

Operation Emissions - Proposed Project Flare Emissions

Assumptions:

The operating schedule is based Golder Associates 9/2016 LFG report.
The project does not include the operation of the existing two flares.
Flare emissions are based on existing source test data (CCL meeting, 3/29/12)[1]

Operating scenario:	24	hrs/ day
	365	days / yr
LFG Recovery [2]:	85%	
Existing Flare Capacity (SCFM):	8000	

Operations Year	Landfill Gas Captured (scfm):	New Flares (scfm) [3]
2017	5310.8	N/A
2018	5549.65	N/A
2019	5829.3	N/A
2020	6149.75	N/A
2021	6509.3	N/A
2022	6907.95	N/A
2023	7344.85	N/A
2024	7818.3	N/A
2025	8306.2	306.2
2026	8780.5	780.5
2027	9248	1248
2028	9707	1707
2029	10157.5	2157.5
2030	10599.5	2599.5
2031	11033	3033
2032	11458	3458
2033	11874.5	3874.5
2034	12282.5	4282.5
2035	12682	4682
2036	13073	5073
2037	13455.5	5455.5
2038	13829.5	5829.5
2039	14195	6195
2040	14152.5	6152.5
2041	13872	5872
2042	13600	5600
2043	13328	5328
2044	13064.5	5064.5
2045	12809.5	4809.5
2046	12554.5	4554.5

	Emission Rates (lb/hr)						
Pollutant	**CO [4]**	**NO_X**	**ROG (as CH4)**	**SO_2**	**PM_{10}**	**CO2 (kg/scf) [5]**	**Source Test Inlet Gas Flow Rate (dscfm) [6]**
Source Test of Flare 2 [1]	1.38	1.38	0.278	1.81	0.14	0.025252	2,166
Permitted Limit Flare 1	5.6	3.9	0.92	2.5	1.4	-	4,000
Permitted Limit Flare 2	7.2	2.4	1.33	2.5	1.4	-	4,000

	Emission Rates (lb/dscf)					
Pollutant	**CO**	**NO_X**	**ROG (as CH4)**	**SO_2**	**PM_{10}**	**CO2**
Source Test of Flare 2	0.000011	0.000011	0.000002	0.000014	0.000001	0.055671

	Hourly Emissions (lb/hr)								Daily Emissions (lb/day)								Annual Emissions (lb/year)							
Year of Operation	**CO**	**NO_X**	**ROG (as CH4) [7]**	**SO_2**	**PM_{10}**	**$PM_{2.5}$ [8]**	**CO2**	**CH4 [7]**	**CO**	**NO_X**	**ROG (as CH4) [7]**	**SO_2**	**PM_{10}**	**$PM_{2.5}$ [8]**	**CO2**	**CH4 [7]**	**CO**	**NO_X**	**ROG (as CH4) [7]**	**SO_2**	**PM_{10}**	**$PM_{2.5}$ [8]**	**CO2**	**CH4 [7]**
2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2025	0.20	0.20	0.04	0.26	0.02	0.02	1,022.79	N/A	4.68	4.68	0.94	6.14	0.47	0.47	24,547.04	N/A	1,709	1,709	344	2,241	173	173	8,959,670	N/A
2026	0.50	0.50	0.10	0.65	0.05	0.05	2,607.09	N/A	11.93	11.93	2.40	15.65	1.21	1.21	62,570.11	N/A	4,356	4,356	878	5,713	442	442	22,838,089	N/A
2027	0.80	0.80	0.16	1.04	0.08	0.08	4,168.67	N/A	19.08	19.08	3.84	25.03	1.94	1.94	100,048.04	N/A	6,965	6,965	1,403	9,136	707	707	36,517,533	N/A
2028	1.09	1.09	0.22	1.43	0.11	0.11	5,701.86	N/A	26.10	26.10	5.26	34.23	2.65	2.65	136,844.55	N/A	9,527	9,527	1,919	12,496	967	967	49,948,261	N/A
2029	1.37	1.37	0.28	1.80	0.14	0.14	7,206.65	N/A	32.99	32.99	6.65	43.27	3.35	3.35	172,959.65	N/A	12,041	12,041	2,426	15,793	1,222	1,222	63,130,271	N/A
2030	1.66	1.66	0.33	2.17	0.17	0.17	8,683.06	N/A	39.75	39.75	8.01	52.13	4.03	4.03	208,393.33	N/A	14,508	14,508	2,923	19,029	1,472	1,472	76,063,564	N/A
2031	1.93	1.93	0.39	2.53	0.20	0.20	10,131.07	N/A	46.38	46.38	9.34	60.83	4.70	4.70	243,145.59	N/A	16,928	16,928	3,410	22,202	1,717	1,717	88,748,140	N/A
2032	2.20	2.20	0.44	2.89	0.22	0.22	11,550.68	N/A	52.88	52.88	10.65	69.35	5.36	5.36	277,216.44	N/A	19,300	19,300	3,888	25,313	1,958	1,958	101,183,999	N/A
2033	2.47	2.47	0.50	3.24	0.25	0.25	12,941.91	N/A	59.24	59.24	11.93	77.70	6.01	6.01	310,605.86	N/A	21,624	21,624	4,356	28,362	2,194	2,194	113,371,140	N/A
2034	2.73	2.73	0.55	3.58	0.28	0.28	14,304.74	N/A	65.48	65.48	13.19	85.89	6.64	6.64	343,313.88	N/A	23,901	23,901	4,815	31,349	2,425	2,425	125,309,565	N/A
2035	2.98	2.98	0.60	3.91	0.30	0.30	15,639.19	N/A	71.59	71.59	14.42	93.90	7.26	7.26	375,340.47	N/A	26,131	26,131	5,264	34,273	2,651	2,651	136,999,272	N/A
2036	3.23	3.23	0.65	4.24	0.33	0.33	16,945.24	N/A	77.57	77.57	15.63	101.74	7.87	7.87	406,685.65	N/A	28,313	28,313	5,704	37,135	2,872	2,872	148,440,262	N/A
2037	3.48	3.48	0.70	4.56	0.35	0.35	18,222.89	N/A	83.42	83.42	16.80	109.41	8.46	8.46	437,349.41	N/A	30,448	30,448	6,134	39,935	3,089	3,089	159,632,535	N/A
2038	3.71	3.71	0.75	4.87	0.38	0.38	19,472.16	N/A	89.14	89.14	17.96	116.91	9.04	9.04	467,331.76	N/A	32,535	32,535	6,554	42,673	3,301	3,301	170,576,091	N/A
2039	3.95	3.95	0.80	5.18	0.40	0.40	20,693.03	N/A	94.73	94.73	19.08	124.24	9.61	9.61	496,632.68	N/A	34,575	34,575	6,965	45,349	3,508	3,508	181,270,929	N/A
2040	3.92	3.92	0.79	5.14	0.40	0.40	20,551.07	N/A	94.08	94.08	18.95	123.39	9.54	9.54	493,225.60	N/A	34,338	34,338	6,917	45,038	3,484	3,484	180,027,343	N/A
2041	3.74	3.74	0.75	4.91	0.38	0.38	19,614.12	N/A	89.79	89.79	18.09	117.77	9.11	9.11	470,738.84	N/A	32,773	32,773	6,602	42,984	3,325	3,325	171,819,676	N/A
2042	3.57	3.57	0.72	4.68	0.36	0.36	18,705.56	N/A	85.63	85.63	17.25	112.31	8.69	8.69	448,933.50	N/A	31,255	31,255	6,296	40,993	3,171	3,171	163,860,727	N/A
2043	3.39	3.39	0.68	4.45	0.34	0.34	17,797.01	N/A	81.47	81.47	16.41	106.86	8.27	8.27	427,128.16	N/A	29,736	29,736	5,990	39,002	3,017	3,017	155,901,777	N/A
2044	3.23	3.23	0.65	4.23	0.33	0.33	16,916.84	N/A	77.44	77.44	15.60	101.57	7.86	7.86	406,004.23	N/A	28,266	28,266	5,694	37,073	2,868	2,868	148,191,545	N/A
2045	3.06	3.06	0.62	4.02	0.31	0.31	16,065.07	N/A	73.54	73.54	14.81	96.46	7.46	7.46	385,561.73	N/A	26,843	26,843	5,407	35,207	2,723	2,723	140,730,030	N/A
2046	2.90	2.90	0.58	3.81	0.29	0.29	15,213.30	N/A	69.64	69.64	14.03	91.34	7.07	7.07	365,119.22	N/A	25,419	25,419	5,121	33,340	2,579	2,579	133,268,514	N/A
Total	56.11	56.11	11.30	73.59	5.69	5.69	294,153.99	N/A	1,346.55	1,346.55	271.26	1,766.13	136.61	136.61	7,059,695.71	N/A	491,492.32	491,492.32	99,010.77	644,638.48	49,861.54	49,861.54	2,576,788,934.76	N/A

Conversion:

lb/kg conversion:	2.20
min/yr:	525600
cu.ft./lb-mol (@ 14.696 psia and 60 oF)	379.49
MW CO2 (lb/lb-mol)	44
MW CH4 (lb/lb-mol)	16

[1] Reference: Source test report Horizon Air Measurement Services, INC Test # C33-013-FR, Report February 16, 2012. CCL Compliance Test on Landfill Gas Flare #2. Prepared for the SCAQMD. Initial test 1/5/2012, re-test for PM only on 2/2/12. The final values are included as representative.

[2] LFG recovery would be 85% with BMPs, as described in the SCS Memorandum dated November 2016 (SCS, 2016a).

[3] Years with N/A yield less landfill gas to the flares than is already permitted, therefore, no new flare is needed.

[4] CO emissions were measured as 0.6 lb/hr. However this is less than 20% of the full scale of the analyzer. A low scale calibration gas (10% or 1.38 lb/hr) of range was used to verify the low level emissions. Therefore, the 1.38 lb/hr is used since the measured value was below the analyzer minimum acceptable range.

[5] CO_2 Flare emissions based on The Climate Registry General Reporting Protocol: 2015 Climate Registry Default Emission Factors, April 2015 (EF=0.025252 kg/scf) and Golder Associates 11/15 LFG report (LFG flow rate)

[6] Source Test Inlet Gas Flow Rate was reported as 2,167 dscfm in Table 2-1 of the source test report but as 2,166 dscfm in Table 5-1 of the source test report. Value listed as 2,166 dscfm here to be consistent with values used to estimate toxic emissions.

[7] Total Non-Methane Hydrocarbons (ROG) measured as methane equivalent per source test report: Horizon Air Measurement Services, INC Test # C33-013-FR, Report February 16, 2012. No methane emitted in flare exhaust gas.

[8] $PM_{2.5}$ equals 100% of PM_{10} for flares burning gaseous fuel per Appendix A, Table A of the SCAQMD Final –Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, October 2006.

Chiquita Canyon Landfill EIR

Construction Emissions - Proposed Project Fugitive Emissions From Activities

Project Data [1]

Expansion Landfill Footprint	142.7	acres
Average Module Footprint	20	acres
New Entrance and Road	30	acres
Construction Activity	*Per Module*	*For Entrance*
Total Excavation [2] (cy)	2,965,000	360,000
Excavation Schedule (days)	60	30
Grading Schedule (days)	72	12
Paving [3] (acres)	0	11
Paving Schedule (days)	NA	10
Berm - Onsite Cut / Fill (ft^3) [4]	NA	1,317,911
Berm Schedule [5] (days)	NA	62

General Assumptions

Construction Schedule	Operational Schedule	
10	10	hrs / day
5	6	days / week
4	(52 weeks / yr)	weeks / month

Emission Factors

Activity	Fugitive PM_{10} EF	Fugitive $PM_{2.5}$ EF [6]	Unit
Excavation [7]	0.00042	0.00009	lb/ft^3/day
Grading [7]	26.4	5.5	lb/acre/day
Onsite Cut / Fill [8]	0.059	0.012	ton/1,000 cy
	ROG EF	**Unit**	
Paving [9]	2.62	lb ROG / acre	

Conversion: ft^3/cy 27

Control Measures

Measure	Control Efficiency	Applicable Source	Reference
Apply water every 3 hours to distrubed areas within construction site.	75.00%	Excavation / Grading	Sacramento Metropolitan Air Quality Management District (SMAQMD). 2015. CEQA Guide. June.
Total Control Efficiency	75.00%	Excavation / Grading	

Entrance Construction [10]

Construction Period (months)	Duration (days)	YR
6	120	2018

		Fugitive Particulate Emissions						ROG Emissions			Controlled Emissions								
		(lb/day)		(lb/hr)		(lb/yr) [11]		(lb/day)	(lb/hr)	(lb/yr) [11]	Fugitive Particulate Emissions (lb/day)		Fugitive Particulate Emissions (lb/hr)		Fugitive Particulate Emissions (lb/yr) [11]		ROG Emissions (lb/day)	ROG Emissions (lb/hr)	ROG Emissions (lb/yr)
Activity	**Max. Activity per day**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**ROG**	**ROG**	**ROG**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**ROG**	**ROG**	**ROG**
Grading (acres/day) [12]	7.5	198.00	41.18	19.80	4.12	2,161.18	449.53	NA	NA	NA	49.50	10.30	4.95	1.03	540.30	112.38	NA	NA	NA
Excavation (cy/day)	12,000	136.08	28.30	13.61	2.83	3,713.31	772.37	NA	NA	NA	34.02	7.08	3.40	0.71	928.33	193.09	NA	NA	NA
Paving [7] (acres/day)	1.1	NA	NA	NA	NA	NA	NA	2.88	0.29	26.21	NA	NA	NA	NA	NA	NA	NA	NA	NA
Berm - Onsite Cut / Fill (ft^3/day)	21,257	92.90	19.32	9.29	1.93	5,239.01	1,089.71	NA	NA	NA	23.22	4.83	2.32	0.48	1,309.75	272.43	NA	NA	NA
Total [13]		**290.90**	**60.51**	**29.09**	**6.05**	**11,113.50**	**2,311.61**	**2.88**	**0.29**	**26.21**	**72.72**	**15.13**	**7.27**	**1.51**	**2,778.38**	**577.90**	**N/A**	**N/A**	**N/A**

Module Construction [10]

Construction Period (months)	Duration (days)	YR	
6	120	2017-2041	Emissions are the same for each yr of module construction.

		Fugitive Particulate Emissions						Controlled Emissions: Fugitive Particulate Emissions					
		(lb/day)		(lb/hr)		(lb/yr) [11]		(lb/day)		(lb/hr)		(lb/yr) [11]	
Activity	**Max. Activity per day**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**
Grading (acres/day) [12]	5	132.00	27.46	13.20	2.75	8,644.73	1,798.10	33.00	6.86	3.30	0.69	2,161.18	449.53
Excavation (cy/day)	50,000	567.00	117.94	56.70	11.79	30,944.22	6,436.40	141.75	29.48	14.18	2.95	7,736.05	######
Total [14, 15]		**699.00**	**145.39**	**69.90**	**14.54**	**39,588.95**	**8,234.50**	**174.75**	**36.35**	**17.48**	**3.63**	**9,897.24**	######

Module Operation [10]

YR	Annual Duration (days)	
2018-2046	312	Emissions are the same for each yr of operation and are for all modules.

		Fugitive Particulate Emissions						Controlled Emissions: Fugitive Particulate Emissions					
		(lb/day)		(lb/hr)		(lb/yr) [11]		(lb/day)		(lb/hr)		(lb/yr) [11]	
Activity	**Assumed Max. Activity**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**
Grading (acres/day)	2.3	60.72	12.63	6.07	1.26	17,231.84	3,584.22	15.18	3.16	1.52	0.32	4,307.96	896.06
Excavation (cy/day)	730	8.28	1.72	0.83	0.17	2,349.29	488.65	2.07	0.43	0.21	0.04	587.32	122.16
Total		**69.00**	**14.35**	**6.90**	**1.44**	**19,581.12**	**4,072.87**	**17.25**	**3.59**	**1.72**	**0.36**	**4,895.28**	######

[1] Unless otherwise noted data provided in the Assumptions tab and are based on project specific inputs.

[2] Typical module size based on Module 9 as per data provided by CCL July 2011. Data provided for entrance construction is 12,000 cy/day.

[3] Total area to be paved includes approximately 8 acres for road and 3 acres for new parking area as per assumptions sheet.

[4] Volume of cut / fill for the Berm Construction taken from design drawings (ccl_berm-calcs-r01.pdf).

[5] The Berm schedule was taken as described on the Construction PP - Exhaust tab.

[6] Source: SCAQMD Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology, October 2006. For construction fugitive dust sources, it is assumed that 20.8% of the PM_{10} would be $PM_{2.5}$. For paved and unpaved road fugitive dust sources, it is assumed that 16.9% and 21.2% of the PM_{10} would be $PM_{2.5}$, respectively.

[7] Source: SCAQMD CEQA Air Quality Handbook, November 1993. Table 9-9, assumed soil density of 1.8 ton/yd^3.

[8] Source: Table 3-2 of the WRAP Fugitive Dust Handbook (Countess Environmental, 2006), which is consistent with the approach used by URBEMIS2007, the previously ARB-approved emission calculation estimator.

[9] Source: Section 4.8 of Appendix A of the CalEEMod User's Guide, 2011.

[10] Fugitive Emissions are based on maximum amount of earth disturbed. Emission factors are independent of operating year. Maximum daily activity data provided by CCL, July 2011.

[11] Fugitive dust emissions assumed not to occur on days in which precipitation would be >0.1 inches. Average Los Angeles - South Coast precipitation conditions (33 days/year) were taken from CalEEMod Appendix D, Table 1.1.

[12] Using the assumptions in Appendix A of the Software User's Guide: URBEMIS2007 for Windows (JSA, 2007), up to 25% of the total graded area could be disturbed on the worst-case day.

[13] The Total Daily and Total Hourly emissions are the maximum emissions given the assumed schedule (i.e., that Grading and Excavation activities do not occur simultaneously and that Berm activities may overlap with Grading and/or Excavation activities). The Total Annual emissions represent the sum of all construction activities occurring within the year.

[14] It is assumed that the construction phases excavation and grading could occur simultaneously for the module construction as consistent with the exhaust construction tab.

[15] Totals for Module Construction represent total emissions from construction of one Module since one module is constructed per year.

Chiquita Canyon Landfill EIR
Operation Emissions - Proposed Project Flare and LFG Toxic Emissions

Assumptions:
Flare and LFG emissions are based on existing source test data from 1/5/12 (CCL meeting, 3/29/12)
Gas flow rate data provided by Golder Associates (9/2016) using EPA's LandGEM Model version 3.02 (Attachment 1 Results table).
Annual LFG recovery rate would be 85% with BMPs, as described in the SCS Memorandum dated November 2016 (SCS, 2016a).
Emissions for the new flares would be the same as the existing flares.

Year	Landfill Gas Generation (scfm)	Landfill Gas Captured (scfm)	New Flares (scfm)	Total Fugitive Landfill Gas (scfm)
2029	11950	10157.5	2157.5	1792.5
2030	12470	10599.5	2599.5	1870.5
2031	12980	11033	3033	1947
2032	13480	11458	3458	2022
2033	13970	11874.5	3874.5	2095.5
2034	14450	12282.5	4282.5	2167.5
2035	14920	12682	4682	2238
2036	15380	13073	5073	2307
2037	15830	13455.5	5455.5	2374.5
2038	16270	13829.5	5829.5	2440.5
2039	16700	14195	6195	2505
2040	16650	14152.5	6152.5	2497.5
2041	16320	13872	5872	2448
2042	16000	13600	5600	2400
2043	15680	13328	5328	2352
2044	15370	13064.5	5064.5	2305.5
2045	15070	12809.5	4809.5	2260.5
2046	14770	12554.5	4554.5	2215.5
2047	14480	12308	4308	2172
2048	14190	12061.5	4061.5	2128.5
2049	13910	11823.5	3823.5	2086.5
2050	13630	11585.5	3585.5	2044.5
2051	13360	11356	3356	2004
2052	13100	11135	3135	1965
2053	12840	10914	2914	1926
2054	12590	10701.5	2701.5	1888.5
2055	12340	10489	2489	1851
2056	12090	10276.5	2276.5	1813.5
2057	11850	10072.5	2072.5	1777.5
2058	11620	9877	1877	1743

Existing Flare Capacity (SCFM): 8000

LFG Recovery Rate 85%

Fugitive LFG Emission Rate 15%

	Source Test Data[1]						Average Flare	Average Landfill	MW
	Run 1		Run 2		Run 3				
	LFG-inlet	Flare outlet	LFG-inlet	Flare outlet	LFG-inlet	Flare outlet			
	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	g/g-mole
Hydrogen sulfide[2]	64400	100	64400	100	64400	100	100	64400	34.08
Benzene[2]	3250	0.4	3250	0.4	3250	0.4	0.4	3250	78.11
Benzylchloride[2]	190	0.75	190	0.75	190	0.75	0.75	190	126.58
Chlorobenzene[2]	160	0.5	160	0.5	160	0.5	0.5	160	112.56
Dichlorobenzene[2]	604	1	604	1	604	1	1	604	147
31,1-Dichloroethane[2]	160	0.5	160	0.5	160	0.5	0.5	160	98.97
1,2-Dichloroethane[2]	402	0.5	402	0.5	402	0.5	0.5	402	98.96
1,1-Dichloroethylene[2]	160	0.5	160	0.5	160	0.5	0.5	160	96.94
Dichloromethane[2]	648	0.5	648	1.2	648	1.5	1.1	648	84.94
1,2-dibromoethane[2]	160	0.5	160	0.5	160	0.5	0.5	160	187.86
Perchloroethene[2]	553	0.4	553	0.4	553	0.4	0.4	553	165.83
Carbon tetrachloride[2]	140	0.4	140	0.4	140	0.4	0.4	140	153.82
Toluene[2]	26200	0.5	26200	2.48	26200	2.83	1.9	26200	92.13
1,1,1-trichloroethane[2]	140	0.4	140	0.4	140	0.4	0.4	140	133.4
Trichloroethene[2]	140	0.4	140	0.4	140	0.4	0.4	140	131.4
Chloroform[2]	140	0.4	140	0.4	140	0.4	0.4	140	119.38
Vinyl chloride[2]	140	0.5	140	0.5	140	0.5	0.5	140	62.5
m-Xylene[2]	12600	0.5	12600	0.5	12600	0.5	0.5	12600	106.16
o+p-Xylene[2]	3630	0.5	3630	0.5	3630	0.5	0.5	3630	106.16
Total Non-methane HC[3]	7926000	3524	7926000	3524	7926000	3524	3524	7926000	16.04

2029		2030		2031		2032		2033		2034	
Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG
2.77E-05	7.59E-02	3.34E-05	7.92E-02	3.90E-05	8.25E-02	4.44E-05	8.56E-02	4.98E-05	8.88E-02	5.50E-05	9.18E-02
2.54E-07	8.78E-03	3.06E-07	9.16E-03	3.57E-07	9.54E-03	4.07E-07	9.91E-03	4.56E-07	1.03E-02	5.04E-07	1.06E-02
7.72E-07	8.32E-04	9.30E-07	8.68E-04	1.09E-06	9.04E-04	1.24E-06	9.39E-04	1.39E-06	9.73E-04	1.53E-06	1.01E-03
4.58E-07	6.23E-04	5.52E-07	6.50E-04	6.44E-07	6.77E-04	7.34E-07	7.03E-04	8.22E-07	7.28E-04	9.09E-07	7.53E-04
1.20E-06	3.07E-03	1.44E-06	3.21E-03	1.68E-06	3.34E-03	1.92E-06	3.46E-03	2.15E-06	3.59E-03	2.37E-06	3.71E-03
4.02E-07	5.48E-04	4.85E-07	5.72E-04	5.66E-07	5.95E-04	6.45E-07	6.18E-04	7.23E-07	6.40E-04	7.99E-07	6.62E-04
4.02E-07	1.38E-03	4.85E-07	1.44E-03	5.66E-07	1.49E-03	6.45E-07	1.55E-03	7.23E-07	1.61E-03	7.99E-07	1.66E-03
3.94E-07	5.37E-04	4.75E-07	5.60E-04	5.54E-07	5.83E-04	6.32E-07	6.05E-04	7.08E-07	6.27E-04	7.83E-07	6.49E-04
7.37E-07	1.90E-03	8.88E-07	1.99E-03	1.04E-06	2.07E-03	1.18E-06	2.15E-03	1.32E-06	2.23E-03	1.46E-06	2.30E-03
7.64E-07	1.04E-03	9.20E-07	1.09E-03	1.07E-06	1.13E-03	1.22E-06	1.17E-03	1.37E-06	1.22E-03	1.52E-06	1.26E-03
5.40E-07	3.17E-03	6.50E-07	3.31E-03	7.58E-07	3.45E-03	8.65E-07	3.58E-03	9.69E-07	3.71E-03	1.07E-06	3.84E-03
5.00E-07	7.45E-04	6.03E-07	7.77E-04	7.04E-07	8.09E-04	8.02E-07	8.40E-04	8.99E-07	8.71E-04	9.93E-07	9.01E-04
1.45E-06	8.35E-02	1.75E-06	8.71E-02	2.04E-06	9.07E-02	2.33E-06	9.42E-02	2.61E-06	9.76E-02	2.88E-06	1.01E-01
4.34E-07	6.46E-04	5.23E-07	6.74E-04	6.10E-07	7.02E-04	6.96E-07	7.29E-04	7.79E-07	7.55E-04	8.61E-07	7.81E-04
4.27E-07	6.36E-04	5.15E-07	6.64E-04	6.01E-07	6.91E-04	6.85E-07	7.18E-04	7.68E-07	7.44E-04	8.49E-07	7.70E-04
3.88E-07	5.78E-04	4.68E-07	6.03E-04	5.46E-07	6.28E-04	6.23E-07	6.52E-04	6.97E-07	6.76E-04	7.71E-07	6.99E-04
2.54E-07	3.03E-04	3.06E-07	3.16E-04	3.57E-07	3.29E-04	4.07E-07	3.41E-04	4.56E-07	3.54E-04	5.05E-07	3.66E-04
4.32E-07	4.63E-02	5.20E-07	4.83E-02	6.07E-07	5.03E-02	6.92E-07	5.22E-02	7.75E-07	5.41E-02	8.57E-07	5.60E-02
4.32E-07	1.33E-02	5.20E-07	1.39E-02	6.07E-07	1.45E-02	6.92E-07	1.50E-02	7.75E-07	1.56E-02	8.57E-07	1.61E-02
4.60E-04	4.40E+00	5.54E-04	4.59E+00	6.46E-04	4.78E+00	7.37E-04	4.96E+00	8.26E-04	5.14E+00	9.13E-04	5.32E+00

Chiquita Canyon Landfill EIR

Operation Emissions - Proposed Project Flare and LFG Toxic Emissions

Flare exhaust gas (dscfm)		31,185		31,185		31,185	
LFG Flow rate (dscfm)	2166		2166		2166		
Temperature (°F)		1500		1500		1500	1500
Flare Stack Informatior							

D (feet)	12
H (feet)	50

Stack height and diameter are confirmed based on source test report.

[1] Reference: Source test report Horizon Air Measurement Services, INC Test # C33-013-FR, Report February 16, 2012. CCL Compliance Test on Landfill Gas Flare #2. Prepared for the SCAQMD. Initial test 1/5/2012, re-test for PM only on 2/2/12.

[2] Note: All pollutant concentrations noted in the source test report as below the detection limit were assumed to equal 50% of the detection limit concentra 50%

[3] Total Non-Methane Hydrocarbons (ROG) measured as methane equivalent per source test report, so MW of methane used to represent MW of TNMHC.

Calculation:

ppmv = µl/L

MV/24.45 (L/mol)*ppb/1000 = µg

V2 = V1P1/P2*T2/T1

1 µL = 35.32 ft^3

g/s = ppb/24.45*Ts/T1*MW*Q/60/35.32/1000000

Calculated Emissions

2035		2036		2037		2038		2039		2040		2041		2042		2043		2044		2045		2046		2047	
Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG
6.02E-05	9.48E-02	6.52E-05	9.77E-02	7.01E-05	1.01E-01	7.49E-05	1.03E-01	7.96E-05	1.06E-01	7.90E-05	1.06E-01	7.54E-05	1.04E-01	7.19E-05	1.02E-01	6.85E-05	9.96E-02	6.51E-05	9.77E-02	6.18E-05	9.58E-02	5.85E-05	9.38E-02	5.53E-05	9.20E-02
5.51E-07	1.10E-02	5.98E-07	1.13E-02	6.43E-07	1.16E-02	6.87E-07	1.20E-02	7.30E-07	1.23E-02	7.25E-07	1.22E-02	6.92E-07	1.20E-02	6.60E-07	1.18E-02	6.28E-07	1.15E-02	5.97E-07	1.13E-02	5.66E-07	1.11E-02	5.36E-07	1.09E-02	5.07E-07	1.06E-02
1.68E-06	1.04E-03	1.82E-06	1.07E-03	1.95E-06	1.10E-03	2.09E-06	1.13E-03	2.22E-06	1.16E-03	2.20E-06	1.16E-03	2.10E-06	1.14E-03	2.00E-06	1.11E-03	1.91E-06	1.09E-03	1.81E-06	1.07E-03	1.72E-06	1.05E-03	1.63E-06	1.03E-03	1.54E-06	1.01E-03
9.93E-07	7.78E-04	1.08E-06	8.02E-04	1.16E-06	8.25E-04	1.24E-06	8.48E-04	1.31E-06	8.71E-04	1.31E-06	8.68E-04	1.25E-06	8.51E-04	1.19E-06	8.34E-04	1.13E-06	8.18E-04	1.07E-06	8.01E-04	1.02E-06	7.86E-04	9.66E-07	7.70E-04	9.14E-07	7.55E-04
2.59E-06	3.83E-03	2.81E-06	3.95E-03	3.02E-06	4.07E-03	3.23E-06	4.18E-03	3.43E-06	4.29E-03	3.41E-06	4.28E-03	3.25E-06	4.19E-03	3.10E-06	4.11E-03	2.95E-06	4.03E-03	2.81E-06	3.95E-03	2.67E-06	3.87E-03	2.52E-06	3.80E-03	2.39E-06	3.72E-03
8.73E-07	6.84E-04	9.46E-07	7.05E-04	1.02E-06	7.26E-04	1.09E-06	7.46E-04	1.16E-06	7.66E-04	1.15E-06	7.63E-04	1.10E-06	7.48E-04	1.04E-06	7.33E-04	9.94E-07	7.19E-04	9.45E-07	7.05E-04	8.97E-07	6.91E-04	8.50E-07	6.77E-04	8.04E-07	6.64E-04
8.73E-07	1.72E-03	9.46E-07	1.77E-03	1.02E-06	1.82E-03	1.09E-06	1.87E-03	1.16E-06	1.92E-03	1.15E-06	1.92E-03	1.10E-06	1.88E-03	1.04E-06	1.84E-03	9.94E-07	1.81E-03	9.45E-07	1.77E-03	8.97E-07	1.74E-03	8.50E-07	1.70E-03	8.04E-07	1.67E-03
8.56E-07	6.70E-04	9.27E-07	6.91E-04	9.97E-07	7.11E-04	1.07E-06	7.31E-04	1.13E-06	7.50E-04	1.12E-06	7.48E-04	1.07E-06	7.33E-04	1.02E-06	7.18E-04	9.74E-07	7.04E-04	9.25E-07	6.90E-04	8.79E-07	6.77E-04	8.32E-07	6.63E-04	7.87E-07	6.50E-04
1.60E-06	2.38E-03	1.73E-06	2.45E-03	1.86E-06	2.52E-03	1.99E-06	2.59E-03	2.12E-06	2.66E-03	2.10E-06	2.65E-03	2.01E-06	2.60E-03	1.91E-06	2.55E-03	1.82E-06	2.50E-03	1.73E-06	2.45E-03	1.64E-06	2.40E-03	1.56E-06	2.35E-03	1.47E-06	2.31E-03
1.66E-06	1.30E-03	1.80E-06	1.34E-03	1.93E-06	1.38E-03	2.06E-06	1.42E-03	2.19E-06	1.45E-03	2.18E-06	1.45E-03	2.08E-06	1.42E-03	1.98E-06	1.39E-03	1.89E-06	1.36E-03	1.79E-06	1.34E-03	1.70E-06	1.31E-03	1.61E-06	1.29E-03	1.53E-06	1.26E-03
1.17E-06	3.96E-03	1.27E-06	4.08E-03	1.36E-06	4.20E-03	1.46E-06	4.32E-03	1.55E-06	4.43E-03	1.54E-06	4.42E-03	1.47E-06	4.33E-03	1.40E-06	4.25E-03	1.33E-06	4.16E-03	1.27E-06	4.08E-03	1.20E-06	4.00E-03	1.14E-06	3.92E-03	1.08E-06	3.84E-03
1.09E-06	9.30E-04	1.18E-06	9.59E-04	1.27E-06	9.87E-04	1.35E-06	1.01E-03	1.44E-06	1.04E-03	1.43E-06	1.04E-03	1.36E-06	1.02E-03	1.30E-06	9.97E-04	1.24E-06	9.78E-04	1.17E-06	9.58E-04	1.12E-06	9.39E-04	1.06E-06	9.21E-04	9.99E-07	9.03E-04
3.15E-06	1.04E-01	3.41E-06	1.07E-01	3.67E-06	1.11E-01	3.92E-06	1.14E-01	4.17E-06	1.17E-01	4.14E-06	1.16E-01	3.95E-06	1.14E-01	3.77E-06	1.12E-01	3.58E-06	1.10E-01	3.41E-06	1.07E-01	3.24E-06	1.05E-01	3.06E-06	1.03E-01	2.90E-06	1.01E-01
9.42E-07	8.07E-04	1.02E-06	8.32E-04	1.10E-06	8.56E-04	1.17E-06	8.80E-04	1.25E-06	9.03E-04	1.24E-06	9.00E-04	1.18E-06	8.82E-04	1.13E-06	8.65E-04	1.07E-06	8.48E-04	1.02E-06	8.31E-04	9.67E-07	8.15E-04	9.16E-07	7.99E-04	8.67E-07	7.83E-04
9.28E-07	7.95E-04	1.01E-06	8.19E-04	1.08E-06	8.43E-04	1.16E-06	8.66E-04	1.23E-06	8.89E-04	1.22E-06	8.87E-04	1.16E-06	8.69E-04	1.11E-06	8.52E-04	1.06E-06	8.35E-04	1.00E-06	8.19E-04	9.53E-07	8.03E-04	9.02E-07	7.87E-04	8.54E-07	7.71E-04
8.43E-07	7.22E-04	9.13E-07	7.44E-04	9.82E-07	7.66E-04	1.05E-06	7.87E-04	1.12E-06	8.08E-04	1.11E-06	8.06E-04	1.06E-06	7.90E-04	1.01E-06	7.74E-04	9.59E-07	7.59E-04	9.12E-07	7.44E-04	8.66E-07	7.29E-04	8.20E-07	7.15E-04	7.76E-07	7.01E-04
5.52E-07	3.78E-04	5.98E-07	3.90E-04	6.43E-07	4.01E-04	6.87E-07	4.12E-04	7.30E-07	4.23E-04	7.25E-07	4.22E-04	6.92E-07	4.13E-04	6.60E-07	4.05E-04	6.28E-07	3.97E-04	5.97E-07	3.89E-04	5.67E-07	3.82E-04	5.37E-07	3.74E-04	5.08E-07	3.67E-04
9.37E-07	5.78E-02	1.02E-06	5.96E-02	1.09E-06	6.13E-02	1.17E-06	6.30E-02	1.24E-06	6.47E-02	1.23E-06	6.45E-02	1.18E-06	6.32E-02	1.12E-06	6.20E-02	1.07E-06	6.07E-02	1.01E-06	5.95E-02	9.62E-07	5.84E-02	9.11E-07	5.72E-02	8.62E-07	5.61E-02
9.37E-07	1.66E-02	1.02E-06	1.72E-02	1.09E-06	1.77E-02	1.17E-06	1.82E-02	1.24E-06	1.86E-02	1.23E-06	1.86E-02	1.18E-06	1.82E-02	1.12E-06	1.78E-02	1.07E-06	1.75E-02	1.01E-06	1.71E-02	9.62E-07	1.68E-02	9.11E-07	1.65E-02	8.62E-07	1.62E-02
9.98E-04	5.49E+00	1.08E-03	5.66E+00	1.16E-03	5.83E+00	1.24E-03	5.99E+00	1.32E-03	6.15E+00	1.31E-03	6.13E+00	1.25E-03	6.01E+00	1.19E-03	5.89E+00	1.14E-03	5.77E+00	1.08E-03	5.66E+00	1.02E-03	5.55E+00	9.71E-04	5.44E+00	9.18E-04	5.33E+00

2048		2049		2050		2051		2052		2053		2054		2055		2056		2057		2058		30 year Average	
Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG	Flare	Fugitive LFG
5.22E-05	9.02E-02	4.91E-05	8.84E-02	4.61E-05	8.66E-02	4.31E-05	8.49E-02	4.03E-05	8.32E-02	3.74E-05	8.16E-02	3.47E-05	8.00E-02	3.20E-05	7.84E-02	2.92E-05	7.68E-02	2.66E-05	7.53E-02	2.41E-05	7.38E-02	5.17E-05	8.99E-02
4.78E-07	1.04E-02	4.50E-07	1.02E-02	4.22E-07	1.00E-02	3.95E-07	9.82E-03	3.69E-07	9.63E-03	3.43E-07	9.44E-03	3.18E-07	9.25E-03	2.93E-07	9.07E-03	2.68E-07	8.88E-03	2.44E-07	8.71E-03	2.21E-07	8.54E-03	4.74E-07	1.04E-02
1.45E-06	9.88E-04	1.37E-06	9.68E-04	1.28E-06	9.49E-04	1.20E-06	9.30E-04	1.12E-06	9.12E-04	1.04E-06	8.94E-04	9.67E-07	8.77E-04	8.91E-07	8.59E-04	8.15E-07	8.42E-04	7.42E-07	8.25E-04	6.72E-07	8.09E-04	1.44E-06	9.85E-04
8.62E-07	7.40E-04	8.11E-07	7.25E-04	7.61E-07	7.11E-04	7.12E-07	6.97E-04	6.65E-07	6.83E-04	6.18E-07	6.69E-04	5.73E-07	6.56E-04	5.28E-07	6.43E-04	4.83E-07	6.30E-04	4.40E-07	6.18E-04	3.98E-07	6.06E-04	8.53E-07	7.37E-04
2.25E-06	3.65E-03	2.12E-06	3.58E-03	1.99E-06	3.50E-03	1.86E-06	3.43E-03	1.74E-06	3.37E-03	1.61E-06	3.30E-03	1.50E-06	3.24E-03	1.38E-06	3.17E-03	1.26E-06	3.11E-03	1.15E-06	3.05E-03	1.04E-06	2.99E-03	2.23E-06	3.64E-03
7.58E-07	6.50E-04	7.13E-07	6.38E-04	6.69E-07	6.25E-04	6.26E-07	6.12E-04	5.85E-07	6.01E-04	5.44E-07	5.89E-04	5.04E-07	5.77E-04	4.64E-07	5.66E-04	4.25E-07	5.54E-04	3.87E-07	5.43E-04	3.50E-07	5.33E-04	7.50E-07	6.48E-04
7.58E-07	1.63E-03	7.13E-07	1.60E-03	6.69E-07	1.57E-03	6.26E-07	1.54E-03	5.85E-07	1.51E-03	5.44E-07	1.48E-03	5.04E-07	1.45E-03	4.64E-07	1.42E-03	4.25E-07	1.39E-03	3.87E-07	1.36E-03	3.50E-07	1.34E-03	7.50E-07	1.63E-03
7.42E-07	6.37E-04	6.99E-07	6.25E-04	6.55E-07	6.12E-04	6.13E-07	6.00E-04	5.73E-07	5.88E-04	5.32E-07	5.77E-04	4.94E-07	5.65E-04	4.55E-07	5.54E-04	4.16E-07	5.43E-04	3.79E-07	5.32E-04	3.43E-07	5.22E-04	7.35E-07	6.35E-04
1.39E-06	2.26E-03	1.31E-06	2.22E-03	1.22E-06	2.17E-03	1.15E-06	2.13E-03	1.07E-06	2.09E-03	9.95E-07	2.05E-03	9.23E-07	2.01E-03	8.50E-07	1.97E-03	7.78E-07	1.93E-03	7.08E-07	1.89E-03	6.41E-07	1.85E-03	1.37E-06	2.25E-03
1.44E-06	1.23E-03	1.35E-06	1.21E-03	1.27E-06	1.19E-03	1.19E-06	1.16E-03	1.11E-06	1.14E-03	1.03E-06	1.12E-03	9.57E-07	1.10E-03	8.81E-07	1.07E-03	8.06E-07	1.05E-03	7.34E-07	1.03E-03	6.65E-07	1.01E-03	1.42E-06	1.23E-03
1.02E-06	3.77E-03	9.56E-07	3.69E-03	8.97E-07	3.62E-03	8.39E-07	3.55E-03	7.84E-07	3.48E-03	7.29E-07	3.41E-03	6.76E-07	3.34E-03	6.22E-07	3.28E-03	5.69E-07	3.21E-03	5.18E-07	3.15E-03	4.69E-07	3.08E-03	1.01E-06	3.75E-03
9.42E-07	8.85E-04	8.87E-07	8.67E-04	8.32E-07	8.50E-04	7.78E-07	8.33E-04	7.27E-07	8.17E-04	6.76E-07	8.00E-04	6.27E-07	7.85E-04	5.77E-07	7.69E-04	5.28E-07	7.54E-04	4.81E-07	7.39E-04	4.35E-07	7.24E-04	9.33E-07	8.82E-04
2.73E-06	9.92E-02	2.57E-06	9.72E-02	2.41E-06	9.52E-02	2.26E-06	9.34E-02	2.11E-06	9.15E-02	1.96E-06	8.97E-02	1.82E-06	8.80E-02	1.67E-06	8.62E-02	1.53E-06	8.45E-02	1.39E-06	8.28E-02	1.26E-06	8.12E-02	2.70E-06	9.88E-02
8.17E-07	7.67E-04	7.69E-07	7.52E-04	7.21E-07	7.37E-04	6.75E-07	7.22E-04	6.31E-07	7.08E-04	5.86E-07	6.94E-04	5.43E-07	6.81E-04	5.01E-07	6.67E-04	4.58E-07	6.54E-04	4.17E-07	6.41E-04	3.78E-07	6.28E-04	8.09E-07	7.65E-04
8.05E-07	7.56E-04	7.58E-07	7.41E-04	7.10E-07	7.26E-04	6.65E-07	7.11E-04	6.21E-07	6.98E-04	5.77E-07	6.84E-04	5.35E-07	6.70E-04	4.93E-07	6.57E-04	4.51E-07	6.44E-04	4.11E-07	6.31E-04	3.72E-07	6.19E-04	7.97E-07	7.53E-04
7.31E-07	6.87E-04	6.88E-07	6.73E-04	6.45E-07	6.59E-04	6.04E-07	6.46E-04	5.64E-07	6.34E-04	5.25E-07	6.21E-04	4.86E-07	6.09E-04	4.48E-07	5.97E-04	4.10E-07	5.85E-04	3.73E-07	5.73E-04	3.38E-07	5.62E-04	7.24E-07	6.84E-04
4.78E-07	3.59E-04	4.50E-07	3.52E-04	4.22E-07	3.45E-04	3.95E-07	3.38E-04	3.69E-07	3.32E-04	3.43E-07	3.25E-04	3.18E-07	3.19E-04	2.93E-07	3.13E-04	2.68E-07	3.06E-04	2.44E-07	3.00E-04	2.21E-07	2.94E-04	4.74E-07	3.58E-04
8.13E-07	5.49E-02	7.65E-07	5.39E-02	7.17E-07	5.28E-02	6.72E-07	5.17E-02	6.27E-07	5.07E-02	5.83E-07	4.97E-02	5.41E-07	4.88E-02	4.98E-07	4.78E-02	4.56E-07	4.68E-02	4.15E-07	4.59E-02	3.76E-07	4.50E-02	8.05E-07	5.48E-02
8.13E-07	1.58E-02	7.65E-07	1.55E-02	7.17E-07	1.52E-02	6.72E-07	1.49E-02	6.27E-07	1.46E-02	5.83E-07	1.43E-02	5.41E-07	1.40E-02	4.98E-07	1.38E-02	4.56E-07	1.35E-02	4.15E-07	1.32E-02	3.76E-07	1.30E-02	8.05E-07	1.58E-02
8.65E-04	5.22E+00	8.15E-04	5.12E+00	7.64E-04	5.02E+00	7.15E-04	4.92E+00	6.68E-04	4.82E+00	6.21E-04	4.73E+00	5.76E-04	4.63E+00	5.30E-04	4.54E+00	4.85E-04	4.45E+00	4.42E-04	4.36E+00	4.00E-04	4.28E+00	8.57E-04	5.20E+00

Chiquita Canyon Landfill EIR

Operation Emissions - LandGEM Landfill Gas Generation

LandGEM Landfill Gas Generation Data

Year	Annual Refuse Acceptange Rate (tons)	Cumulative Refuse Acceptance (tons)	Total LFG Generation (scfm)	Total LFG Recovery (85%) (scfm)	Total Fugitive LFG
2017	1,671,429	33,646,802	6,248	5,311	937
2018	1,894,286	35,318,231	6,529	5,550	979
2019	2,117,143	37,212,516	6,858	5,829	1,029
2020	2,340,000	39,329,659	7,235	6,150	1,085
2021	2,562,857	41,669,659	7,658	6,509	1,149
2022	2,785,714	44,232,516	8,127	6,908	1,219
2023	3,008,571	47,018,231	8,641	7,345	1,296
2024	3,120,000	50,026,802	9,198	7,818	1,380
2025	3,120,000	53,146,802	9,772	8,306	1,466
2026	3,120,000	56,266,802	10,330	8,781	1,550
2027	3,120,000	59,386,802	10,880	9,248	1,632
2028	3,120,000	62,506,802	11,420	9,707	1,713
2029	3,120,000	65,626,802	11,950	10,158	1,793
2030	3,120,000	68,746,802	12,470	10,600	1,871
2031	3,120,000	71,866,802	12,980	11,033	1,947
2032	3,120,000	74,986,802	13,480	11,458	2,022
2033	3,120,000	78,106,802	13,970	11,875	2,096
2034	3,120,000	81,226,802	14,450	12,283	2,168
2035	3,120,000	84,346,802	14,920	12,682	2,238
2036	3,120,000	87,466,802	15,380	13,073	2,307
2037	3,120,000	90,586,802	15,830	13,456	2,375
2038	3,120,000	93,706,802	16,270	13,830	2,441
2039	1,158,710	96,826,802	16,700	14,195	2,505
2040	0	97,985,512	16,650	14,153	2,498
2041			16,320	13,872	2,448
2042			16,000	13,600	2,400
2043			15,680	13,328	2,352
2044			15,370	13,065	2,306
2045			15,070	12,810	2,261
2046			14,770	12,555	2,216
2047			14,480	12,308	2,172
2048			14,190	12,062	2,129
2049			13,910	11,824	2,087
2050			13,630	11,586	2,045
2051			13,360	11,356	2,004
2052			13,100	11,135	1,965
2053			12,840	10,914	1,926
2054			12,590	10,702	1,889
2055			12,340	10,489	1,851
2056			12,090	10,277	1,814
2057			11,850	10,073	1,778
2058			11,620	9,877	1,743
2059			11,390	9,682	1,709
2060			11,160	9,486	1,674
2061			10,940	9,299	1,641
2062			10,720	9,112	1,608
2063			10,510	8,934	1,577
2064			10,300	8,755	1,545
2065			10,100	8,585	1,515
2066			9,900	8,415	1,485
2067			9,704	8,248	1,456
2068			9,512	8,085	1,427
2069			9,324	7,925	1,399
2070			9,139	7,768	1,371
2071			8,958	7,614	1,344
2072			8,781	7,464	1,317
2073			8,607	7,316	1,291
2074			8,437	7,171	1,266
2075			8,269	7,029	1,240
2076			8,106	6,890	1,216
2077			7,945	6,753	1,192
2078			7,788	6,620	1,168
2079			7,634	6,489	1,145
2080			7,483	6,361	1,122
2081			7,334	6,234	1,100
2082			7,189	6,111	1,078
2083			7,047	5,990	1,057
2084			6,907	5,871	1,036
2085			6,770	5,755	1,016
2086			6,636	5,641	995
2087			6,505	5,529	976

LandGEM Landfill Gas Generation Data: Highest 30 Years

Year	Annual Refuse Acceptange Rate (tons)	Cumulative Refuse Acceptance (tons)	Total LFG Generation (scfm)	Total LFG Recovery (85%) (scfm)	Total Fugitive LFG
2029	3,120,000	65,626,802	11,950	10,158	1,793
2030	3,120,000	68,746,802	12,470	10,600	1,871
2031	3,120,000	71,866,802	12,980	11,033	1,947
2032	3,120,000	74,986,802	13,480	11,458	2,022
2033	3,120,000	78,106,802	13,970	11,875	2,096
2034	3,120,000	81,226,802	14,450	12,283	2,168
2035	3,120,000	84,346,802	14,920	12,682	2,238
2036	3,120,000	87,466,802	15,380	13,073	2,307
2037	3,120,000	90,586,802	15,830	13,456	2,375
2038	3,120,000	93,706,802	16,270	13,830	2,441
2039	1,158,710	96,826,802	16,700	14,195	2,505
2040	0	97,985,512	16,650	14,153	2,498
2041			16,320	13,872	2,448
2042			16,000	13,600	2,400
2043			15,680	13,328	2,352
2044			15,370	13,065	2,306
2045			15,070	12,810	2,261
2046			14,770	12,555	2,216
2047			14,480	12,308	2,172
2048			14,190	12,062	2,129
2049			13,910	11,824	2,087
2050			13,630	11,586	2,045
2051			13,360	11,356	2,004
2052			13,100	11,135	1,965
2053			12,840	10,914	1,926
2054			12,590	10,702	1,889
2055			12,340	10,489	1,851
2056			12,090	10,277	1,814
2057			11,850	10,073	1,778
2058			11,620	9,877	1,743

Notes: Data obtained from Golder Associates LandGem Model Summary September 2016

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2014	20143	2014Aerial Lifts	2014Aerial Lifts120	Aerial Lifts	63	0.31	0.2400	0.2799	0.0509	0.0004	0.0272	0.0251	38.1	0.0046	120	3
2014	20144	2014Air Compressors	2014Air Compressors120	Air Compressors	78	0.48	0.3216	0.5860	0.0758	0.0006	0.0416	0.0383	47.0	0.0068	120	4
2014	20146	2014Bore/Drill Rigs	2014Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.3426	1.4079	0.0737	0.0021	0.0179	0.0165	188.1	0.0066	250	6
2014	20141	2014Cement and Mortar Mixers	2014Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0386	0.0644	0.0074	0.0001	0.0020	0.0018	6.3	0.0007	15	1
2014	20144	2014Concrete/Industrial Saws	2014Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4796	0.9256	0.0978	0.0009	0.0538	0.0495	74.1	0.0088	120	4
2014	20146	2014Cranes	2014Cranes250	Cranes	226	0.29	0.2817	0.8958	0.0979	0.0013	0.0317	0.0291	112.2	0.0088	250	6
2014	20146	2014Crawler Tractors	2014Crawler Tractors250	Crawler Tractors	208	0.43	0.4797	1.2225	0.1672	0.0019	0.0562	0.0517	166.1	0.0151	250	6
2014	20144	2014Crushing/Proc. Equipment	2014Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5703	1.0378	0.1284	0.0010	0.0704	0.0648	83.1	0.0116	120	4
2014	20141	2014Dumpers/Tenders	2014Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0317	0.0777	0.0095	0.0001	0.0027	0.0025	7.6	0.0009	25	1
2014	20145	2014Excavators	2014Excavators175	Excavators	163	0.38	0.6660	0.8739	0.1134	0.0013	0.0457	0.0421	112.2	0.0102	175	5
2014	20144	2014Forklifts	2014Forklifts120	Forklifts	89	0.2	0.2158	0.2786	0.0390	0.0004	0.0206	0.0190	31.2	0.0035	120	4
2014	20144	2014Generator Sets	2014Generator Sets120	Generator Sets	84	0.74	0.4857	0.9730	0.1008	0.0009	0.0537	0.0494	77.9	0.0091	120	4
2014	20146	2014Graders	2014Graders175	Graders	175	0.41	0.7331	0.9807	0.1386	0.0014	0.0577	0.0531	123.9	0.0125	175	6
2014	20145	2014Off-Highway Tractors	2014Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.8272	0.7636	0.1960	0.0015	0.0820	0.0755	130.4	0.0177	175	5
2014	20147	2014Off-Highway Trucks	2014Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.6134	1.9771	0.2065	0.0027	0.0567	0.0522	272.3	0.0186	500	7
2014	20145	2014Other Construction Equipment	2014Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5867	1.0193	0.0868	0.0012	0.0374	0.0344	106.5	0.0078	175	5
2014	20144	2014Other General Industrial Equipmen	2014Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.4435	0.4683	0.1082	0.0007	0.0583	0.0536	62.0	0.0098	120	4
2014	20145	2014Other Material Handling Equipment	2014Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.7226	0.9425	0.1481	0.0014	0.0631	0.0581	122.1	0.0134	175	5
2014	20145	2014Pavers	2014Pavers175	Pavers	126	0.42	0.7742	0.7467	0.1695	0.0014	0.0720	0.0663	128.3	0.0153	175	5
2014	20145	2014Paving Equipment	2014Paving Equipment175	Paving Equipment	131	0.36	0.6049	0.6654	0.1323	0.0011	0.0565	0.0519	101.0	0.0119	175	5
2014	20141	2014Plate Compactors	2014Plate Compactors15	Plate Compactors	8	0.43	0.0263	0.0440	0.0050	0.0001	0.0012	0.0011	4.3	0.0005	15	1
2014	20141	2014Pressure Washers	2014Pressure Washers15	Pressure Washers	13	0.3	0.0321	0.0499	0.0068	0.0001	0.0026	0.0024	4.9	0.0006	15	1
2014	20144	2014Pumps	2014Pumps120	Pumps	84	0.74	0.4934	0.9730	0.1049	0.0009	0.0563	0.0518	77.9	0.0095	120	4
2014	20144	2014Rollers	2014Rollers120	Rollers	81	0.38	0.4030	0.4818	0.0921	0.0007	0.0494	0.0454	59.0	0.0083	120	4
2014	20145	2014Rough Terrain Forklifts	2014Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.4292	0.5644	0.0877	0.0007	0.0474	0.0436	62.4	0.0079	120	5
2014	20146	2014Rubber Tired Dozers	2014Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	1.3307	1.3942	0.3072	0.0026	0.1058	0.0973	264.9	0.0277	500	6
2014	20146	2014Rubber Tired Loaders	2014Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3553	0.9841	0.1186	0.0017	0.0375	0.0345	149.0	0.0107	250	6
2014	20147	2014Scrapers	2014Scrapers500	Scrapers	362	0.48	1.1355	2.2601	0.3033	0.0032	0.1012	0.0931	321.4	0.0274	500	7
2014	20141	2014Signal Boards	2014Signal Boards15	Signal Boards	6	0.82	0.0377	0.0629	0.0072	0.0001	0.0018	0.0016	6.2	0.0006	15	1
2014	20143	2014Skid Steer Loaders	2014Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.2727	0.3446	0.0380	0.0005	0.0205	0.0189	42.8	0.0034	120	3
2014	20146	2014Surfacing Equipment	2014Surfacing Equipment500	Surfacing Equipment	254	0.3	0.6069	1.0416	0.1433	0.0022	0.0516	0.0475	221.2	0.0129	500	6
2014	20143	2014Sweepers/Scrubbers	2014Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.5098	0.4219	0.0991	0.0009	0.0543	0.0499	75.0	0.0089	120	3
2014	20144	2014Tractors/Loaders/Backhoes	2014Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.3503	0.5676	0.0634	0.0006	0.0337	0.0310	51.7	0.0057	120	4
2014	20144	2014Trenchers	2014Trenchers120	Trenchers	81	0.5	0.4640	0.6339	0.1212	0.0008	0.0629	0.0578	64.9	0.0109	120	4
2014	20142	2014Welders	2014Welders50	Welders	46	0.45	0.2652	0.2647	0.0886	0.0003	0.0219	0.0202	26.0	0.0080	50	2
2015	20153	2015Aerial Lifts	2015Aerial Lifts120	Aerial Lifts	63	0.31	0.2377	0.2669	0.0460	0.0004	0.0246	0.0226	38.1	0.0042	120	3
2015	20154	2015Air Compressors	2015Air Compressors120	Air Compressors	78	0.48	0.3182	0.5530	0.0691	0.0006	0.0375	0.0345	47.0	0.0062	120	4
2015	20156	2015Bore/Drill Rigs	2015Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.3425	1.3170	0.0681	0.0021	0.0144	0.0132	188.1	0.0061	250	6
2015	20151	2015Cement and Mortar Mixers	2015Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0386	0.0622	0.0074	0.0001	0.0019	0.0018	6.3	0.0007	15	1
2015	20154	2015Concrete/Industrial Saws	2015Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4759	0.8734	0.0892	0.0009	0.0486	0.0448	74.1	0.0080	120	4
2015	20156	2015Cranes	2015Cranes250	Cranes	226	0.29	0.2713	0.8380	0.0925	0.0013	0.0286	0.0263	112.2	0.0083	250	6
2015	20156	2015Crawler Tractors	2015Crawler Tractors250	Crawler Tractors	208	0.43	0.4614	1.1437	0.1582	0.0019	0.0514	0.0473	166.1	0.0143	250	6
2015	20154	2015Crushing/Proc. Equipment	2015Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5646	0.9793	0.1167	0.0010	0.0629	0.0579	83.1	0.0105	120	4
2015	20151	2015Dumpers/Tenders	2015Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0315	0.0751	0.0093	0.0001	0.0025	0.0023	7.6	0.0008	25	1
2015	20155	2015Excavators	2015Excavators175	Excavators	163	0.38	0.6653	0.8193	0.1052	0.0013	0.0405	0.0372	112.2	0.0095	175	5
2015	20154	2015Forklifts	2015Forklifts120	Forklifts	89	0.2	0.2143	0.2629	0.0345	0.0004	0.0174	0.0160	31.2	0.0031	120	4
2015	20154	2015Generator Sets	2015Generator Sets120	Generator Sets	84	0.74	0.4811	0.9182	0.0910	0.0009	0.0484	0.0445	77.9	0.0082	120	4
2015	20156	2015Graders	2015Graders175	Graders	175	0.41	0.7319	0.9175	0.1299	0.0014	0.0526	0.0484	123.9	0.0117	175	6
2015	20155	2015Off-Highway Tractors	2015Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.8216	0.7159	0.1870	0.0015	0.0771	0.0709	130.4	0.0169	175	5
2015	20157	2015Off-Highway Trucks	2015Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.5949	1.8431	0.1960	0.0027	0.0505	0.0465	272.3	0.0177	500	7
2015	20155	2015Other Construction Equipment	2015Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5864	0.9556	0.0796	0.0012	0.0331	0.0305	106.5	0.0072	175	5
2015	20154	2015Other General Industrial Equipmen	2015Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.4387	0.4419	0.0987	0.0007	0.0521	0.0480	62.0	0.0089	120	4
2015	20155	2015Other Material Handling Equipment	2015Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.7201	0.8836	0.1365	0.0014	0.0567	0.0522	122.1	0.0123	175	5
2015	20155	2015Pavers	2015Pavers175	Pavers	126	0.42	0.7707	0.7000	0.1608	0.0014	0.0673	0.0619	128.3	0.0145	175	5
2015	20155	2015Paving Equipment	2015Paving Equipment175	Paving Equipment	131	0.36	0.6025	0.6238	0.1254	0.0011	0.0528	0.0486	101.0	0.0113	175	5
2015	20151	2015Plate Compactors	2015Plate Compactors15	Plate Compactors	8	0.43	0.0263	0.0425	0.0050	0.0001	0.0012	0.0011	4.3	0.0005	15	1
2015	20151	2015Pressure Washers	2015Pressure Washers15	Pressure Washers	13	0.3	0.0315	0.0481	0.0065	0.0001	0.0024	0.0022	4.9	0.0006	15	1
2015	20154	2015Pumps	2015Pumps120	Pumps	84	0.74	0.4887	0.9182	0.0949	0.0009	0.0508	0.0467	77.9	0.0086	120	4
2015	20154	2015Rollers	2015Rollers120	Rollers	81	0.38	0.4000	0.4546	0.0857	0.0007	0.0454	0.0418	59.0	0.0077	120	4
2015	20155	2015Rough Terrain Forklifts	2015Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.4260	0.5291	0.0801	0.0007	0.0420	0.0387	62.4	0.0072	120	5
2015	20156	2015Rubber Tired Dozers	2015Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	1.2456	1.3043	0.2932	0.0026	0.0985	0.0906	264.9	0.0265	500	6
2015	20156	2015Rubber Tired Loaders	2015Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3444	0.9206	0.1118	0.0017	0.0337	0.0310	149.0	0.0101	250	6
2015	20157	2015Scrapers	2015Scrapers500	Scrapers	362	0.48	1.0688	2.1069	0.2883	0.0032	0.0930	0.0855	321.4	0.0260	500	7
2015	20151	2015Signal Boards	2015Signal Boards15	Signal Boards	6	0.82	0.0377	0.0607	0.0072	0.0001	0.0018	0.0016	6.2	0.0006	15	1
2015	20153	2015Skid Steer Loaders	2015Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.2710	0.3287	0.0334	0.0005	0.0170	0.0156	42.8	0.0030	120	3
2015	20156	2015Surfacing Equipment	2015Surfacing Equipment500	Surfacing Equipment	254	0.3	0.5759	0.9744	0.1342	0.0022	0.0468	0.0431	221.2	0.0121	500	6

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2015	20153	2015Sweepers/Scrubbers	2015Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.5056	0.4024	0.0880	0.0009	0.0466	0.0429	75.0	0.0079	120	3
2015	20154	2015Tractors/Loaders/Backhoes	2015Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.3480	0.5356	0.0577	0.0006	0.0293	0.0270	51.7	0.0052	120	4
2015	20154	2015Trenchers	2015Trenchers120	Trenchers	81	0.5	0.4600	0.5982	0.1144	0.0008	0.0590	0.0542	64.9	0.0103	120	4
2015	20152	2015Welders	2015Welders50	Welders	46	0.45	0.2564	0.2556	0.0801	0.0003	0.0200	0.0184	26.0	0.0072	50	2
2016	20163	2016Aerial Lifts	2016Aerial Lifts120	Aerial Lifts	63	0.31	0.2355	0.2497	0.0413	0.0004	0.0219	0.0201	38.1	0.0037	120	3
2016	20164	2016Air Compressors	2016Air Compressors120	Air Compressors	78	0.48	0.3150	0.5118	0.0624	0.0006	0.0333	0.0307	47.0	0.0056	120	4
2016	20166	2016Bore/Drill Rigs	2016Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.3425	1.2035	0.0628	0.0021	0.0114	0.0104	188.1	0.0057	250	6
2016	20161	2016Cement and Mortar Mixers	2016Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0386	0.0589	0.0074	0.0001	0.0019	0.0017	6.3	0.0007	15	1
2016	20164	2016Concrete/Industrial Saws	2016Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4724	0.8082	0.0809	0.0009	0.0436	0.0401	74.1	0.0073	120	4
2016	20166	2016Cranes	2016Cranes250	Cranes	226	0.29	0.2634	0.7658	0.0875	0.0013	0.0259	0.0239	112.2	0.0079	250	6
2016	20166	2016Crawler Tractors	2016Crawler Tractors250	Crawler Tractors	208	0.43	0.4452	1.0451	0.1496	0.0019	0.0468	0.0431	166.1	0.0135	250	6
2016	20164	2016Crushing/Proc. Equipment	2016Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5594	0.9062	0.1054	0.0010	0.0555	0.0510	83.1	0.0095	120	4
2016	20161	2016Dumpers/Tenders	2016Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0314	0.0710	0.0093	0.0001	0.0024	0.0022	7.6	0.0008	25	1
2016	20165	2016Excavators	2016Excavators175	Excavators	163	0.38	0.6648	0.7510	0.0972	0.0013	0.0355	0.0326	112.2	0.0088	175	5
2016	20164	2016Forklifts	2016Forklifts120	Forklifts	89	0.2	0.2133	0.2433	0.0313	0.0004	0.0149	0.0137	31.2	0.0028	120	4
2016	20164	2016Generator Sets	2016Generator Sets120	Generator Sets	84	0.74	0.4767	0.8496	0.0814	0.0009	0.0431	0.0397	77.9	0.0073	120	4
2016	20166	2016Graders	2016Graders175	Graders	175	0.41	0.7310	0.8384	0.1215	0.0014	0.0476	0.0438	123.9	0.0110	175	6
2016	20165	2016Off-Highway Tractors	2016Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.8166	0.6562	0.1782	0.0015	0.0723	0.0665	130.4	0.0161	175	5
2016	20167	2016Off-Highway Trucks	2016Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.5796	1.7090	0.1855	0.0027	0.0448	0.0412	272.3	0.0167	500	7
2016	20165	2016Other Construction Equipment	2016Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5862	0.8759	0.0729	0.0012	0.0291	0.0267	106.5	0.0066	175	5
2016	20164	2016Other General Industrial Equipmen	2016Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.4343	0.4090	0.0895	0.0007	0.0461	0.0424	62.0	0.0081	120	4
2016	20165	2016Other Material Handling Equipment	2016Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.7182	0.8100	0.1251	0.0014	0.0504	0.0463	122.1	0.0113	175	5
2016	20165	2016Pavers	2016Pavers175	Pavers	126	0.42	0.7678	0.6417	0.1524	0.0014	0.0627	0.0576	128.3	0.0138	175	5
2016	20165	2016Paving Equipment	2016Paving Equipment175	Paving Equipment	131	0.36	0.6004	0.5718	0.1188	0.0011	0.0492	0.0453	101.0	0.0107	175	5
2016	20161	2016Plate Compactors	2016Plate Compactors15	Plate Compactors	8	0.43	0.0263	0.0402	0.0050	0.0001	0.0012	0.0011	4.3	0.0005	15	1
2016	20161	2016Pressure Washers	2016Pressure Washers15	Pressure Washers	13	0.3	0.0312	0.0456	0.0062	0.0001	0.0023	0.0021	4.9	0.0006	15	1
2016	20164	2016Pumps	2016Pumps120	Pumps	84	0.74	0.4842	0.8496	0.0851	0.0009	0.0453	0.0416	77.9	0.0077	120	4
2016	20164	2016Rollers	2016Rollers120	Rollers	81	0.38	0.3971	0.4207	0.0795	0.0007	0.0416	0.0383	59.0	0.0072	120	4
2016	20165	2016Rough Terrain Forklifts	2016Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.4231	0.4850	0.0729	0.0007	0.0369	0.0339	62.4	0.0066	120	5
2016	20166	2016Rubber Tired Dozers	2016Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	1.1678	1.1918	0.2794	0.0026	0.0915	0.0842	264.9	0.0252	500	6
2016	20166	2016Rubber Tired Loaders	2016Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3357	0.8413	0.1056	0.0017	0.0302	0.0278	149.0	0.0095	250	6
2016	20167	2016Scrapers	2016Scrapers500	Scrapers	362	0.48	1.0107	1.9537	0.2736	0.0032	0.0851	0.0783	321.4	0.0247	500	7
2016	20161	2016Signal Boards	2016Signal Boards15	Signal Boards	6	0.82	0.0377	0.0575	0.0072	0.0001	0.0018	0.0016	6.2	0.0006	15	1
2016	20163	2016Skid Steer Loaders	2016Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.2695	0.3075	0.0295	0.0005	0.0138	0.0127	42.8	0.0027	120	3
2016	20166	2016Surfacing Equipment	2016Surfacing Equipment500	Surfacing Equipment	254	0.3	0.5485	0.8904	0.1260	0.0022	0.0425	0.0391	221.2	0.0114	500	6
2016	20163	2016Sweepers/Scrubbers	2016Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.5017	0.3764	0.0774	0.0009	0.0392	0.0361	75.0	0.0070	120	3
2016	20164	2016Tractors/Loaders/Backhoes	2016Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.3460	0.4956	0.0524	0.0006	0.0253	0.0233	51.7	0.0047	120	4
2016	20164	2016Trenchers	2016Trenchers120	Trenchers	81	0.5	0.4563	0.5536	0.1080	0.0008	0.0551	0.0507	64.9	0.0097	120	4
2016	20162	2016Welders	2016Welders50	Welders	46	0.45	0.2483	0.2419	0.0717	0.0003	0.0181	0.0166	26.0	0.0065	50	2
2017	20173	2017Aerial Lifts	2017Aerial Lifts120	Aerial Lifts	63	0.31	0.2336	0.2325	0.0368	0.0004	0.0194	0.0178	38.1	0.0033	120	3
2017	20174	2017Air Compressors	2017Air Compressors120	Air Compressors	78	0.48	0.3122	0.4540	0.0562	0.0006	0.0294	0.0270	47.0	0.0051	120	4
2017	20176	2017Bore/Drill Rigs	2017Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.3426	1.0673	0.0580	0.0021	0.0088	0.0081	188.1	0.0052	250	6
2017	20171	2017Cement and Mortar Mixers	2017Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0386	0.0556	0.0074	0.0001	0.0018	0.0017	6.3	0.0007	15	1
2017	20174	2017Concrete/Industrial Saws	2017Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4691	0.7170	0.0728	0.0009	0.0385	0.0354	74.1	0.0066	120	4
2017	20176	2017Cranes	2017Cranes250	Cranes	226	0.29	0.2572	0.6791	0.0830	0.0013	0.0235	0.0216	112.2	0.0075	250	6
2017	20176	2017Crawler Tractors	2017Crawler Tractors250	Crawler Tractors	208	0.43	0.4308	0.9268	0.1413	0.0019	0.0426	0.0391	166.1	0.0127	250	6
2017	20174	2017Crushing/Proc. Equipment	2017Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5547	0.8039	0.0948	0.0010	0.0484	0.0445	83.1	0.0086	120	4
2017	20171	2017Dumpers/Tenders	2017Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0314	0.0670	0.0092	0.0001	0.0023	0.0021	7.6	0.0008	25	1
2017	20175	2017Excavators	2017Excavators175	Excavators	163	0.38	0.6644	0.6691	0.0896	0.0013	0.0308	0.0283	112.2	0.0081	175	5
2017	20174	2017Forklifts	2017Forklifts120	Forklifts	89	0.2	0.2125	0.2158	0.0287	0.0004	0.0128	0.0117	31.2	0.0026	120	4
2017	20174	2017Generator Sets	2017Generator Sets120	Generator Sets	84	0.74	0.4728	0.7537	0.0725	0.0009	0.0381	0.0350	77.9	0.0065	120	4
2017	20176	2017Graders	2017Graders175	Graders	175	0.41	0.7301	0.7435	0.1135	0.0014	0.0429	0.0395	123.9	0.0102	175	6
2017	20175	2017Off-Highway Tractors	2017Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.8122	0.5846	0.1697	0.0015	0.0677	0.0623	130.4	0.0153	175	5
2017	20177	2017Off-Highway Trucks	2017Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.5676	1.5080	0.1753	0.0027	0.0397	0.0365	272.3	0.0158	500	7
2017	20175	2017Other Construction Equipment	2017Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5860	0.7804	0.0665	0.0012	0.0252	0.0232	106.5	0.0060	175	5
2017	20174	2017Other General Industrial Equipmen	2017Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.4307	0.3628	0.0811	0.0007	0.0404	0.0371	62.0	0.0073	120	4
2017	20175	2017Other Material Handling Equipment	2017Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.7173	0.7216	0.1146	0.0014	0.0445	0.0409	122.1	0.0103	175	5
2017	20175	2017Pavers	2017Pavers175	Pavers	126	0.42	0.7653	0.5717	0.1443	0.0014	0.0582	0.0536	128.3	0.0130	175	5
2017	20175	2017Paving Equipment	2017Paving Equipment175	Paving Equipment	131	0.36	0.5987	0.5095	0.1124	0.0011	0.0458	0.0421	101.0	0.0101	175	5
2017	20171	2017Plate Compactors	2017Plate Compactors15	Plate Compactors	8	0.43	0.0263	0.0379	0.0050	0.0001	0.0012	0.0011	4.3	0.0005	15	1
2017	20171	2017Pressure Washers	2017Pressure Washers15	Pressure Washers	13	0.3	0.0310	0.0430	0.0060	0.0001	0.0022	0.0020	4.9	0.0005	15	1
2017	20174	2017Pumps	2017Pumps120	Pumps	84	0.74	0.4802	0.7537	0.0760	0.0009	0.0400	0.0368	77.9	0.0069	120	4
2017	20174	2017Rollers	2017Rollers120	Rollers	81	0.38	0.3944	0.3732	0.0736	0.0007	0.0378	0.0348	59.0	0.0066	120	4
2017	20175	2017Rough Terrain Forklifts	2017Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.4203	0.4321	0.0660	0.0007	0.0319	0.0294	62.4	0.0060	120	5
2017	20176	2017Rubber Tired Dozers	2017Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	1.0972	1.0569	0.2660	0.0026	0.0849	0.0781	264.9	0.0240	500	6
2017	20176	2017Rubber Tired Loaders	2017Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3290	0.7460	0.1000	0.0017	0.0272	0.0250	149.0	0.0090	250	6

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2017	20177	2017Scrapers	2017Scrapers500	Scrapers	362	0.48	0.9602	1.7238	0.2594	0.0032	0.0777	0.0715	321.4	0.0234	500	7
2017	20171	2017Signal Boards	2017Signal Boards15	Signal Boards	6	0.82	0.0377	0.0542	0.0072	0.0001	0.0018	0.0016	6.2	0.0006	15	1
2017	20173	2017Skid Steer Loaders	2017Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.2686	0.2863	0.0268	0.0005	0.0114	0.0105	42.8	0.0024	120	3
2017	20176	2017Surfacing Equipment	2017Surfacing Equipment500	Surfacing Equipment	254	0.3	0.5248	0.7896	0.1186	0.0022	0.0385	0.0355	221.2	0.0107	500	6
2017	20173	2017Sweepers/Scrubbers	2017Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.4996	0.3505	0.0701	0.0009	0.0336	0.0309	75.0	0.0063	120	3
2017	20174	2017Tractors/Loaders/Backhoes	2017Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.3442	0.4397	0.0477	0.0006	0.0217	0.0199	51.7	0.0043	120	4
2017	20174	2017Trenchers	2017Trenchers120	Trenchers	81	0.5	0.4529	0.4911	0.1018	0.0008	0.0514	0.0473	64.9	0.0092	120	4
2017	20172	2017Welders	2017Welders50	Welders	46	0.45	0.2408	0.2282	0.0638	0.0003	0.0162	0.0149	26.0	0.0058	50	2
2018	20183	2018Aerial Lifts	2018Aerial Lifts120	Aerial Lifts	63	0.31	0.2319	0.2153	0.0327	0.0004	0.0170	0.0156	38.1	0.0029	120	3
2018	20184	2018Air Compressors	2018Air Compressors120	Air Compressors	78	0.48	0.3097	0.3962	0.0504	0.0006	0.0255	0.0235	47.0	0.0045	120	4
2018	20186	2018Bore/Drill Rigs	2018Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.3426	0.9310	0.0538	0.0021	0.0068	0.0063	188.1	0.0049	250	6
2018	20181	2018Cement and Mortar Mixers	2018Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0386	0.0522	0.0074	0.0001	0.0018	0.0017	6.3	0.0007	15	1
2018	20184	2018Concrete/Industrial Saws	2018Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4661	0.6257	0.0650	0.0009	0.0335	0.0308	74.1	0.0059	120	4
2018	20186	2018Cranes	2018Cranes250	Cranes	226	0.29	0.2521	0.5924	0.0787	0.0013	0.0212	0.0195	112.2	0.0071	250	6
2018	20186	2018Crawler Tractors	2018Crawler Tractors250	Crawler Tractors	208	0.43	0.4179	0.8084	0.1333	0.0019	0.0385	0.0355	166.1	0.0120	250	6
2018	20184	2018Crushing/Proc. Equipment	2018Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5506	0.7016	0.0849	0.0010	0.0416	0.0383	83.1	0.0077	120	4
2018	20181	2018Dumpers/Tenders	2018Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0314	0.0630	0.0092	0.0001	0.0023	0.0021	7.6	0.0008	25	1
2018	20185	2018Excavators	2018Excavators175	Excavators	163	0.38	0.6641	0.5872	0.0824	0.0013	0.0264	0.0243	112.2	0.0074	175	5
2018	20184	2018Forklifts	2018Forklifts120	Forklifts	89	0.2	0.2118	0.1884	0.0265	0.0004	0.0108	0.0099	31.2	0.0024	120	4
2018	20184	2018Generator Sets	2018Generator Sets120	Generator Sets	84	0.74	0.4694	0.6578	0.0642	0.0009	0.0333	0.0306	77.9	0.0058	120	4
2018	20186	2018Graders	2018Graders175	Graders	175	0.41	0.7294	0.6485	0.1059	0.0014	0.0385	0.0354	123.9	0.0096	175	6
2018	20185	2018Off-Highway Tractors	2018Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.8085	0.5131	0.1614	0.0015	0.0632	0.0581	130.4	0.0146	175	5
2018	20187	2018Off-Highway Trucks	2018Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.5578	1.3404	0.1656	0.0027	0.0351	0.0323	272.3	0.0149	500	7
2018	20185	2018Other Construction Equipment	2018Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5859	0.6848	0.0608	0.0012	0.0218	0.0200	106.5	0.0055	175	5
2018	20184	2018Other General Industrial Equipmen	2018Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.4277	0.3166	0.0732	0.0007	0.0350	0.0322	62.0	0.0066	120	4
2018	20185	2018Other Material Handling Equipment	2018Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.7171	0.6333	0.1050	0.0014	0.0389	0.0358	122.1	0.0095	175	5
2018	20185	2018Pavers	2018Pavers175	Pavers	126	0.42	0.7632	0.5017	0.1365	0.0014	0.0539	0.0496	128.3	0.0123	175	5
2018	20185	2018Paving Equipment	2018Paving Equipment175	Paving Equipment	131	0.36	0.5971	0.4471	0.1062	0.0011	0.0424	0.0390	101.0	0.0096	175	5
2018	20181	2018Plate Compactors	2018Plate Compactors15	Plate Compactors	8	0.43	0.0263	0.0356	0.0050	0.0001	0.0012	0.0011	4.3	0.0005	15	1
2018	20181	2018Pressure Washers	2018Pressure Washers15	Pressure Washers	13	0.3	0.0308	0.0404	0.0059	0.0001	0.0021	0.0019	4.9	0.0005	15	1
2018	20184	2018Pumps	2018Pumps120	Pumps	84	0.74	0.4767	0.6578	0.0676	0.0009	0.0350	0.0322	77.9	0.0061	120	4
2018	20184	2018Rollers	2018Rollers120	Rollers	81	0.38	0.3919	0.3257	0.0680	0.0007	0.0341	0.0314	59.0	0.0061	120	4
2018	20185	2018Rough Terrain Forklifts	2018Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.4179	0.3792	0.0596	0.0007	0.0273	0.0251	62.4	0.0054	120	5
2018	20186	2018Rubber Tired Dozers	2018Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	1.0338	0.9220	0.2531	0.0026	0.0787	0.0724	264.9	0.0228	500	6
2018	20186	2018Rubber Tired Loaders	2018Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3237	0.6508	0.0946	0.0017	0.0244	0.0224	149.0	0.0085	250	6
2018	20187	2018Scrapers	2018Scrapers500	Scrapers	362	0.48	0.9165	1.5323	0.2458	0.0032	0.0707	0.0650	321.4	0.0222	500	7
2018	20181	2018Signal Boards	2018Signal Boards15	Signal Boards	6	0.82	0.0377	0.0510	0.0072	0.0001	0.0018	0.0016	6.2	0.0006	15	1
2018	20183	2018Skid Steer Loaders	2018Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.2680	0.2651	0.0248	0.0005	0.0095	0.0087	42.8	0.0022	120	3
2018	20186	2018Surfacing Equipment	2018Surfacing Equipment500	Surfacing Equipment	254	0.3	0.5047	0.6888	0.1120	0.0022	0.0350	0.0322	221.2	0.0101	500	6
2018	20183	2018Sweepers/Scrubbers	2018Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.4983	0.3245	0.0647	0.0009	0.0291	0.0267	75.0	0.0058	120	3
2018	20184	2018Tractors/Loaders/Backhoes	2018Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.3426	0.3837	0.0435	0.0006	0.0184	0.0169	51.7	0.0039	120	4
2018	20184	2018Trenchers	2018Trenchers120	Trenchers	81	0.5	0.4498	0.4286	0.0959	0.0008	0.0477	0.0439	64.9	0.0087	120	4
2018	20182	2018Welders	2018Welders50	Welders	46	0.45	0.2339	0.2145	0.0563	0.0003	0.0144	0.0132	26.0	0.0051	50	2
2019	20193	2019Aerial Lifts	2019Aerial Lifts120	Aerial Lifts	63	0.31	0.2304	0.1981	0.0288	0.0004	0.0146	0.0135	38.1	0.0026	120	3
2019	20194	2019Air Compressors	2019Air Compressors120	Air Compressors	78	0.48	0.3075	0.3384	0.0450	0.0006	0.0218	0.0201	47.0	0.0041	120	4
2019	20196	2019Bore/Drill Rigs	2019Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.3426	0.7948	0.0502	0.0021	0.0054	0.0049	188.1	0.0045	250	6
2019	20191	2019Cement and Mortar Mixers	2019Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0386	0.0489	0.0074	0.0001	0.0018	0.0017	6.3	0.0007	15	1
2019	20194	2019Concrete/Industrial Saws	2019Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4633	0.5345	0.0579	0.0009	0.0288	0.0265	74.1	0.0052	120	4
2019	20196	2019Cranes	2019Cranes250	Cranes	226	0.29	0.2478	0.5057	0.0745	0.0013	0.0190	0.0175	112.2	0.0067	250	6
2019	20196	2019Crawler Tractors	2019Crawler Tractors250	Crawler Tractors	208	0.43	0.4065	0.6901	0.1258	0.0019	0.0349	0.0321	166.1	0.0114	250	6
2019	20194	2019Crushing/Proc. Equipment	2019Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5471	0.5993	0.0760	0.0010	0.0353	0.0325	83.1	0.0069	120	4
2019	20191	2019Dumpers/Tenders	2019Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0314	0.0590	0.0092	0.0001	0.0022	0.0021	7.6	0.0008	25	1
2019	20195	2019Excavators	2019Excavators175	Excavators	163	0.38	0.6638	0.5053	0.0759	0.0013	0.0227	0.0208	112.2	0.0068	175	5
2019	20194	2019Forklifts	2019Forklifts120	Forklifts	89	0.2	0.2109	0.1609	0.0243	0.0004	0.0089	0.0082	31.2	0.0022	120	4
2019	20194	2019Generator Sets	2019Generator Sets120	Generator Sets	84	0.74	0.4663	0.5619	0.0564	0.0009	0.0287	0.0264	77.9	0.0051	120	4
2019	20196	2019Graders	2019Graders175	Graders	175	0.41	0.7288	0.5536	0.0987	0.0014	0.0343	0.0315	123.9	0.0089	175	6
2019	20195	2019Off-Highway Tractors	2019Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.8053	0.4415	0.1533	0.0015	0.0588	0.0541	130.4	0.0138	175	5
2019	20197	2019Off-Highway Trucks	2019Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.5502	1.1393	0.1568	0.0027	0.0310	0.0285	272.3	0.0142	500	7
2019	20195	2019Other Construction Equipment	2019Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5859	0.5893	0.0562	0.0012	0.0189	0.0174	106.5	0.0051	175	5
2019	20194	2019Other General Industrial Equipmen	2019Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.4250	0.2704	0.0658	0.0007	0.0298	0.0274	62.0	0.0059	120	4
2019	20195	2019Other Material Handling Equipment	2019Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.7172	0.5449	0.0972	0.0014	0.0342	0.0315	122.1	0.0088	175	5
2019	20195	2019Pavers	2019Pavers175	Pavers	126	0.42	0.7615	0.4317	0.1290	0.0014	0.0498	0.0459	128.3	0.0116	175	5
2019	20195	2019Paving Equipment	2019Paving Equipment175	Paving Equipment	131	0.36	0.5958	0.3847	0.1002	0.0011	0.0391	0.0360	101.0	0.0090	175	5
2019	20191	2019Plate Compactors	2019Plate Compactors15	Plate Compactors	8	0.43	0.0263	0.0334	0.0050	0.0001	0.0012	0.0011	4.3	0.0005	15	1
2019	20191	2019Pressure Washers	2019Pressure Washers15	Pressure Washers	13	0.3	0.0307	0.0378	0.0057	0.0001	0.0019	0.0018	4.9	0.0005	15	1
2019	20194	2019Pumps	2019Pumps120	Pumps	84	0.74	0.4736	0.5619	0.0596	0.0009	0.0302	0.0278	77.9	0.0054	120	4

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2019	20194	2019Rollers	2019Rollers120	Rollers	81	0.38	0.3895	0.2782	0.0626	0.0007	0.0305	0.0280	59.0	0.0057	120	4
2019	20195	2019Rough Terrain Forklifts	2019Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.4158	0.3263	0.0539	0.0007	0.0231	0.0212	62.4	0.0049	120	5
2019	20196	2019Rubber Tired Dozers	2019Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.9773	0.7870	0.2407	0.0026	0.0728	0.0670	264.9	0.0217	500	6
2019	20196	2019Rubber Tired Loaders	2019Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3194	0.5556	0.0896	0.0017	0.0218	0.0200	149.0	0.0081	250	6
2019	20197	2019Scrapers	2019Scrapers500	Scrapers	362	0.48	0.8785	1.3025	0.2330	0.0032	0.0643	0.0591	321.4	0.0210	500	7
2019	20191	2019Signal Boards	2019Signal Boards15	Signal Boards	6	0.82	0.0377	0.0477	0.0072	0.0001	0.0018	0.0016	6.2	0.0006	15	1
2019	20193	2019Skid Steer Loaders	2019Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.2676	0.2439	0.0232	0.0005	0.0079	0.0072	42.8	0.0021	120	3
2019	20196	2019Surfacing Equipment	2019Surfacing Equipment500	Surfacing Equipment	254	0.3	0.4875	0.5880	0.1061	0.0022	0.0317	0.0292	221.2	0.0096	500	6
2019	20193	2019Sweepers/Scrubbers	2019Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.4973	0.2986	0.0600	0.0009	0.0250	0.0230	75.0	0.0054	120	3
2019	20194	2019Tractors/Loaders/Backhoes	2019Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.3413	0.3278	0.0398	0.0006	0.0154	0.0142	51.7	0.0036	120	4
2019	20194	2019Trenchers	2019Trenchers120	Trenchers	81	0.5	0.4470	0.3661	0.0903	0.0008	0.0442	0.0406	64.9	0.0081	120	4
2019	20192	2019Welders	2019Welders50	Welders	46	0.45	0.2271	0.2008	0.0490	0.0003	0.0126	0.0116	26.0	0.0044	50	2
2020	20203	2020Aerial Lifts	2020Aerial Lifts120	Aerial Lifts	63	0.31	0.2292	0.1808	0.0259	0.0004	0.0127	0.0117	38.1	0.0023	120	3
2020	20204	2020Air Compressors	2020Air Compressors120	Air Compressors	78	0.48	0.3058	0.2806	0.0408	0.0006	0.0188	0.0173	47.0	0.0037	120	4
2020	20206	2020Bore/Drill Rigs	2020Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.3426	0.6585	0.0474	0.0021	0.0044	0.0040	188.1	0.0043	250	6
2020	20201	2020Cement and Mortar Mixers	2020Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0386	0.0456	0.0074	0.0001	0.0018	0.0017	6.3	0.0007	15	1
2020	20204	2020Concrete/Industrial Saws	2020Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4613	0.4432	0.0524	0.0009	0.0249	0.0229	74.1	0.0047	120	4
2020	20206	2020Cranes	2020Cranes250	Cranes	226	0.29	0.2440	0.4190	0.0704	0.0013	0.0170	0.0157	112.2	0.0064	250	6
2020	20206	2020Crawler Tractors	2020Crawler Tractors250	Crawler Tractors	208	0.43	0.3966	0.5718	0.1188	0.0019	0.0315	0.0290	166.1	0.0107	250	6
2020	20204	2020Crushing/Proc. Equipment	2020Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5446	0.4970	0.0692	0.0010	0.0302	0.0278	83.1	0.0062	120	4
2020	20201	2020Dumpers/Tenders	2020Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0314	0.0550	0.0092	0.0001	0.0022	0.0020	7.6	0.0008	25	1
2020	20205	2020Excavators	2020Excavators175	Excavators	163	0.38	0.6637	0.4233	0.0703	0.0013	0.0195	0.0179	112.2	0.0063	175	5
2020	20204	2020Forklifts	2020Forklifts120	Forklifts	89	0.2	0.2102	0.1334	0.0225	0.0004	0.0074	0.0068	31.2	0.0020	120	4
2020	20204	2020Generator Sets	2020Generator Sets120	Generator Sets	84	0.74	0.4641	0.4659	0.0506	0.0009	0.0250	0.0230	77.9	0.0046	120	4
2020	20206	2020Graders	2020Graders175	Graders	175	0.41	0.7282	0.4587	0.0918	0.0014	0.0303	0.0279	123.9	0.0083	175	6
2020	20205	2020Off-Highway Tractors	2020Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.8025	0.3699	0.1455	0.0015	0.0547	0.0503	130.4	0.0131	175	5
2020	20207	2020Off-Highway Trucks	2020Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.5446	0.9383	0.1488	0.0027	0.0273	0.0251	272.3	0.0134	500	7
2020	20205	2020Other Construction Equipment	2020Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5859	0.4937	0.0524	0.0012	0.0164	0.0151	106.5	0.0047	175	5
2020	20204	2020Other General Industrial Equipmen	2020Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.4232	0.2243	0.0602	0.0007	0.0256	0.0236	62.0	0.0054	120	4
2020	20205	2020Other Material Handling Equipment	2020Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.7176	0.4565	0.0907	0.0014	0.0301	0.0277	122.1	0.0082	175	5
2020	20205	2020Pavers	2020Pavers175	Pavers	126	0.42	0.7599	0.3617	0.1217	0.0014	0.0459	0.0422	128.3	0.0110	175	5
2020	20205	2020Paving Equipment	2020Paving Equipment175	Paving Equipment	131	0.36	0.5945	0.3223	0.0944	0.0011	0.0360	0.0331	101.0	0.0085	175	5
2020	20201	2020Plate Compactors	2020Plate Compactors15	Plate Compactors	8	0.43	0.0263	0.0311	0.0050	0.0001	0.0012	0.0011	4.3	0.0005	15	1
2020	20201	2020Pressure Washers	2020Pressure Washers15	Pressure Washers	13	0.3	0.0305	0.0353	0.0056	0.0001	0.0018	0.0017	4.9	0.0005	15	1
2020	20204	2020Pumps	2020Pumps120	Pumps	84	0.74	0.4713	0.4659	0.0537	0.0009	0.0263	0.0242	77.9	0.0048	120	4
2020	20204	2020Rollers	2020Rollers120	Rollers	81	0.38	0.3873	0.2307	0.0576	0.0007	0.0270	0.0249	59.0	0.0052	120	4
2020	20205	2020Rough Terrain Forklifts	2020Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.4142	0.2734	0.0495	0.0007	0.0197	0.0181	62.4	0.0045	120	5
2020	20206	2020Rubber Tired Dozers	2020Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.9276	0.6521	0.2291	0.0026	0.0673	0.0619	264.9	0.0207	500	6
2020	20206	2020Rubber Tired Loaders	2020Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3159	0.4603	0.0848	0.0017	0.0194	0.0179	149.0	0.0077	250	6
2020	20207	2020Scrapers	2020Scrapers500	Scrapers	362	0.48	0.8455	1.0726	0.2211	0.0032	0.0584	0.0537	321.4	0.0200	500	7
2020	20201	2020Signal Boards	2020Signal Boards15	Signal Boards	6	0.82	0.0377	0.0445	0.0072	0.0001	0.0018	0.0016	6.2	0.0006	15	1
2020	20203	2020Skid Steer Loaders	2020Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.2673	0.2227	0.0218	0.0005	0.0064	0.0059	42.8	0.0020	120	3
2020	20206	2020Surfacing Equipment	2020Surfacing Equipment500	Surfacing Equipment	254	0.3	0.4728	0.4872	0.1008	0.0022	0.0288	0.0265	221.2	0.0091	500	6
2020	20203	2020Sweepers/Scrubbers	2020Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.4959	0.2726	0.0555	0.0009	0.0210	0.0193	75.0	0.0050	120	3
2020	20204	2020Tractors/Loaders/Backhoes	2020Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.3402	0.2718	0.0366	0.0006	0.0129	0.0119	51.7	0.0033	120	4
2020	20204	2020Trenchers	2020Trenchers120	Trenchers	81	0.5	0.4443	0.3036	0.0849	0.0008	0.0408	0.0375	64.9	0.0077	120	4
2020	20202	2020Welders	2020Welders50	Welders	46	0.45	0.2219	0.1871	0.0435	0.0003	0.0110	0.0102	26.0	0.0039	50	2
2021	20213	2021Aerial Lifts	2021Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0021	120	3
2021	20214	2021Air Compressors	2021Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0033	120	4
2021	20216	2021Bore/Drill Rigs	2021Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0041	250	6
2021	20211	2021Cement and Mortar Mixers	2021Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2021	20214	2021Concrete/Industrial Saws	2021Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0044	120	4
2021	20216	2021Cranes	2021Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0060	250	6
2021	20216	2021Crawler Tractors	2021Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0101	250	6
2021	20214	2021Crushing/Proc. Equipment	2021Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0058	120	4
2021	20211	2021Dumpers/Tenders	2021Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2021	20215	2021Excavators	2021Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0059	175	5
2021	20214	2021Forklifts	2021Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0019	120	4
2021	20214	2021Generator Sets	2021Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0041	120	4
2021	20216	2021Graders	2021Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0077	175	6
2021	20215	2021Off-Highway Tractors	2021Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0124	175	5
2021	20217	2021Off-Highway Trucks	2021Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0128	500	7
2021	20215	2021Other Construction Equipment	2021Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0044	175	5
2021	20214	2021Other General Industrial Equipmen	2021Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0050	120	4
2021	20215	2021Other Material Handling Equipment	2021Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0075	175	5
2021	20215	2021Pavers	2021Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0104	175	5

Chiquita Canyon Landfill EIR

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2021	20215	2021Paving Equipment	2021Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0080	175	5
2021	20211	2021Plate Compactors	2021Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2021	20211	2021Pressure Washers	2021Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2021	20214	2021Pumps	2021Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0044	120	4
2021	20214	2021Rollers	2021Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0048	120	4
2021	20215	2021Rough Terrain Forklifts	2021Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0042	120	5
2021	20216	2021Rubber Tired Dozers	2021Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0197	500	6
2021	20216	2021Rubber Tired Loaders	2021Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0073	250	6
2021	20217	2021Scrapers	2021Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0190	500	7
2021	20211	2021Signal Boards	2021Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2021	20213	2021Skid Steer Loaders	2021Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0019	120	3
2021	20216	2021Surfacing Equipment	2021Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0087	500	6
2021	20213	2021Sweepers/Scrubbers	2021Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0046	120	3
2021	20214	2021Tractors/Loaders/Backhoes	2021Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0031	120	4
2021	20214	2021Trenchers	2021Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0072	120	4
2021	20212	2021Welders	2021Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0035	50	2
2022	20223	2022Aerial Lifts	2022Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0020	120	3
2022	20224	2022Air Compressors	2022Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0031	120	4
2022	20226	2022Bore/Drill Rigs	2022Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0040	250	6
2022	20221	2022Cement and Mortar Mixers	2022Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2022	20224	2022Concrete/Industrial Saws	2022Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0040	120	4
2022	20226	2022Cranes	2022Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0057	250	6
2022	20226	2022Crawler Tractors	2022Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0096	250	6
2022	20224	2022Crushing/Proc. Equipment	2022Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0054	120	4
2022	20221	2022Dumpers/Tenders	2022Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2022	20225	2022Excavators	2022Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0055	175	5
2022	20224	2022Forklifts	2022Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0018	120	4
2022	20224	2022Generator Sets	2022Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0038	120	4
2022	20226	2022Graders	2022Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0072	175	6
2022	20225	2022Off-Highway Tractors	2022Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0118	175	5
2022	20227	2022Off-Highway Trucks	2022Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0122	500	7
2022	20225	2022Other Construction Equipment	2022Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0041	175	5
2022	20224	2022Other General Industrial Equipmen	2022Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0047	120	4
2022	20225	2022Other Material Handling Equipment	2022Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0071	175	5
2022	20225	2022Pavers	2022Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0098	175	5
2022	20225	2022Paving Equipment	2022Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0075	175	5
2022	20221	2022Plate Compactors	2022Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2022	20221	2022Pressure Washers	2022Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2022	20224	2022Pumps	2022Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0040	120	4
2022	20224	2022Rollers	2022Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0044	120	4
2022	20225	2022Rough Terrain Forklifts	2022Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0039	120	5
2022	20226	2022Rubber Tired Dozers	2022Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0188	500	6
2022	20226	2022Rubber Tired Loaders	2022Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0069	250	6
2022	20227	2022Scrapers	2022Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0181	500	7
2022	20221	2022Signal Boards	2022Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2022	20223	2022Skid Steer Loaders	2022Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0018	120	3
2022	20226	2022Surfacing Equipment	2022Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0083	500	6
2022	20223	2022Sweepers/Scrubbers	2022Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0043	120	3
2022	20224	2022Tractors/Loaders/Backhoes	2022Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0029	120	4
2022	20224	2022Trenchers	2022Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0068	120	4
2022	20222	2022Welders	2022Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0032	50	2
2023	20233	2023Aerial Lifts	2023Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0018	120	3
2023	20234	2023Air Compressors	2023Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0029	120	4
2023	20236	2023Bore/Drill Rigs	2023Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2023	20231	2023Cement and Mortar Mixers	2023Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2023	20234	2023Concrete/Industrial Saws	2023Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0038	120	4
2023	20236	2023Cranes	2023Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0054	250	6
2023	20236	2023Crawler Tractors	2023Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0091	250	6
2023	20234	2023Crushing/Proc. Equipment	2023Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0051	120	4
2023	20231	2023Dumpers/Tenders	2023Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2023	20235	2023Excavators	2023Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0052	175	5
2023	20234	2023Forklifts	2023Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0017	120	4
2023	20234	2023Generator Sets	2023Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0035	120	4
2023	20236	2023Graders	2023Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0067	175	6
2023	20235	2023Off-Highway Tractors	2023Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0112	175	5
2023	20237	2023Off-Highway Trucks	2023Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0116	500	7

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2023	20235	2023Other Construction Equipment	2023Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0039	175	5
2023	20234	2023Other General Industrial Equipmen	2023Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0044	120	4
2023	20235	2023Other Material Handling Equipment	2023Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0067	175	5
2023	20235	2023Pavers	2023Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0092	175	5
2023	20235	2023Paving Equipment	2023Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0071	175	5
2023	20231	2023Plate Compactors	2023Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2023	20231	2023Pressure Washers	2023Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2023	20234	2023Pumps	2023Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0038	120	4
2023	20234	2023Rollers	2023Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0041	120	4
2023	20235	2023Rough Terrain Forklifts	2023Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0037	120	5
2023	20236	2023Rubber Tired Dozers	2023Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0179	500	6
2023	20236	2023Rubber Tired Loaders	2023Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0065	250	6
2023	20237	2023Scrapers	2023Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0173	500	7
2023	20231	2023Signal Boards	2023Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2023	20233	2023Skid Steer Loaders	2023Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0017	120	3
2023	20236	2023Surfacing Equipment	2023Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0079	500	6
2023	20233	2023Sweepers/Scrubbers	2023Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0040	120	3
2023	20234	2023Tractors/Loaders/Backhoes	2023Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0027	120	4
2023	20234	2023Trenchers	2023Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0064	120	4
2023	20232	2023Welders	2023Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0029	50	2
2024	20243	2024Aerial Lifts	2024Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0017	120	3
2024	20244	2024Air Compressors	2024Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0028	120	4
2024	20246	2024Bore/Drill Rigs	2024Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2024	20241	2024Cement and Mortar Mixers	2024Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2024	20244	2024Concrete/Industrial Saws	2024Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0035	120	4
2024	20246	2024Cranes	2024Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0051	250	6
2024	20246	2024Crawler Tractors	2024Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0087	250	6
2024	20244	2024Crushing/Proc. Equipment	2024Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0048	120	4
2024	20241	2024Dumpers/Tenders	2024Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2024	20245	2024Excavators	2024Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0049	175	5
2024	20244	2024Forklifts	2024Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0016	120	4
2024	20244	2024Generator Sets	2024Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2024	20246	2024Graders	2024Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0063	175	6
2024	20245	2024Off-Highway Tractors	2024Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0106	175	5
2024	20247	2024Off-Highway Trucks	2024Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0111	500	7
2024	20245	2024Other Construction Equipment	2024Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0037	175	5
2024	20244	2024Other General Industrial Equipmen	2024Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0041	120	4
2024	20245	2024Other Material Handling Equipment	2024Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0063	175	5
2024	20245	2024Pavers	2024Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0086	175	5
2024	20245	2024Paving Equipment	2024Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0066	175	5
2024	20241	2024Plate Compactors	2024Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2024	20241	2024Pressure Washers	2024Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2024	20244	2024Pumps	2024Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0035	120	4
2024	20244	2024Rollers	2024Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0038	120	4
2024	20245	2024Rough Terrain Forklifts	2024Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0035	120	5
2024	20246	2024Rubber Tired Dozers	2024Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0171	500	6
2024	20246	2024Rubber Tired Loaders	2024Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0062	250	6
2024	20247	2024Scrapers	2024Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0165	500	7
2024	20241	2024Signal Boards	2024Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2024	20243	2024Skid Steer Loaders	2024Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2024	20246	2024Surfacing Equipment	2024Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0075	500	6
2024	20243	2024Sweepers/Scrubbers	2024Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0038	120	3
2024	20244	2024Tractors/Loaders/Backhoes	2024Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0026	120	4
2024	20244	2024Trenchers	2024Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0060	120	4
2024	20242	2024Welders	2024Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0027	50	2
2025	20253	2025Aerial Lifts	2025Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2025	20254	2025Air Compressors	2025Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2025	20256	2025Bore/Drill Rigs	2025Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2025	20251	2025Cement and Mortar Mixers	2025Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2025	20254	2025Concrete/Industrial Saws	2025Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2025	20256	2025Cranes	2025Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2025	20256	2025Crawler Tractors	2025Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2025	20254	2025Crushing/Proc. Equipment	2025Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2025	20251	2025Dumpers/Tenders	2025Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2025	20255	2025Excavators	2025Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2025	20254	2025Forklifts	2025Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2025	20254	2025Generator Sets	2025Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2025	20256	2025Graders	2025Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2025	20255	2025Off-Highway Tractors	2025Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2025	20257	2025Off-Highway Trucks	2025Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2025	20255	2025Other Construction Equipment	2025Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2025	20254	2025Other General Industrial Equipmen	2025Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2025	20255	2025Other Material Handling Equipment	2025Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2025	20255	2025Pavers	2025Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2025	20255	2025Paving Equipment	2025Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2025	20251	2025Plate Compactors	2025Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2025	20251	2025Pressure Washers	2025Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2025	20254	2025Pumps	2025Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2025	20254	2025Rollers	2025Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2025	20255	2025Rough Terrain Forklifts	2025Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2025	20256	2025Rubber Tired Dozers	2025Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2025	20256	2025Rubber Tired Loaders	2025Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2025	20257	2025Scrapers	2025Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2025	20251	2025Signal Boards	2025Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2025	20253	2025Skid Steer Loaders	2025Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2025	20256	2025Surfacing Equipment	2025Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2025	20253	2025Sweepers/Scrubbers	2025Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2025	20254	2025Tractors/Loaders/Backhoes	2025Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2025	20254	2025Trenchers	2025Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2025	20252	2025Welders	2025Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2026	20263	2026Aerial Lifts	2026Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2026	20264	2026Air Compressors	2026Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2026	20266	2026Bore/Drill Rigs	2026Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2026	20261	2026Cement and Mortar Mixers	2026Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2026	20264	2026Concrete/Industrial Saws	2026Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2026	20266	2026Cranes	2026Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2026	20266	2026Crawler Tractors	2026Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2026	20264	2026Crushing/Proc. Equipment	2026Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2026	20261	2026Dumpers/Tenders	2026Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2026	20265	2026Excavators	2026Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2026	20264	2026Forklifts	2026Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2026	20264	2026Generator Sets	2026Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2026	20266	2026Graders	2026Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2026	20265	2026Off-Highway Tractors	2026Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2026	20267	2026Off-Highway Trucks	2026Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2026	20265	2026Other Construction Equipment	2026Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2026	20264	2026Other General Industrial Equipmen	2026Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2026	20265	2026Other Material Handling Equipment	2026Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2026	20265	2026Pavers	2026Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2026	20265	2026Paving Equipment	2026Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2026	20261	2026Plate Compactors	2026Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2026	20261	2026Pressure Washers	2026Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2026	20264	2026Pumps	2026Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2026	20264	2026Rollers	2026Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2026	20265	2026Rough Terrain Forklifts	2026Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2026	20266	2026Rubber Tired Dozers	2026Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2026	20266	2026Rubber Tired Loaders	2026Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2026	20267	2026Scrapers	2026Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2026	20261	2026Signal Boards	2026Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2026	20263	2026Skid Steer Loaders	2026Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2026	20266	2026Surfacing Equipment	2026Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2026	20263	2026Sweepers/Scrubbers	2026Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2026	20264	2026Tractors/Loaders/Backhoes	2026Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2026	20264	2026Trenchers	2026Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2026	20262	2026Welders	2026Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2027	20273	2027Aerial Lifts	2027Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2027	20274	2027Air Compressors	2027Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2027	20276	2027Bore/Drill Rigs	2027Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2027	20271	2027Cement and Mortar Mixers	2027Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2027	20274	2027Concrete/Industrial Saws	2027Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2027	20276	2027Cranes	2027Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2027	20276	2027Crawler Tractors	2027Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2027	20274	2027Crushing/Proc. Equipment	2027Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2027	20271	2027Dumpers/Tenders	2027Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2027	20275	2027Excavators	2027Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2027	20274	2027Forklifts	2027Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2027	20274	2027Generator Sets	2027Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2027	20276	2027Graders	2027Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2027	20275	2027Off-Highway Tractors	2027Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2027	20277	2027Off-Highway Trucks	2027Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2027	20275	2027Other Construction Equipment	2027Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2027	20274	2027Other General Industrial Equipmen	2027Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2027	20275	2027Other Material Handling Equipment	2027Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2027	20275	2027Pavers	2027Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2027	20275	2027Paving Equipment	2027Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2027	20271	2027Plate Compactors	2027Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2027	20271	2027Pressure Washers	2027Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2027	20274	2027Pumps	2027Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2027	20274	2027Rollers	2027Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2027	20275	2027Rough Terrain Forklifts	2027Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2027	20276	2027Rubber Tired Dozers	2027Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2027	20276	2027Rubber Tired Loaders	2027Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2027	20277	2027Scrapers	2027Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2027	20271	2027Signal Boards	2027Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2027	20273	2027Skid Steer Loaders	2027Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2027	20276	2027Surfacing Equipment	2027Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2027	20273	2027Sweepers/Scrubbers	2027Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2027	20274	2027Tractors/Loaders/Backhoes	2027Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2027	20274	2027Trenchers	2027Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2027	20272	2027Welders	2027Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2028	20283	2028Aerial Lifts	2028Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2028	20284	2028Air Compressors	2028Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2028	20286	2028Bore/Drill Rigs	2028Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2028	20281	2028Cement and Mortar Mixers	2028Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2028	20284	2028Concrete/Industrial Saws	2028Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2028	20286	2028Cranes	2028Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2028	20286	2028Crawler Tractors	2028Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2028	20284	2028Crushing/Proc. Equipment	2028Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2028	20281	2028Dumpers/Tenders	2028Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2028	20285	2028Excavators	2028Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2028	20284	2028Forklifts	2028Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2028	20284	2028Generator Sets	2028Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2028	20286	2028Graders	2028Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2028	20285	2028Off-Highway Tractors	2028Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2028	20287	2028Off-Highway Trucks	2028Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2028	20285	2028Other Construction Equipment	2028Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2028	20284	2028Other General Industrial Equipmen	2028Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2028	20285	2028Other Material Handling Equipment	2028Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2028	20285	2028Pavers	2028Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2028	20285	2028Paving Equipment	2028Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2028	20281	2028Plate Compactors	2028Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2028	20281	2028Pressure Washers	2028Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2028	20284	2028Pumps	2028Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2028	20284	2028Rollers	2028Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2028	20285	2028Rough Terrain Forklifts	2028Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2028	20286	2028Rubber Tired Dozers	2028Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2028	20286	2028Rubber Tired Loaders	2028Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2028	20287	2028Scrapers	2028Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2028	20281	2028Signal Boards	2028Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2028	20283	2028Skid Steer Loaders	2028Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2028	20286	2028Surfacing Equipment	2028Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2028	20283	2028Sweepers/Scrubbers	2028Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2028	20284	2028Tractors/Loaders/Backhoes	2028Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2028	20284	2028Trenchers	2028Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2028	20282	2028Welders	2028Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2029	20293	2029Aerial Lifts	2029Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2029	20294	2029Air Compressors	2029Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2029	20296	2029Bore/Drill Rigs	2029Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2029	20291	2029Cement and Mortar Mixers	2029Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2029	20294	2029Concrete/Industrial Saws	2029Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2029	20296	2029Cranes	2029Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2029	20296	2029Crawler Tractors	2029Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2029	20294	2029Crushing/Proc. Equipment	2029Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2029	20291	2029Dumpers/Tenders	2029Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2029	20295	2029Excavators	2029Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2029	20294	2029Forklifts	2029Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2029	20294	2029Generator Sets	2029Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2029	20296	2029Graders	2029Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2029	20295	2029Off-Highway Tractors	2029Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2029	20297	2029Off-Highway Trucks	2029Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2029	20295	2029Other Construction Equipment	2029Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2029	20294	2029Other General Industrial Equipmen	2029Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2029	20295	2029Other Material Handling Equipment	2029Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2029	20295	2029Pavers	2029Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2029	20295	2029Paving Equipment	2029Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2029	20291	2029Plate Compactors	2029Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2029	20291	2029Pressure Washers	2029Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2029	20294	2029Pumps	2029Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2029	20294	2029Rollers	2029Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2029	20295	2029Rough Terrain Forklifts	2029Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2029	20296	2029Rubber Tired Dozers	2029Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2029	20296	2029Rubber Tired Loaders	2029Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2029	20297	2029Scrapers	2029Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2029	20291	2029Signal Boards	2029Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2029	20293	2029Skid Steer Loaders	2029Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2029	20296	2029Surfacing Equipment	2029Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2029	20293	2029Sweepers/Scrubbers	2029Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2029	20294	2029Tractors/Loaders/Backhoes	2029Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2029	20294	2029Trenchers	2029Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2029	20292	2029Welders	2029Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2030	20303	2030Aerial Lifts	2030Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2030	20304	2030Air Compressors	2030Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2030	20306	2030Bore/Drill Rigs	2030Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2030	20301	2030Cement and Mortar Mixers	2030Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2030	20304	2030Concrete/Industrial Saws	2030Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2030	20306	2030Cranes	2030Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2030	20306	2030Crawler Tractors	2030Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2030	20304	2030Crushing/Proc. Equipment	2030Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2030	20301	2030Dumpers/Tenders	2030Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2030	20305	2030Excavators	2030Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2030	20304	2030Forklifts	2030Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2030	20304	2030Generator Sets	2030Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2030	20306	2030Graders	2030Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2030	20305	2030Off-Highway Tractors	2030Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2030	20307	2030Off-Highway Trucks	2030Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2030	20305	2030Other Construction Equipment	2030Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2030	20304	2030Other General Industrial Equipmen	2030Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2030	20305	2030Other Material Handling Equipment	2030Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2030	20305	2030Pavers	2030Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2030	20305	2030Paving Equipment	2030Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2030	20301	2030Plate Compactors	2030Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2030	20301	2030Pressure Washers	2030Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2030	20304	2030Pumps	2030Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2030	20304	2030Rollers	2030Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2030	20305	2030Rough Terrain Forklifts	2030Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2030	20306	2030Rubber Tired Dozers	2030Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2030	20306	2030Rubber Tired Loaders	2030Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2030	20307	2030Scrapers	2030Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2030	20301	2030Signal Boards	2030Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2030	20303	2030Skid Steer Loaders	2030Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2030	20306	2030Surfacing Equipment	2030Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2030	20303	2030Sweepers/Scrubbers	2030Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2030	20304	2030Tractors/Loaders/Backhoes	2030Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2030	20304	2030Trenchers	2030Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2030	20302	2030Welders	2030Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2031	20313	2031Aerial Lifts	2031Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2031	20314	2031Air Compressors	2031Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2031	20316	2031Bore/Drill Rigs	2031Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2031	20311	2031Cement and Mortar Mixers	2031Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2031	20314	2031Concrete/Industrial Saws	2031Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2031	20316	2031Cranes	2031Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2031	20316	2031Crawler Tractors	2031Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2031	20314	2031Crushing/Proc. Equipment	2031Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2031	20311	2031Dumpers/Tenders	2031Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2031	20315	2031Excavators	2031Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2031	20314	2031Forklifts	2031Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2031	20314	2031Generator Sets	2031Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2031	20316	2031Graders	2031Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2031	20315	2031Off-Highway Tractors	2031Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2031	20317	2031Off-Highway Trucks	2031Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2031	20315	2031Other Construction Equipment	2031Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2031	20314	2031Other General Industrial Equipmen	2031Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2031	20315	2031Other Material Handling Equipment	2031Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2031	20315	2031Pavers	2031Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2031	20315	2031Paving Equipment	2031Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2031	20311	2031Plate Compactors	2031Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2031	20311	2031Pressure Washers	2031Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2031	20314	2031Pumps	2031Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2031	20314	2031Rollers	2031Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2031	20315	2031Rough Terrain Forklifts	2031Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2031	20316	2031Rubber Tired Dozers	2031Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2031	20316	2031Rubber Tired Loaders	2031Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2031	20317	2031Scrapers	2031Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2031	20311	2031Signal Boards	2031Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2031	20313	2031Skid Steer Loaders	2031Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2031	20316	2031Surfacing Equipment	2031Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2031	20313	2031Sweepers/Scrubbers	2031Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2031	20314	2031Tractors/Loaders/Backhoes	2031Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2031	20314	2031Trenchers	2031Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2031	20312	2031Welders	2031Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2033	20333	2033Aerial Lifts	2033Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2033	20334	2033Air Compressors	2033Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2033	20336	2033Bore/Drill Rigs	2033Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2033	20331	2033Cement and Mortar Mixers	2033Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2033	20334	2033Concrete/Industrial Saws	2033Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2033	20336	2033Cranes	2033Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2033	20336	2033Crawler Tractors	2033Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2033	20334	2033Crushing/Proc. Equipment	2033Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2033	20331	2033Dumpers/Tenders	2033Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2033	20335	2033Excavators	2033Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2033	20334	2033Forklifts	2033Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2033	20334	2033Generator Sets	2033Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2033	20336	2033Graders	2033Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2033	20335	2033Off-Highway Tractors	2033Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2033	20337	2033Off-Highway Trucks	2033Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2033	20335	2033Other Construction Equipment	2033Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2033	20334	2033Other General Industrial Equipmen	2033Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2033	20335	2033Other Material Handling Equipment	2033Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2033	20335	2033Pavers	2033Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2033	20335	2033Paving Equipment	2033Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2033	20331	2033Plate Compactors	2033Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2033	20331	2033Pressure Washers	2033Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2033	20334	2033Pumps	2033Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2033	20334	2033Rollers	2033Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2033	20335	2033Rough Terrain Forklifts	2033Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2033	20336	2033Rubber Tired Dozers	2033Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2033	20336	2033Rubber Tired Loaders	2033Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2033	20337	2033Scrapers	2033Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2033	20331	2033Signal Boards	2033Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2033	20333	2033Skid Steer Loaders	2033Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2033	20336	2033Surfacing Equipment	2033Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2033	20333	2033Sweepers/Scrubbers	2033Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2033	20334	2033Tractors/Loaders/Backhoes	2033Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2033	20334	2033Trenchers	2033Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2033	20332	2033Welders	2033Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2035	20353	2035Aerial Lifts	2035Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2035	20354	2035Air Compressors	2035Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2035	20356	2035Bore/Drill Rigs	2035Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2035	20351	2035Cement and Mortar Mixers	2035Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2035	20354	2035Concrete/Industrial Saws	2035Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2035	20356	2035Cranes	2035Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2035	20356	2035Crawler Tractors	2035Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2035	20354	2035Crushing/Proc. Equipment	2035Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2035	20351	2035Dumpers/Tenders	2035Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2035	20355	2035Excavators	2035Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2035	20354	2035Forklifts	2035Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2035	20354	2035Generator Sets	2035Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2035	20356	2035Graders	2035Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2035	20355	2035Off-Highway Tractors	2035Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2035	20357	2035Off-Highway Trucks	2035Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2035	20355	2035Other Construction Equipment	2035Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2035	20354	2035Other General Industrial Equipmen	2035Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2035	20355	2035Other Material Handling Equipment	2035Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2035	20355	2035Pavers	2035Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2035	20355	2035Paving Equipment	2035Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2035	20351	2035Plate Compactors	2035Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2035	20351	2035Pressure Washers	2035Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2035	20354	2035Pumps	2035Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2035	20354	2035Rollers	2035Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2035	20355	2035Rough Terrain Forklifts	2035Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2035	20356	2035Rubber Tired Dozers	2035Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2035	20356	2035Rubber Tired Loaders	2035Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2035	20357	2035Scrapers	2035Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2035	20351	2035Signal Boards	2035Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2035	20353	2035Skid Steer Loaders	2035Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2035	20356	2035Surfacing Equipment	2035Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2035	20353	2035Sweepers/Scrubbers	2035Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2035	20354	2035Tractors/Loaders/Backhoes	2035Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2035	20354	2035Trenchers	2035Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2035	20352	2035Welders	2035Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2037	20373	2037Aerial Lifts	2037Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2037	20374	2037Air Compressors	2037Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2037	20376	2037Bore/Drill Rigs	2037Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2037	20371	2037Cement and Mortar Mixers	2037Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2037	20374	2037Concrete/Industrial Saws	2037Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2037	20376	2037Cranes	2037Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2037	20376	2037Crawler Tractors	2037Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2037	20374	2037Crushing/Proc. Equipment	2037Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2037	20371	2037Dumpers/Tenders	2037Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2037	20375	2037Excavators	2037Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2037	20374	2037Forklifts	2037Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2037	20374	2037Generator Sets	2037Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2037	20376	2037Graders	2037Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2037	20375	2037Off-Highway Tractors	2037Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2037	20377	2037Off-Highway Trucks	2037Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2037	20375	2037Other Construction Equipment	2037Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2037	20374	2037Other General Industrial Equipmen	2037Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2037	20375	2037Other Material Handling Equipment	2037Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2037	20375	2037Pavers	2037Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2037	20375	2037Paving Equipment	2037Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2037	20371	2037Plate Compactors	2037Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2037	20371	2037Pressure Washers	2037Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2037	20374	2037Pumps	2037Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2037	20374	2037Rollers	2037Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2037	20375	2037Rough Terrain Forklifts	2037Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2037	20376	2037Rubber Tired Dozers	2037Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2037	20376	2037Rubber Tired Loaders	2037Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2037	20377	2037Scrapers	2037Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2037	20371	2037Signal Boards	2037Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2037	20373	2037Skid Steer Loaders	2037Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2037	20376	2037Surfacing Equipment	2037Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2037	20373	2037Sweepers/Scrubbers	2037Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2037	20374	2037Tractors/Loaders/Backhoes	2037Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2037	20374	2037Trenchers	2037Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2037	20372	2037Welders	2037Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2038	20383	2038Aerial Lifts	2038Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2038	20384	2038Air Compressors	2038Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2038	20386	2038Bore/Drill Rigs	2038Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2038	20381	2038Cement and Mortar Mixers	2038Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2038	20384	2038Concrete/Industrial Saws	2038Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2038	20386	2038Cranes	2038Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2038	20386	2038Crawler Tractors	2038Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2038	20384	2038Crushing/Proc. Equipment	2038Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2038	20381	2038Dumpers/Tenders	2038Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2038	20385	2038Excavators	2038Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2038	20384	2038Forklifts	2038Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2038	20384	2038Generator Sets	2038Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2038	20386	2038Graders	2038Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2038	20385	2038Off-Highway Tractors	2038Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2038	20387	2038Off-Highway Trucks	2038Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2038	20385	2038Other Construction Equipment	2038Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2038	20384	2038Other General Industrial Equipmen	2038Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2038	20385	2038Other Material Handling Equipment	2038Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2038	20385	2038Pavers	2038Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2038	20385	2038Paving Equipment	2038Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2038	20381	2038Plate Compactors	2038Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2038	20381	2038Pressure Washers	2038Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2038	20384	2038Pumps	2038Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2038	20384	2038Rollers	2038Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2038	20385	2038Rough Terrain Forklifts	2038Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2038	20386	2038Rubber Tired Dozers	2038Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2038	20386	2038Rubber Tired Loaders	2038Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2038	20387	2038Scrapers	2038Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2038	20381	2038Signal Boards	2038Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2038	20383	2038Skid Steer Loaders	2038Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2038	20386	2038Surfacing Equipment	2038Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2038	20383	2038Sweepers/Scrubbers	2038Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2038	20384	2038Tractors/Loaders/Backhoes	2038Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2038	20384	2038Trenchers	2038Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2038	20382	2038Welders	2038Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2041	20413	2041Aerial Lifts	2041Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2041	20414	2041Air Compressors	2041Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2041	20416	2041Bore/Drill Rigs	2041Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2041	20411	2041Cement and Mortar Mixers	2041Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2041	20414	2041Concrete/Industrial Saws	2041Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2041	20416	2041Cranes	2041Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2041	20416	2041Crawler Tractors	2041Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2041	20414	2041Crushing/Proc. Equipment	2041Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2041	20411	2041Dumpers/Tenders	2041Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2041	20415	2041Excavators	2041Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2041	20414	2041Forklifts	2041Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2041	20414	2041Generator Sets	2041Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2041	20416	2041Graders	2041Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2041	20415	2041Off-Highway Tractors	2041Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2041	20417	2041Off-Highway Trucks	2041Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2041	20415	2041Other Construction Equipment	2041Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2041	20414	2041Other General Industrial Equipmen	2041Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2041	20415	2041Other Material Handling Equipment	2041Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2041	20415	2041Pavers	2041Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2041	20415	2041Paving Equipment	2041Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2041	20411	2041Plate Compactors	2041Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2041	20411	2041Pressure Washers	2041Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1

Off-road Construction Equipment Emission Factors (lb/hour): Construction

Year	Year+Range	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	LEVEL	RANGE
2041	20414	2041Pumps	2041Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2041	20414	2041Rollers	2041Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2041	20415	2041Rough Terrain Forklifts	2041Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	5
2041	20416	2041Rubber Tired Dozers	2041Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2041	20416	2041Rubber Tired Loaders	2041Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2041	20417	2041Scrapers	2041Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2041	20411	2041Signal Boards	2041Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2041	20413	2041Skid Steer Loaders	2041Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2041	20416	2041Surfacing Equipment	2041Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2041	20413	2041Sweepers/Scrubbers	2041Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2041	20414	2041Tractors/Loaders/Backhoes	2041Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2041	20414	2041Trenchers	2041Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2041	20412	2041Welders	2041Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2

Source: SCAQMD CEQA Handbook website: http://sfprod.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/off-road-mobile-source-emission-factors
Emission factors only available up to 2025; therefore, it was conservatively assumed that the emission factors for years 2026 through 2035 were the same as 2025.
After 2020, NOx/PM10/PM2.5/CO/VOC emission factors taken as the Tier 4f emission standards per the ARB's Diesel Off-road Equipment Regulation Table 3 (13 CCR 2449).
Emission factors for PM2.5 not available; therefore, it was assumed that 92% of diesel off-road equipment PM10 emissions were PM2.5 (SCAQMD Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology, October 2006; Appendix A – Updated CEIDARS List with PM2.5 Fractions, http://www.aqmd.gov/ceqa/handbook/PM2_5/finalAppA.doc).
Default hp and load factor taken from CalEEMod User Guide Appendix D, Table 3.3 (September 2013).

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2014	2014Aerial Lifts	2014Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0046	120	3
2014	2014Air Compressors	2014Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0068	120	4
2014	2014Bore/Drill Rigs	2014Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0066	250	6
2014	2014Cement and Mortar Mixers	2014Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2014	2014Concrete/Industrial Saws	2014Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0088	120	4
2014	2014Cranes	2014Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0088	250	6
2014	2014Crawler Tractors	2014Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0151	250	6
2014	2014Crushing/Proc. Equipment	2014Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0116	120	4
2014	2014Dumpers/Tenders	2014Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0009	25	1
2014	2014Excavators	2014Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0102	175	5
2014	2014Forklifts	2014Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0035	120	4
2014	2014Generator Sets	2014Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0091	120	4
2014	2014Graders	2014Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0125	175	6
2014	2014Off-Highway Tractors	2014Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0177	175	5
2014	2014Off-Highway Trucks	2014Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0186	500	7
2014	2014Other Construction Equipment	2014Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0078	175	5
2014	2014Other General Industrial Equipmen	2014Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0098	120	4
2014	2014Other Material Handling Equipment	2014Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0134	175	5
2014	2014Pavers	2014Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0153	175	5
2014	2014Paving Equipment	2014Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0119	175	5
2014	2014Plate Compactors	2014Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2014	2014Pressure Washers	2014Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0006	15	1
2014	2014Pumps	2014Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0095	120	4
2014	2014Rollers	2014Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0083	120	4
2014	2014Rough Terrain Forklifts	2014Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0079	120	4
2014	2014Rubber Tired Dozers	2014Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0277	500	6
2014	2014Rubber Tired Loaders	2014Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0107	250	6
2014	2014Scrapers	2014Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0274	500	7
2014	2014Signal Boards	2014Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2014	2014Sweepers/Scrubbers	2014Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0089	120	3
2014	2014Tractors/Loaders/Backhoes	2014Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0057	120	4
2014	2014Trenchers	2014Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0109	120	4
2014	2014Welders	2014Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0080	50	2
2015	2015Aerial Lifts	2015Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0042	120	3
2015	2015Air Compressors	2015Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0062	120	4
2015	2015Bore/Drill Rigs	2015Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0061	250	6
2015	2015Cement and Mortar Mixers	2015Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2015	2015Concrete/Industrial Saws	2015Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0080	120	4
2015	2015Cranes	2015Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0083	250	6
2015	2015Crawler Tractors	2015Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0143	250	6
2015	2015Crushing/Proc. Equipment	2015Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0105	120	4
2015	2015Dumpers/Tenders	2015Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2015	2015Excavators	2015Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0095	175	5
2015	2015Forklifts	2015Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0031	120	4
2015	2015Generator Sets	2015Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0082	120	4
2015	2015Graders	2015Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0117	175	6
2015	2015Off-Highway Tractors	2015Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0169	175	5
2015	2015Off-Highway Trucks	2015Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0177	500	7
2015	2015Other Construction Equipment	2015Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0072	175	5
2015	2015Other General Industrial Equipmen	2015Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0089	120	4
2015	2015Other Material Handling Equipment	2015Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0123	175	5
2015	2015Pavers	2015Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0145	175	5
2015	2015Paving Equipment	2015Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0113	175	5
2015	2015Plate Compactors	2015Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2015	2015Pressure Washers	2015Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0006	15	1
2015	2015Pumps	2015Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0086	120	4
2015	2015Rollers	2015Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0077	120	4
2015	2015Rough Terrain Forklifts	2015Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0072	120	4
2015	2015Rubber Tired Dozers	2015Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0265	500	6
2015	2015Rubber Tired Loaders	2015Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0101	250	6
2015	2015Scrapers	2015Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0260	500	7
2015	2015Signal Boards	2015Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2015	2015Skid Steer Loaders	2015Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0030	120	3
2015	2015Surfacing Equipment	2015Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0121	500	6
2015	2015Sweepers/Scrubbers	2015Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0079	120	3
2015	2015Tractors/Loaders/Backhoes	2015Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0052	120	4
2015	2015Trenchers	2015Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0103	120	4
2015	2015Welders	2015Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0072	50	2
2016	2016Aerial Lifts	2016Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0037	120	3
2016	2016Air Compressors	2016Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0056	120	4
2016	2016Bore/Drill Rigs	2016Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0057	250	6
2016	2016Cement and Mortar Mixers	2016Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2016	2016Concrete/Industrial Saws	2016Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0073	120	4
2016	2016Cranes	2016Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0079	250	6
2016	2016Crawler Tractors	2016Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0135	250	6
2016	2016Crushing/Proc. Equipment	2016Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0095	120	4
2016	2016Dumpers/Tenders	2016Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2016	2016Excavators	2016Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0088	175	5
2016	2016Forklifts	2016Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0028	120	4
2016	2016Generator Sets	2016Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0073	120	4
2016	2016Graders	2016Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0110	175	6
2016	2016Off-Highway Tractors	2016Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0161	175	5
2016	2016Off-Highway Trucks	2016Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0167	500	7
2016	2016Other Construction Equipment	2016Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0066	175	5
2016	2016Other General Industrial Equipmen	2016Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0081	120	4
2016	2016Other Material Handling Equipment	2016Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0113	175	5
2016	2016Pavers	2016Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0138	175	5
2016	2016Paving Equipment	2016Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0107	175	5
2016	2016Plate Compactors	2016Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2016	2016Pressure Washers	2016Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0006	15	1
2016	2016Pumps	2016Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0077	120	4
2016	2016Rollers	2016Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0072	120	4
2016	2016Rough Terrain Forklifts	2016Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0066	120	4
2016	2016Rubber Tired Dozers	2016Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0252	500	6
2016	2016Rubber Tired Loaders	2016Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0095	250	6
2016	2016Scrapers	2016Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0247	500	7
2016	2016Signal Boards	2016Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2016	2016Skid Steer Loaders	2016Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0027	120	3
2016	2016Surfacing Equipment	2016Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0114	500	6
2016	2016Sweepers/Scrubbers	2016Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0070	120	3
2016	2016Tractors/Loaders/Backhoes	2016Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0047	120	4
2016	2016Trenchers	2016Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0097	120	4
2016	2016Welders	2016Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0065	50	2
2017	2017Aerial Lifts	2017Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0033	120	3
2017	2017Air Compressors	2017Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0051	120	4
2017	2017Bore/Drill Rigs	2017Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0052	250	6
2017	2017Cement and Mortar Mixers	2017Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2017	2017Concrete/Industrial Saws	2017Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0066	120	4
2017	2017Cranes	2017Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0075	250	6
2017	2017Crawler Tractors	2017Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0127	250	6
2017	2017Crushing/Proc. Equipment	2017Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0086	120	4
2017	2017Dumpers/Tenders	2017Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2017	2017Excavators	2017Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0081	175	5
2017	2017Forklifts	2017Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0026	120	4
2017	2017Generator Sets	2017Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0065	120	4
2017	2017Graders	2017Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0102	175	6
2017	2017Off-Highway Tractors	2017Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0153	175	5
2017	2017Off-Highway Trucks	2017Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0158	500	7
2017	2017Other Construction Equipment	2017Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0060	175	5
2017	2017Other General Industrial Equipmen	2017Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0073	120	4
2017	2017Other Material Handling Equipment	2017Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0103	175	5
2017	2017Pavers	2017Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0130	175	5
2017	2017Paving Equipment	2017Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0101	175	5
2017	2017Plate Compactors	2017Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2017	2017Pressure Washers	2017Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2017	2017Pumps	2017Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0069	120	4

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2017	2017Rollers	2017Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0066	120	4
2017	2017Rough Terrain Forklifts	2017Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0060	120	4
2017	2017Rubber Tired Dozers	2017Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0240	500	6
2017	2017Rubber Tired Loaders	2017Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0090	250	6
2017	2017Scrapers	2017Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0234	500	7
2017	2017Signal Boards	2017Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2017	2017Skid Steer Loaders	2017Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0024	120	3
2017	2017Surfacing Equipment	2017Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0107	500	6
2017	2017Sweepers/Scrubbers	2017Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0063	120	3
2017	2017Tractors/Loaders/Backhoes	2017Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0043	120	4
2017	2017Trenchers	2017Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0092	120	4
2017	2017Welders	2017Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0058	50	2
2018	2018Aerial Lifts	2018Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0029	120	3
2018	2018Air Compressors	2018Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0045	120	4
2018	2018Bore/Drill Rigs	2018Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0049	250	6
2018	2018Cement and Mortar Mixers	2018Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2018	2018Concrete/Industrial Saws	2018Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0059	120	4
2018	2018Cranes	2018Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0071	250	6
2018	2018Crawler Tractors	2018Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0120	250	6
2018	2018Crushing/Proc. Equipment	2018Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0077	120	4
2018	2018Dumpers/Tenders	2018Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2018	2018Excavators	2018Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0074	175	5
2018	2018Forklifts	2018Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0024	120	4
2018	2018Generator Sets	2018Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0058	120	4
2018	2018Graders	2018Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0096	175	6
2018	2018Off-Highway Tractors	2018Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0146	175	5
2018	2018Off-Highway Trucks	2018Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0149	500	7
2018	2018Other Construction Equipment	2018Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0055	175	5
2018	2018Other General Industrial Equipmen	2018Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0066	120	4
2018	2018Other Material Handling Equipment	2018Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0095	175	5
2018	2018Pavers	2018Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0123	175	5
2018	2018Paving Equipment	2018Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0096	175	5
2018	2018Plate Compactors	2018Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2018	2018Pressure Washers	2018Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2018	2018Pumps	2018Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0061	120	4
2018	2018Rollers	2018Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0061	120	4
2018	2018Rough Terrain Forklifts	2018Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0054	120	4
2018	2018Rubber Tired Dozers	2018Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0228	500	6
2018	2018Rubber Tired Loaders	2018Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0085	250	6
2018	2018Scrapers	2018Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0222	500	7
2018	2018Signal Boards	2018Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2018	2018Skid Steer Loaders	2018Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0022	120	3
2018	2018Surfacing Equipment	2018Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0101	500	6
2018	2018Sweepers/Scrubbers	2018Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0058	120	3
2018	2018Tractors/Loaders/Backhoes	2018Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0039	120	4
2018	2018Trenchers	2018Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0087	120	4
2018	2018Welders	2018Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0051	50	2
2019	2019Aerial Lifts	2019Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0026	120	3
2019	2019Air Compressors	2019Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0041	120	4
2019	2019Bore/Drill Rigs	2019Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0045	250	6
2019	2019Cement and Mortar Mixers	2019Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2019	2019Concrete/Industrial Saws	2019Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0052	120	4
2019	2019Cranes	2019Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0067	250	6
2019	2019Crawler Tractors	2019Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0114	250	6
2019	2019Crushing/Proc. Equipment	2019Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0069	120	4
2019	2019Dumpers/Tenders	2019Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2019	2019Excavators	2019Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0068	175	5
2019	2019Forklifts	2019Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0022	120	4
2019	2019Generator Sets	2019Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0051	120	4
2019	2019Graders	2019Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0089	175	6
2019	2019Off-Highway Tractors	2019Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0138	175	5
2019	2019Off-Highway Trucks	2019Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0142	500	7
2019	2019Other Construction Equipment	2019Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0051	175	5
2019	2019Other General Industrial Equipmen	2019Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0059	120	4

Chiquita Canyon Landfill EIR

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2019	2019Other Material Handling Equipment	2019Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0088	175	5
2019	2019Pavers	2019Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0116	175	5
2019	2019Paving Equipment	2019Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0090	175	5
2019	2019Plate Compactors	2019Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2019	2019Pressure Washers	2019Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2019	2019Pumps	2019Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0054	120	4
2019	2019Rollers	2019Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0057	120	4
2019	2019Rough Terrain Forklifts	2019Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0049	120	4
2019	2019Rubber Tired Dozers	2019Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0217	500	6
2019	2019Rubber Tired Loaders	2019Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0081	250	6
2019	2019Scrapers	2019Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0210	500	7
2019	2019Signal Boards	2019Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2019	2019Skid Steer Loaders	2019Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0021	120	3
2019	2019Surfacing Equipment	2019Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0096	500	6
2019	2019Sweepers/Scrubbers	2019Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0054	120	3
2019	2019Tractors/Loaders/Backhoes	2019Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0036	120	4
2019	2019Trenchers	2019Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0081	120	4
2019	2019Welders	2019Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0044	50	2
2020	2020Aerial Lifts	2020Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0023	120	3
2020	2020Air Compressors	2020Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0037	120	4
2020	2020Bore/Drill Rigs	2020Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0043	250	6
2020	2020Cement and Mortar Mixers	2020Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2020	2020Concrete/Industrial Saws	2020Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0047	120	4
2020	2020Cranes	2020Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0064	250	6
2020	2020Crawler Tractors	2020Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0107	250	6
2020	2020Crushing/Proc. Equipment	2020Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0062	120	4
2020	2020Dumpers/Tenders	2020Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2020	2020Excavators	2020Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0063	175	5
2020	2020Forklifts	2020Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0020	120	4
2020	2020Generator Sets	2020Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0046	120	4
2020	2020Graders	2020Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0083	175	6
2020	2020Off-Highway Tractors	2020Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0131	175	5
2020	2020Off-Highway Trucks	2020Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0134	500	7
2020	2020Other Construction Equipment	2020Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0047	175	5
2020	2020Other General Industrial Equipmen	2020Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0054	120	4
2020	2020Other Material Handling Equipment	2020Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0082	175	5
2020	2020Pavers	2020Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0110	175	5
2020	2020Paving Equipment	2020Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0085	175	5
2020	2020Plate Compactors	2020Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2020	2020Pressure Washers	2020Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2020	2020Pumps	2020Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0048	120	4
2020	2020Rollers	2020Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0052	120	4
2020	2020Rough Terrain Forklifts	2020Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0045	120	4
2020	2020Rubber Tired Dozers	2020Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0207	500	6
2020	2020Rubber Tired Loaders	2020Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0077	250	6
2020	2020Scrapers	2020Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0200	500	7
2020	2020Signal Boards	2020Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2020	2020Skid Steer Loaders	2020Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0020	120	3
2020	2020Surfacing Equipment	2020Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0091	500	6
2020	2020Sweepers/Scrubbers	2020Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0050	120	3
2020	2020Tractors/Loaders/Backhoes	2020Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0033	120	4
2020	2020Trenchers	2020Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0077	120	4
2020	2020Welders	2020Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0039	50	2
2021	2021Aerial Lifts	2021Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0021	120	3
2021	2021Air Compressors	2021Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0033	120	4
2021	2021Bore/Drill Rigs	2021Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0041	250	6
2021	2021Cement and Mortar Mixers	2021Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2021	2021Concrete/Industrial Saws	2021Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0044	120	4
2021	2021Cranes	2021Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0060	250	6
2021	2021Crawler Tractors	2021Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0101	250	6
2021	2021Crushing/Proc. Equipment	2021Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0058	120	4
2021	2021Dumpers/Tenders	2021Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2021	2021Excavators	2021Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0059	175	5
2021	2021Forklifts	2021Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0019	120	4

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2021	2021Generator Sets	2021Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0041	120	4
2021	2021Graders	2021Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0077	175	6
2021	2021Off-Highway Tractors	2021Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0124	175	5
2021	2021Off-Highway Trucks	2021Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0128	500	7
2021	2021Other Construction Equipment	2021Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0044	175	5
2021	2021Other General Industrial Equipmen	2021Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0050	120	4
2021	2021Other Material Handling Equipment	2021Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0075	175	5
2021	2021Pavers	2021Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0104	175	5
2021	2021Paving Equipment	2021Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0080	175	5
2021	2021Plate Compactors	2021Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2021	2021Pressure Washers	2021Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2021	2021Pumps	2021Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0044	120	4
2021	2021Rollers	2021Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0048	120	4
2021	2021Rough Terrain Forklifts	2021Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0042	120	4
2021	2021Rubber Tired Dozers	2021Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0197	500	6
2021	2021Rubber Tired Loaders	2021Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0073	250	6
2021	2021Scrapers	2021Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0190	500	7
2021	2021Signal Boards	2021Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2021	2021Skid Steer Loaders	2021Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0019	120	3
2021	2021Surfacing Equipment	2021Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0087	500	6
2021	2021Sweepers/Scrubbers	2021Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0046	120	3
2021	2021Tractors/Loaders/Backhoes	2021Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0031	120	4
2021	2021Trenchers	2021Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0072	120	4
2021	2021Welders	2021Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0035	50	2
2022	2022Aerial Lifts	2022Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0020	120	3
2022	2022Air Compressors	2022Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0031	120	4
2022	2022Bore/Drill Rigs	2022Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0040	250	6
2022	2022Cement and Mortar Mixers	2022Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2022	2022Concrete/Industrial Saws	2022Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0040	120	4
2022	2022Cranes	2022Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0057	250	6
2022	2022Crawler Tractors	2022Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0096	250	6
2022	2022Crushing/Proc. Equipment	2022Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0054	120	4
2022	2022Dumpers/Tenders	2022Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2022	2022Excavators	2022Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0055	175	5
2022	2022Forklifts	2022Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0018	120	4
2022	2022Generator Sets	2022Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0038	120	4
2022	2022Graders	2022Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0072	175	6
2022	2022Off-Highway Tractors	2022Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0118	175	5
2022	2022Off-Highway Trucks	2022Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0122	500	7
2022	2022Other Construction Equipment	2022Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0041	175	5
2022	2022Other General Industrial Equipmen	2022Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0047	120	4
2022	2022Other Material Handling Equipment	2022Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0071	175	5
2022	2022Pavers	2022Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0098	175	5
2022	2022Paving Equipment	2022Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0075	175	5
2022	2022Plate Compactors	2022Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2022	2022Pressure Washers	2022Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2022	2022Pumps	2022Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0040	120	4
2022	2022Rollers	2022Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0044	120	4
2022	2022Rough Terrain Forklifts	2022Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0039	120	4
2022	2022Rubber Tired Dozers	2022Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0188	500	6
2022	2022Rubber Tired Loaders	2022Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0069	250	6
2022	2022Scrapers	2022Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0181	500	7
2022	2022Signal Boards	2022Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2022	2022Skid Steer Loaders	2022Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0018	120	3
2022	2022Surfacing Equipment	2022Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0083	500	6
2022	2022Sweepers/Scrubbers	2022Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0043	120	3
2022	2022Tractors/Loaders/Backhoes	2022Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0029	120	4
2022	2022Trenchers	2022Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0068	120	4
2022	2022Welders	2022Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0032	50	2
2023	2023Aerial Lifts	2023Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0018	120	3
2023	2023Air Compressors	2023Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0029	120	4
2023	2023Bore/Drill Rigs	2023Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2023	2023Cement and Mortar Mixers	2023Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2023	2023Concrete/Industrial Saws	2023Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0038	120	4

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2023	2023Cranes	2023Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0054	250	6
2023	2023Crawler Tractors	2023Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0091	250	6
2023	2023Crushing/Proc. Equipment	2023Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0051	120	4
2023	2023Dumpers/Tenders	2023Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2023	2023Excavators	2023Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0052	175	5
2023	2023Forklifts	2023Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0017	120	4
2023	2023Generator Sets	2023Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0035	120	4
2023	2023Graders	2023Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0067	175	6
2023	2023Off-Highway Tractors	2023Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0112	175	5
2023	2023Off-Highway Trucks	2023Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0116	500	7
2023	2023Other Construction Equipment	2023Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0039	175	5
2023	2023Other General Industrial Equipmen	2023Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0044	120	4
2023	2023Other Material Handling Equipment	2023Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0067	175	5
2023	2023Pavers	2023Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0092	175	5
2023	2023Paving Equipment	2023Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0071	175	5
2023	2023Plate Compactors	2023Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2023	2023Pressure Washers	2023Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2023	2023Pumps	2023Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0038	120	4
2023	2023Rollers	2023Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0041	120	4
2023	2023Rough Terrain Forklifts	2023Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0037	120	4
2023	2023Rubber Tired Dozers	2023Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0179	500	6
2023	2023Rubber Tired Loaders	2023Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0065	250	6
2023	2023Scrapers	2023Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0173	500	7
2023	2023Signal Boards	2023Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2023	2023Skid Steer Loaders	2023Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0017	120	3
2023	2023Surfacing Equipment	2023Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0079	500	6
2023	2023Sweepers/Scrubbers	2023Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0040	120	3
2023	2023Tractors/Loaders/Backhoes	2023Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0027	120	4
2023	2023Trenchers	2023Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0064	120	4
2024	2024Aerial Lifts	2024Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0017	120	3
2024	2024Air Compressors	2024Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0028	120	4
2024	2024Bore/Drill Rigs	2024Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2024	2024Cement and Mortar Mixers	2024Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2024	2024Concrete/Industrial Saws	2024Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0035	120	4
2024	2024Cranes	2024Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0051	250	6
2024	2024Crawler Tractors	2024Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0087	250	6
2024	2024Crushing/Proc. Equipment	2024Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0048	120	4
2024	2024Dumpers/Tenders	2024Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2024	2024Excavators	2024Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0049	175	5
2024	2024Forklifts	2024Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0016	120	4
2024	2024Generator Sets	2024Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2024	2024Graders	2024Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0063	175	6
2024	2024Off-Highway Tractors	2024Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0106	175	5
2024	2024Off-Highway Trucks	2024Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0111	500	7
2024	2024Other Construction Equipment	2024Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0037	175	5
2024	2024Other General Industrial Equipmen	2024Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0041	120	4
2024	2024Other Material Handling Equipment	2024Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0063	175	5
2024	2024Pavers	2024Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0086	175	5
2024	2024Paving Equipment	2024Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0066	175	5
2024	2024Plate Compactors	2024Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2024	2024Pressure Washers	2024Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2024	2024Pumps	2024Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0035	120	4
2024	2024Rollers	2024Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0038	120	4
2024	2024Rough Terrain Forklifts	2024Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0035	120	4
2024	2024Rubber Tired Dozers	2024Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0171	500	6
2024	2024Rubber Tired Loaders	2024Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0062	250	6
2024	2024Scrapers	2024Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0165	500	7
2024	2024Signal Boards	2024Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2024	2024Skid Steer Loaders	2024Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2024	2024Surfacing Equipment	2024Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0075	500	6
2024	2024Sweepers/Scrubbers	2024Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0038	120	3
2024	2024Tractors/Loaders/Backhoes	2024Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0026	120	4
2024	2024Trenchers	2024Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0060	120	4

Chiquita Canyon Landfill EIR

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2024	2024Welders	2024Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0027	50	2
2025	2025Aerial Lifts	2025Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2025	2025Air Compressors	2025Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2025	2025Bore/Drill Rigs	2025Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2025	2025Cement and Mortar Mixers	2025Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2025	2025Concrete/Industrial Saws	2025Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2025	2025Cranes	2025Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2025	2025Crawler Tractors	2025Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2025	2025Crushing/Proc. Equipment	2025Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2025	2025Dumpers/Tenders	2025Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2025	2025Excavators	2025Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2025	2025Forklifts	2025Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2025	2025Generator Sets	2025Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2025	2025Graders	2025Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2025	2025Off-Highway Tractors	2025Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2025	2025Off-Highway Trucks	2025Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2025	2025Other Construction Equipment	2025Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2025	2025Other General Industrial Equipmen	2025Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2025	2025Other Material Handling Equipment	2025Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2025	2025Pavers	2025Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2025	2025Paving Equipment	2025Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2025	2025Plate Compactors	2025Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2025	2025Pressure Washers	2025Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2025	2025Pumps	2025Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2025	2025Rollers	2025Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2025	2025Rough Terrain Forklifts	2025Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2025	2025Rubber Tired Dozers	2025Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2025	2025Rubber Tired Loaders	2025Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2025	2025Scrapers	2025Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2025	2025Signal Boards	2025Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2025	2025Skid Steer Loaders	2025Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2025	2025Surfacing Equipment	2025Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2025	2025Sweepers/Scrubbers	2025Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2025	2025Tractors/Loaders/Backhoes	2025Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2025	2025Trenchers	2025Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2025	2025Welders	2025Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2026	2026Aerial Lifts	2026Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2026	2026Air Compressors	2026Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2026	2026Bore/Drill Rigs	2026Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2026	2026Cement and Mortar Mixers	2026Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2026	2026Concrete/Industrial Saws	2026Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2026	2026Cranes	2026Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2026	2026Crawler Tractors	2026Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2026	2026Crushing/Proc. Equipment	2026Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2026	2026Dumpers/Tenders	2026Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2026	2026Excavators	2026Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2026	2026Forklifts	2026Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2026	2026Generator Sets	2026Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2026	2026Graders	2026Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2026	2026Off-Highway Tractors	2026Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2026	2026Off-Highway Trucks	2026Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2026	2026Other Construction Equipment	2026Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2026	2026Other General Industrial Equipmen	2026Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2026	2026Other Material Handling Equipment	2026Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2026	2026Pavers	2026Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2026	2026Paving Equipment	2026Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2026	2026Plate Compactors	2026Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2026	2026Pressure Washers	2026Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2026	2026Pumps	2026Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2026	2026Rollers	2026Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2026	2026Rough Terrain Forklifts	2026Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2026	2026Rubber Tired Dozers	2026Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2026	2026Rubber Tired Loaders	2026Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2026	2026Scrapers	2026Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7

Chiquita Canyon Landfill EIR

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2026	2026Signal Boards	2026Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2026	2026Skid Steer Loaders	2026Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2026	2026Surfacing Equipment	2026Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2026	2026Sweepers/Scrubbers	2026Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2026	2026Tractors/Loaders/Backhoes	2026Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2026	2026Trenchers	2026Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2026	2026Welders	2026Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2027	2027Aerial Lifts	2027Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2027	2027Air Compressors	2027Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2027	2027Bore/Drill Rigs	2027Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2027	2027Cement and Mortar Mixers	2027Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2027	2027Concrete/Industrial Saws	2027Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2027	2027Cranes	2027Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2027	2027Crawler Tractors	2027Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2027	2027Crushing/Proc. Equipment	2027Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2027	2027Dumpers/Tenders	2027Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2027	2027Excavators	2027Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2027	2027Forklifts	2027Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2027	2027Generator Sets	2027Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2027	2027Graders	2027Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2027	2027Off-Highway Tractors	2027Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2027	2027Off-Highway Trucks	2027Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2027	2027Other Construction Equipment	2027Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2027	2027Other General Industrial Equipmen	2027Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2027	2027Other Material Handling Equipment	2027Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2027	2027Pavers	2027Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2027	2027Paving Equipment	2027Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2027	2027Plate Compactors	2027Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2027	2027Pressure Washers	2027Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2027	2027Pumps	2027Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2027	2027Rollers	2027Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2027	2027Rough Terrain Forklifts	2027Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2027	2027Rubber Tired Dozers	2027Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2027	2027Rubber Tired Loaders	2027Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2027	2027Scrapers	2027Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2027	2027Signal Boards	2027Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2027	2027Skid Steer Loaders	2027Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2027	2027Surfacing Equipment	2027Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2027	2027Sweepers/Scrubbers	2027Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2027	2027Tractors/Loaders/Backhoes	2027Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2027	2027Trenchers	2027Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2027	2027Welders	2027Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2028	2028Aerial Lifts	2028Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2028	2028Air Compressors	2028Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2028	2028Bore/Drill Rigs	2028Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2028	2028Cement and Mortar Mixers	2028Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2028	2028Concrete/Industrial Saws	2028Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2028	2028Cranes	2028Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2028	2028Crawler Tractors	2028Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2028	2028Crushing/Proc. Equipment	2028Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2028	2028Dumpers/Tenders	2028Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2028	2028Excavators	2028Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2028	2028Forklifts	2028Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2028	2028Generator Sets	2028Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2028	2028Graders	2028Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2028	2028Off-Highway Tractors	2028Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2028	2028Off-Highway Trucks	2028Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2028	2028Other Construction Equipment	2028Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2028	2028Other General Industrial Equipmen	2028Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2028	2028Other Material Handling Equipment	2028Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2028	2028Pavers	2028Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2028	2028Paving Equipment	2028Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2028	2028Plate Compactors	2028Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2028	2028Pressure Washers	2028Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2028	2028Pumps	2028Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2028	2028Rollers	2028Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2028	2028Rough Terrain Forklifts	2028Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2028	2028Rubber Tired Dozers	2028Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2028	2028Rubber Tired Loaders	2028Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2028	2028Scrapers	2028Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2028	2028Signal Boards	2028Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2028	2028Skid Steer Loaders	2028Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2028	2028Surfacing Equipment	2028Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2028	2028Sweepers/Scrubbers	2028Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2028	2028Tractors/Loaders/Backhoes	2028Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2028	2028Trenchers	2028Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2028	2028Welders	2028Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2029	2029Aerial Lifts	2029Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2029	2029Air Compressors	2029Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2029	2029Bore/Drill Rigs	2029Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2029	2029Cement and Mortar Mixers	2029Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2029	2029Concrete/Industrial Saws	2029Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2029	2029Cranes	2029Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2029	2029Crawler Tractors	2029Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2029	2029Crushing/Proc. Equipment	2029Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2029	2029Dumpers/Tenders	2029Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2029	2029Excavators	2029Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2029	2029Forklifts	2029Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2029	2029Generator Sets	2029Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2029	2029Graders	2029Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2029	2029Off-Highway Tractors	2029Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2029	2029Off-Highway Trucks	2029Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2029	2029Other Construction Equipment	2029Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2029	2029Other General Industrial Equipmen	2029Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2029	2029Other Material Handling Equipment	2029Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2029	2029Pavers	2029Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2029	2029Paving Equipment	2029Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2029	2029Plate Compactors	2029Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2029	2029Pressure Washers	2029Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2029	2029Pumps	2029Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2029	2029Rollers	2029Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2029	2029Rough Terrain Forklifts	2029Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2029	2029Rubber Tired Dozers	2029Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2029	2029Rubber Tired Loaders	2029Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2029	2029Scrapers	2029Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2029	2029Signal Boards	2029Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2029	2029Skid Steer Loaders	2029Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2029	2029Surfacing Equipment	2029Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2029	2029Sweepers/Scrubbers	2029Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2029	2029Tractors/Loaders/Backhoes	2029Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2029	2029Trenchers	2029Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2029	2029Welders	2029Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2030	2030Aerial Lifts	2030Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2030	2030Air Compressors	2030Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2030	2030Bore/Drill Rigs	2030Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2030	2030Cement and Mortar Mixers	2030Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2030	2030Concrete/Industrial Saws	2030Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2030	2030Cranes	2030Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2030	2030Crawler Tractors	2030Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2030	2030Crushing/Proc. Equipment	2030Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2030	2030Dumpers/Tenders	2030Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2030	2030Excavators	2030Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2030	2030Forklifts	2030Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2030	2030Generator Sets	2030Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2030	2030Graders	2030Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2030	2030Off-Highway Tractors	2030Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2030	2030Off-Highway Trucks	2030Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2030	2030Other Construction Equipment	2030Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2030	2030Other General Industrial Equipmen	2030Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2030	2030Other Material Handling Equipment	2030Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2030	2030Pavers	2030Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2030	2030Paving Equipment	2030Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2030	2030Plate Compactors	2030Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2030	2030Pressure Washers	2030Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2030	2030Pumps	2030Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2030	2030Rollers	2030Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2030	2030Rough Terrain Forklifts	2030Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2030	2030Rubber Tired Dozers	2030Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2030	2030Rubber Tired Loaders	2030Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2030	2030Scrapers	2030Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2030	2030Signal Boards	2030Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2030	2030Skid Steer Loaders	2030Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2030	2030Surfacing Equipment	2030Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2030	2030Sweepers/Scrubbers	2030Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2030	2030Tractors/Loaders/Backhoes	2030Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2030	2030Trenchers	2030Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2030	2030Welders	2030Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2031	2031Aerial Lifts	2031Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2031	2031Air Compressors	2031Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2031	2031Bore/Drill Rigs	2031Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2031	2031Cement and Mortar Mixers	2031Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2031	2031Concrete/Industrial Saws	2031Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2031	2031Cranes	2031Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2031	2031Crawler Tractors	2031Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2031	2031Crushing/Proc. Equipment	2031Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2031	2031Dumpers/Tenders	2031Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2031	2031Excavators	2031Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2031	2031Forklifts	2031Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2031	2031Generator Sets	2031Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2031	2031Graders	2031Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2031	2031Off-Highway Tractors	2031Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2031	2031Off-Highway Trucks	2031Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2031	2031Other Construction Equipment	2031Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2031	2031Other General Industrial Equipmen	2031Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2031	2031Other Material Handling Equipment	2031Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2031	2031Pavers	2031Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2031	2031Paving Equipment	2031Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2031	2031Plate Compactors	2031Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2031	2031Pressure Washers	2031Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2031	2031Pumps	2031Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2031	2031Rollers	2031Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2031	2031Rough Terrain Forklifts	2031Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2031	2031Rubber Tired Dozers	2031Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2031	2031Rubber Tired Loaders	2031Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2031	2031Scrapers	2031Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2031	2031Signal Boards	2031Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2031	2031Skid Steer Loaders	2031Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2031	2031Surfacing Equipment	2031Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2031	2031Sweepers/Scrubbers	2031Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2031	2031Tractors/Loaders/Backhoes	2031Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2031	2031Trenchers	2031Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2031	2031Welders	2031Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2033	2033Aerial Lifts	2033Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2033	2033Air Compressors	2033Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2033	2033Bore/Drill Rigs	2033Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2033	2033Cement and Mortar Mixers	2033Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2033	2033Concrete/Industrial Saws	2033Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2033	2033Cranes	2033Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2033	2033Crawler Tractors	2033Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2033	2033Crushing/Proc. Equipment	2033Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2033	2033Dumpers/Tenders	2033Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2033	2033Excavators	2033Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2033	2033Forklifts	2033Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2033	2033Generator Sets	2033Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2033	2033Graders	2033Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2033	2033Off-Highway Tractors	2033Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2033	2033Off-Highway Trucks	2033Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2033	2033Other Construction Equipment	2033Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2033	2033Other General Industrial Equipmen	2033Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2033	2033Other Material Handling Equipment	2033Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2033	2033Pavers	2033Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2033	2033Paving Equipment	2033Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2033	2033Plate Compactors	2033Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2033	2033Pressure Washers	2033Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2033	2033Pumps	2033Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2033	2033Rollers	2033Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2033	2033Rough Terrain Forklifts	2033Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2033	2033Rubber Tired Dozers	2033Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2033	2033Rubber Tired Loaders	2033Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2033	2033Scrapers	2033Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2033	2033Signal Boards	2033Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2033	2033Skid Steer Loaders	2033Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2033	2033Surfacing Equipment	2033Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2033	2033Sweepers/Scrubbers	2033Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2033	2033Tractors/Loaders/Backhoes	2033Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2033	2033Trenchers	2033Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2033	2033Welders	2033Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2035	2035Aerial Lifts	2035Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2035	2035Air Compressors	2035Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2035	2035Bore/Drill Rigs	2035Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2035	2035Cement and Mortar Mixers	2035Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2035	2035Concrete/Industrial Saws	2035Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2035	2035Cranes	2035Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2035	2035Crawler Tractors	2035Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2035	2035Crushing/Proc. Equipment	2035Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2035	2035Dumpers/Tenders	2035Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2035	2035Excavators	2035Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2035	2035Forklifts	2035Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2035	2035Generator Sets	2035Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2035	2035Graders	2035Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2035	2035Off-Highway Tractors	2035Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2035	2035Off-Highway Trucks	2035Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2035	2035Other Construction Equipment	2035Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2035	2035Other General Industrial Equipmen	2035Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2035	2035Other Material Handling Equipment	2035Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2035	2035Pavers	2035Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2035	2035Paving Equipment	2035Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2035	2035Plate Compactors	2035Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2035	2035Pressure Washers	2035Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2035	2035Pumps	2035Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2035	2035Rollers	2035Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2035	2035Rough Terrain Forklifts	2035Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2035	2035Rubber Tired Dozers	2035Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2035	2035Rubber Tired Loaders	2035Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2035	2035Scrapers	2035Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2035	2035Signal Boards	2035Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2035	2035Skid Steer Loaders	2035Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2035	2035Surfacing Equipment	2035Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2035	2035Sweepers/Scrubbers	2035Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2035	2035Tractors/Loaders/Backhoes	2035Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2035	2035Trenchers	2035Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2035	2035Welders	2035Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2037	2037Aerial Lifts	2037Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2037	2037Air Compressors	2037Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2037	2037Bore/Drill Rigs	2037Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2037	2037Cement and Mortar Mixers	2037Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2037	2037Concrete/Industrial Saws	2037Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2037	2037Cranes	2037Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2037	2037Crawler Tractors	2037Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2037	2037Crushing/Proc. Equipment	2037Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2037	2037Dumpers/Tenders	2037Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2037	2037Excavators	2037Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2037	2037Forklifts	2037Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2037	2037Generator Sets	2037Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2037	2037Graders	2037Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2037	2037Off-Highway Tractors	2037Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2037	2037Off-Highway Trucks	2037Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2037	2037Other Construction Equipment	2037Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2037	2037Other General Industrial Equipmen	2037Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2037	2037Other Material Handling Equipment	2037Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2037	2037Pavers	2037Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2037	2037Paving Equipment	2037Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2037	2037Plate Compactors	2037Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2037	2037Pressure Washers	2037Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2037	2037Pumps	2037Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2037	2037Rollers	2037Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2037	2037Rough Terrain Forklifts	2037Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2037	2037Rubber Tired Dozers	2037Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2037	2037Rubber Tired Loaders	2037Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2037	2037Scrapers	2037Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2037	2037Signal Boards	2037Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2037	2037Skid Steer Loaders	2037Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2037	2037Surfacing Equipment	2037Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2037	2037Sweepers/Scrubbers	2037Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2037	2037Tractors/Loaders/Backhoes	2037Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2037	2037Trenchers	2037Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2037	2037Welders	2037Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2038	2038Aerial Lifts	2038Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2038	2038Air Compressors	2038Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2038	2038Bore/Drill Rigs	2038Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2038	2038Cement and Mortar Mixers	2038Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2038	2038Concrete/Industrial Saws	2038Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2038	2038Cranes	2038Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2038	2038Crawler Tractors	2038Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2038	2038Crushing/Proc. Equipment	2038Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2038	2038Dumpers/Tenders	2038Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2038	2038Excavators	2038Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2038	2038Forklifts	2038Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2038	2038Generator Sets	2038Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2038	2038Graders	2038Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2038	2038Off-Highway Tractors	2038Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2038	2038Off-Highway Trucks	2038Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2038	2038Other Construction Equipment	2038Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2038	2038Other General Industrial Equipmen	2038Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2038	2038Other Material Handling Equipment	2038Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2038	2038Pavers	2038Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2038	2038Paving Equipment	2038Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2038	2038Plate Compactors	2038Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2038	2038Pressure Washers	2038Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2038	2038Pumps	2038Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2038	2038Rollers	2038Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2038	2038Rough Terrain Forklifts	2038Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2038	2038Rubber Tired Dozers	2038Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2038	2038Rubber Tired Loaders	2038Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2038	2038Scrapers	2038Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2038	2038Signal Boards	2038Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2038	2038Skid Steer Loaders	2038Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2038	2038Surfacing Equipment	2038Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2038	2038Sweepers/Scrubbers	2038Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2038	2038Tractors/Loaders/Backhoes	2038Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4

Mitigated Off-road Construction Equipment Emission Factors (lb/hour): Operation

Year	Year+Equipment	Year+Equipment+Level	Equipment Name	Default Hp	Load	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	CH4	Level	Range
2038	2038Trenchers	2038Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2038	2038Welders	2038Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2
2041	2041Aerial Lifts	2041Aerial Lifts120	Aerial Lifts	63	0.31	0.1593	0.1180	0.0052	0.0004	0.0003	0.0003	38.1	0.0016	120	3
2041	2041Air Compressors	2041Air Compressors120	Air Compressors	78	0.48	0.3054	0.0215	0.0050	0.0006	0.0007	0.0007	47.0	0.0026	120	4
2041	2041Bore/Drill Rigs	2041Bore/Drill Rigs250	Bore/Drill Rigs	206	0.5	0.4996	0.0590	0.0136	0.0021	0.0018	0.0018	188.1	0.0039	250	6
2041	2041Cement and Mortar Mixers	2041Cement and Mortar Mixers15	Cement and Mortar Mixers	9	0.56	0.0456	0.0306	0.0013	0.0001	0.0001	0.0001	6.3	0.0007	15	1
2041	2041Concrete/Industrial Saws	2041Concrete/Industrial Saws120	Concrete/Industrial Saws	81	0.73	0.4823	0.0339	0.0078	0.0009	0.0010	0.0010	74.1	0.0033	120	4
2041	2041Cranes	2041Cranes250	Cranes	226	0.29	0.3179	0.0376	0.0087	0.0013	0.0012	0.0012	112.2	0.0049	250	6
2041	2041Crawler Tractors	2041Crawler Tractors250	Crawler Tractors	208	0.43	0.4338	0.0513	0.0118	0.0019	0.0016	0.0016	166.1	0.0083	250	6
2041	2041Crushing/Proc. Equipment	2041Crushing/Proc. Equipment120	Crushing/Proc. Equipment	85	0.78	0.5408	0.0380	0.0088	0.0010	0.0012	0.0012	83.1	0.0046	120	4
2041	2041Dumpers/Tenders	2041Dumpers/Tenders25	Dumpers/Tenders	16	0.38	0.0550	0.0369	0.0016	0.0001	0.0001	0.0001	7.6	0.0008	25	1
2041	2041Excavators	2041Excavators175	Excavators	163	0.38	0.5053	0.0355	0.0082	0.0013	0.0011	0.0011	112.2	0.0047	175	5
2041	2041Forklifts	2041Forklifts120	Forklifts	89	0.2	0.1452	0.0102	0.0024	0.0004	0.0003	0.0003	31.2	0.0015	120	4
2041	2041Generator Sets	2041Generator Sets120	Generator Sets	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0031	120	4
2041	2041Graders	2041Graders175	Graders	175	0.41	0.3480	0.0411	0.0095	0.0014	0.0013	0.0013	123.9	0.0059	175	6
2041	2041Off-Highway Tractors	2041Off-Highway Tractors175	Off-Highway Tractors	123	0.44	0.4415	0.0310	0.0072	0.0015	0.0010	0.0010	130.4	0.0100	175	5
2041	2041Off-Highway Trucks	2041Off-Highway Trucks500	Off-Highway Trucks	400	0.38	0.7372	0.0871	0.0201	0.0027	0.0027	0.0027	272.3	0.0107	500	7
2041	2041Other Construction Equipment	2041Other Construction Equipment175	Other Construction Equipment	172	0.42	0.5893	0.0414	0.0096	0.0012	0.0013	0.0013	106.5	0.0035	175	5
2041	2041Other General Industrial Equipmen	2041Other General Industrial Equipmen120	Other General Industrial Equipmen	88	0.34	0.2441	0.0172	0.0040	0.0007	0.0005	0.0005	62.0	0.0039	120	4
2041	2041Other Material Handling Equipment	2041Other Material Handling Equipment175	Other Material Handling Equipment	167	0.4	0.5449	0.0383	0.0088	0.0014	0.0012	0.0012	122.1	0.0059	175	5
2041	2041Pavers	2041Pavers175	Pavers	126	0.42	0.4317	0.0303	0.0070	0.0014	0.0009	0.0009	128.3	0.0081	175	5
2041	2041Paving Equipment	2041Paving Equipment175	Paving Equipment	131	0.36	0.3847	0.0270	0.0062	0.0011	0.0008	0.0008	101.0	0.0062	175	5
2041	2041Plate Compactors	2041Plate Compactors15	Plate Compactors	8	0.43	0.0311	0.0209	0.0009	0.0001	0.0001	0.0001	4.3	0.0005	15	1
2041	2041Pressure Washers	2041Pressure Washers15	Pressure Washers	13	0.3	0.0353	0.0236	0.0010	0.0001	0.0001	0.0001	4.9	0.0005	15	1
2041	2041Pumps	2041Pumps120	Pumps	84	0.74	0.5070	0.0356	0.0082	0.0009	0.0011	0.0011	77.9	0.0033	120	4
2041	2041Rollers	2041Rollers120	Rollers	81	0.38	0.2511	0.0176	0.0041	0.0007	0.0005	0.0005	59.0	0.0035	120	4
2041	2041Rough Terrain Forklifts	2041Rough Terrain Forklifts120	Rough Terrain Forklifts	100	0.4	0.3263	0.0229	0.0053	0.0007	0.0007	0.0007	62.4	0.0033	120	4
2041	2041Rubber Tired Dozers	2041Rubber Tired Dozers500	Rubber Tired Dozers	255	0.4	0.4947	0.0585	0.0135	0.0026	0.0018	0.0018	264.9	0.0164	500	6
2041	2041Rubber Tired Loaders	2041Rubber Tired Loaders250	Rubber Tired Loaders	200	0.36	0.3492	0.0413	0.0095	0.0017	0.0013	0.0013	149.0	0.0060	250	6
2041	2041Scrapers	2041Scrapers500	Scrapers	362	0.48	0.8428	0.0996	0.0230	0.0032	0.0031	0.0031	321.4	0.0158	500	7
2041	2041Signal Boards	2041Signal Boards15	Signal Boards	6	0.82	0.0445	0.0298	0.0013	0.0001	0.0001	0.0001	6.2	0.0006	15	1
2041	2041Skid Steer Loaders	2041Skid Steer Loaders120	Skid Steer Loaders	65	0.37	0.1962	0.1453	0.0064	0.0005	0.0004	0.0004	42.8	0.0016	120	3
2041	2041Surfacing Equipment	2041Surfacing Equipment500	Surfacing Equipment	254	0.3	0.3696	0.0437	0.0101	0.0022	0.0013	0.0013	221.2	0.0072	500	6
2041	2041Sweepers/Scrubbers	2041Sweepers/Scrubbers120	Sweepers/Scrubbers	64	0.46	0.2401	0.1778	0.0078	0.0009	0.0005	0.0005	75.0	0.0036	120	3
2041	2041Tractors/Loaders/Backhoes	2041Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	98	0.37	0.2958	0.0208	0.0048	0.0006	0.0006	0.0006	51.7	0.0025	120	4
2041	2041Trenchers	2041Trenchers120	Trenchers	81	0.5	0.3304	0.0232	0.0054	0.0008	0.0007	0.0007	64.9	0.0056	120	4
2041	2041Welders	2041Welders50	Welders	46	0.45	0.1871	0.1255	0.0055	0.0003	0.0004	0.0004	26.0	0.0025	50	2

Source: SCAQMD CEQA Handbook website: http://sfprod.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/off-road-mobile-source-emission-factors
Emission factors only available up to 2025; therefore, it was conservatively assumed that the emission factors for years 2026 through 2035 were the same as 2025.
NOx/PM10/PM2.5/CO/VOC emission factors taken as the Tier 4f emission standards per the ARB's Diesel Off-road Equipment Regulation Table 3 (13 CCR 2449).
Default hp and load factor taken from CalEEMod User Guide Appendix D, Table 3.3 (September 2013).

SCAQMD Offroad Emission Factors

Source: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/off-road-mobile-source-emission-factors.

				(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)
Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2014	2014Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0633	0.0001	0.0026	8.7	0.0009
2014	2014Aerial Lifts25	Aerial Lifts	25	0.0160	0.0494	0.0919	0.0001	0.0048	11.0	0.0014
2014	2014Aerial Lifts50	Aerial Lifts	50	0.0534	0.1694	0.1765	0.0003	0.0142	19.6	0.0048
2014	2014Aerial Lifts120	Aerial Lifts	120	0.0509	0.2400	0.3531	0.0004	0.0272	38.1	0.0046
2014	2014Aerial Lifts500	Aerial Lifts	500	0.1106	0.4444	1.3843	0.0021	0.0408	213	0.0100
2014	2014Aerial Lifts750	Aerial Lifts	750	0.2063	0.8033	2.5864	0.0039	0.0751	385	0.0186
2014	2014Aerial Lifts Composite	Aerial Lifts Composite		0.0483	0.1877	0.2867	0.0004	0.0184	34.7	0.0044
2014	2014Air Compressors15	Air Compressors	15	0.0114	0.0474	0.0697	0.0001	0.0044	7.2	0.0010
2014	2014Air Compressors25	Air Compressors	25	0.0247	0.0711	0.1275	0.0002	0.0075	14.4	0.0022
2014	2014Air Compressors50	Air Compressors	50	0.0831	0.2446	0.2134	0.0003	0.0201	22.3	0.0075
2014	2014Air Compressors120	Air Compressors	120	0.0758	0.3216	0.4682	0.0006	0.0416	47.0	0.0068
2014	2014Air Compressors175	Air Compressors	175	0.0984	0.5035	0.7837	0.0010	0.0431	88.5	0.0089
2014	2014Air Compressors250	Air Compressors	250	0.0948	0.2873	1.0299	0.0015	0.0316	131	0.0086
2014	2014Air Compressors500	Air Compressors	500	0.1543	0.5129	1.5945	0.0023	0.0519	232	0.0139
2014	2014Air Compressors750	Air Compressors	750	0.2412	0.7927	2.5509	0.0036	0.0819	358	0.0218
2014	2014Air Compressors1000	Air Compressors	1000	0.3865	1.2935	4.7637	0.0049	0.1363	486	0.0349
2014	2014Air Compressors Composite	Air Compressors Composite		0.0842	0.3313	0.5635	0.0007	0.0396	63.6	0.0076
2014	2014Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2014	2014Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1222	0.0002	0.0048	16.0	0.0017
2014	2014Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0255	0.2253	0.2394	0.0004	0.0095	31.0	0.0023
2014	2014Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0409	0.4684	0.4254	0.0009	0.0204	77.1	0.0037
2014	2014Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0671	0.7539	0.6527	0.0016	0.0246	141	0.0061
2014	2014Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0737	0.3426	0.6140	0.0021	0.0179	188	0.0066
2014	2014Bore/Drill Rigs500	Bore/Drill Rigs	500	0.1206	0.5512	0.9516	0.0031	0.0294	311	0.0109
2014	2014Bore/Drill Rigs750	Bore/Drill Rigs	750	0.2388	1.0890	1.8972	0.0062	0.0582	615	0.0215
2014	2014Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.3889	1.6591	5.4092	0.0093	0.1411	928	0.0351
2014	2014Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0729	0.5030	0.7136	0.0017	0.0248	165	0.0066
2014	2014Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0466	0.0001	0.0020	6.3	0.0007
2014	2014Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0259	0.0794	0.1481	0.0002	0.0078	17.6	0.0023
2014	2014Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0089	0.0420	0.0550	0.0001	0.0025	7.2	0.0008
2014	2014Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0048	16.5	0.0018
2014	2014Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0864	0.2825	0.2750	0.0004	0.0226	30.2	0.0078
2014	2014Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0978	0.4796	0.6733	0.0009	0.0538	74.1	0.0088
2014	2014Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.1457	0.8685	1.2772	0.0018	0.0645	160	0.0131
2014	2014Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0917	0.4031	0.5267	0.0007	0.0413	58.5	0.0083
2014	2014Cranes50	Cranes	50	0.0932	0.2808	0.2313	0.0003	0.0221	23.2	0.0084
2014	2014Cranes120	Cranes	120	0.0859	0.3587	0.5189	0.0006	0.0453	50.1	0.0078
2014	2014Cranes175	Cranes	175	0.0977	0.4806	0.7306	0.0009	0.0412	80.3	0.0088
2014	2014Cranes250	Cranes	250	0.0979	0.2817	0.9088	0.0013	0.0317	112	0.0088
2014	2014Cranes500	Cranes	500	0.1468	0.4948	1.2979	0.0018	0.0470	180	0.0132
2014	2014Cranes750	Cranes	750	0.2485	0.8312	2.2480	0.0030	0.0803	303	0.0224
2014	2014Cranes9999	Cranes	9999	0.9122	3.0993	9.8090	0.0098	0.3001	971	0.0823
2014	2014Cranes Composite	Cranes Composite		0.1276	0.4553	1.1066	0.0014	0.0466	129	0.0115
2014	2014Crawler Tractors50	Crawler Tractors	50	0.1094	0.3164	0.2544	0.0003	0.0251	24.9	0.0099
2014	2014Crawler Tractors120	Crawler Tractors	120	0.1217	0.4814	0.7280	0.0008	0.0627	65.8	0.0110
2014	2014Crawler Tractors175	Crawler Tractors	175	0.1594	0.7413	1.1857	0.0014	0.0663	121	0.0144
2014	2014Crawler Tractors250	Crawler Tractors	250	0.1672	0.4797	1.4702	0.0019	0.0562	166	0.0151
2014	2014Crawler Tractors500	Crawler Tractors	500	0.2420	0.8885	2.0637	0.0025	0.0798	259	0.0218
2014	2014Crawler Tractors750	Crawler Tractors	750	0.4355	1.5882	3.7861	0.0047	0.1446	465	0.0393
2014	2014Crawler Tractors1000	Crawler Tractors	1000	0.6595	2.5182	7.0047	0.0066	0.2228	658	0.0595
2014	2014Crawler Tractors Composite	Crawler Tractors Composite		0.1499	0.5767	1.0853	0.0013	0.0644	114	0.0135
2014	2014Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.1559	0.4812	0.4182	0.0006	0.0383	44.0	0.0141
2014	2014Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.1284	0.5703	0.8000	0.0010	0.0704	83.1	0.0116

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2014	2014Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.1801	0.9583	1.4195	0.0019	0.0782	167	0.0163
2014	2014Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1744	0.5287	1.8241	0.0028	0.0562	245	0.0157
2014	2014Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.2480	0.8092	2.4341	0.0037	0.0801	374	0.0224
2014	2014Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.3929	1.2625	3.9931	0.0059	0.1283	589	0.0354
2014	2014Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	1.0512	3.3574	12.4161	0.0131	0.3572	1,308	0.0948
2014	2014Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.1597	0.6651	1.0867	0.0015	0.0677	132	0.0144
2014	2014Dumpers/Tenders25	Dumpers/Tenders	25	0.0095	0.0317	0.0595	0.0001	0.0027	7.6	0.0009
2014	2014Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0095	0.0317	0.0595	0.0001	0.0027	7.6	0.0009
2014	2014Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2014	2014Excavators50	Excavators	50	0.0728	0.2757	0.2354	0.0003	0.0189	25.0	0.0066
2014	2014Excavators120	Excavators	120	0.0998	0.5137	0.6331	0.0009	0.0519	73.6	0.0090
2014	2014Excavators175	Excavators	175	0.1134	0.6660	0.8323	0.0013	0.0457	112	0.0102
2014	2014Excavators250	Excavators	250	0.1180	0.3480	1.0099	0.0018	0.0333	159	0.0106
2014	2014Excavators500	Excavators	500	0.1657	0.5102	1.3127	0.0023	0.0463	234	0.0149
2014	2014Excavators750	Excavators	750	0.2764	0.8452	2.2503	0.0039	0.0782	387	0.0249
2014	2014Excavators Composite	Excavators Composite		0.1143	0.5289	0.8299	0.0013	0.0428	120	0.0103
2014	2014Forklifts50	Forklifts	50	0.0381	0.1569	0.1376	0.0002	0.0106	14.7	0.0034
2014	2014Forklifts120	Forklifts	120	0.0390	0.2158	0.2571	0.0004	0.0206	31.2	0.0035
2014	2014Forklifts175	Forklifts	175	0.0524	0.3311	0.3883	0.0006	0.0214	56.1	0.0047
2014	2014Forklifts250	Forklifts	250	0.0542	0.1595	0.4606	0.0009	0.0149	77.1	0.0049
2014	2014Forklifts500	Forklifts	500	0.0752	0.2182	0.5845	0.0011	0.0206	111	0.0068
2014	2014Forklifts Composite	Forklifts Composite		0.0497	0.2215	0.3551	0.0006	0.0178	54.4	0.0045
2014	2014Generator Sets15	Generator Sets	15	0.0142	0.0670	0.0971	0.0002	0.0054	10.2	0.0013
2014	2014Generator Sets25	Generator Sets	25	0.0256	0.0868	0.1557	0.0002	0.0085	17.6	0.0023
2014	2014Generator Sets50	Generator Sets	50	0.0785	0.2545	0.2731	0.0004	0.0213	30.6	0.0071
2014	2014Generator Sets120	Generator Sets	120	0.1008	0.4857	0.7130	0.0009	0.0537	77.9	0.0091
2014	2014Generator Sets175	Generator Sets	175	0.1236	0.7367	1.1536	0.0016	0.0538	142	0.0112
2014	2014Generator Sets250	Generator Sets	250	0.1181	0.4248	1.5252	0.0024	0.0422	213	0.0107
2014	2014Generator Sets500	Generator Sets	500	0.1683	0.6904	2.1655	0.0033	0.0627	337	0.0152
2014	2014Generator Sets750	Generator Sets	750	0.2811	1.1145	3.6123	0.0055	0.1032	544	0.0254
2014	2014Generator Sets9999	Generator Sets	9999	0.7280	2.5702	9.5914	0.0105	0.2595	1,049	0.0657
2014	2014Generator Sets Composite	Generator Sets Composite		0.0702	0.2974	0.5083	0.0007	0.0296	61.0	0.0063
2014	2014Graders50	Graders	50	0.0985	0.3168	0.2668	0.0004	0.0239	27.5	0.0089
2014	2014Graders120	Graders	120	0.1166	0.5268	0.7270	0.0009	0.0614	75.0	0.0105
2014	2014Graders175	Graders	175	0.1386	0.7331	1.0511	0.0014	0.0577	124	0.0125
2014	2014Graders250	Graders	250	0.1407	0.4177	1.2844	0.0019	0.0445	172	0.0127
2014	2014Graders500	Graders	500	0.1759	0.5992	1.5242	0.0023	0.0550	229	0.0159
2014	2014Graders750	Graders	750	0.3746	1.2665	3.3218	0.0049	0.1182	486	0.0338
2014	2014Graders Composite	Graders Composite		0.1362	0.5987	1.0796	0.0015	0.0539	133	0.0123
2014	2014Off-Highway Tractors120	Off-Highway Tractors	120	0.2008	0.7118	1.1800	0.0011	0.1014	93.7	0.0181
2014	2014Off-Highway Tractors175	Off-Highway Tractors	175	0.1960	0.8272	1.4624	0.0015	0.0820	130	0.0177
2014	2014Off-Highway Tractors250	Off-Highway Tractors	250	0.1564	0.4499	1.3527	0.0015	0.0560	130	0.0141
2014	2014Off-Highway Tractors750	Off-Highway Tractors	750	0.6254	2.6908	5.4422	0.0057	0.2197	568	0.0564
2014	2014Off-Highway Tractors1000	Off-Highway Tractors	1000	0.9416	4.2058	9.6214	0.0082	0.3259	814	0.0850
2014	2014Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1986	0.7438	1.6111	0.0017	0.0767	151	0.0179
2014	2014Off-Highway Trucks175	Off-Highway Trucks	175	0.1355	0.7569	0.9614	0.0014	0.0539	125	0.0122
2014	2014Off-Highway Trucks250	Off-Highway Trucks	250	0.1326	0.3761	1.1048	0.0019	0.0368	167	0.0120
2014	2014Off-Highway Trucks500	Off-Highway Trucks	500	0.2065	0.6134	1.5945	0.0027	0.0567	272	0.0186
2014	2014Off-Highway Trucks750	Off-Highway Trucks	750	0.3371	0.9944	2.6748	0.0044	0.0937	442	0.0304
2014	2014Off-Highway Trucks1000	Off-Highway Trucks	1000	0.5191	1.5673	5.5862	0.0063	0.1665	625	0.0468
2014	2014Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.2034	0.6148	1.6679	0.0027	0.0579	260	0.0183
2014	2014Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2014	2014Other Construction Equipment25	Other Construction Equipment	25	0.0160	0.0544	0.1010	0.0002	0.0039	13.2	0.0014
2014	2014Other Construction Equipment50	Other Construction Equipment	50	0.0670	0.2573	0.2471	0.0004	0.0183	28.0	0.0060
2014	2014Other Construction Equipment120	Other Construction Equipment	120	0.0915	0.5237	0.6571	0.0009	0.0503	80.9	0.0083
2014	2014Other Construction Equipment175	Other Construction Equipment	175	0.0868	0.5867	0.7476	0.0012	0.0374	107	0.0078

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2014	2014Other Construction Equipment500	Other Construction Equipment	500	0.1379	0.5080	1.3457	0.0025	0.0441	254	0.0124
2014	2014Other Construction Equipment Composite	Other Construction Equipment Composite		0.0820	0.3697	0.7168	0.0013	0.0296	123	0.0074
2014	2014Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2014	2014Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2014	2014Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0878	0.2626	0.2155	0.0003	0.0211	21.7	0.0079
2014	2014Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.1082	0.4435	0.6351	0.0007	0.0583	62.0	0.0098
2014	2014Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.1174	0.5703	0.8698	0.0011	0.0498	95.9	0.0106
2014	2014Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.1111	0.3089	1.0899	0.0015	0.0346	136	0.0100
2014	2014Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.2032	0.6064	1.8639	0.0026	0.0630	265	0.0183
2014	2014Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.3375	0.9995	3.1813	0.0044	0.1061	437	0.0305
2014	2014Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.4892	1.5297	5.6194	0.0056	0.1666	560	0.0441
2014	2014Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.1448	0.4985	1.2360	0.0016	0.0527	152	0.0131
2014	2014Other Material Handling Equipment50	Other Material Handling Equipment	50	0.1219	0.3632	0.2997	0.0004	0.0293	30.3	0.0110
2014	2014Other Material Handling Equipment120	Other Material Handling Equipment	120	0.1051	0.4319	0.6201	0.0007	0.0568	60.7	0.0095
2014	2014Other Material Handling Equipment175	Other Material Handling Equipment	175	0.1481	0.7226	1.1054	0.0014	0.0631	122	0.0134
2014	2014Other Material Handling Equipment250	Other Material Handling Equipment	250	0.1174	0.3291	1.1643	0.0016	0.0368	145	0.0106
2014	2014Other Material Handling Equipment500	Other Material Handling Equipment	500	0.1448	0.4365	1.3440	0.0019	0.0453	192	0.0131
2014	2014Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.6617	2.0216	7.4315	0.0073	0.2197	741	0.0597
2014	2014Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.1381	0.4814	1.2068	0.0015	0.0511	141	0.0125
2014	2014Pavers25	Pavers	25	0.0239	0.0788	0.1472	0.0002	0.0070	18.7	0.0022
2014	2014Pavers50	Pavers	50	0.1281	0.3506	0.2860	0.0004	0.0289	28.0	0.0116
2014	2014Pavers120	Pavers	120	0.1311	0.5011	0.7948	0.0008	0.0682	69.2	0.0118
2014	2014Pavers175	Pavers	175	0.1695	0.7742	1.3079	0.0014	0.0720	128	0.0153
2014	2014Pavers250	Pavers	250	0.1962	0.5822	1.8076	0.0022	0.0696	194	0.0177
2014	2014Pavers500	Pavers	500	0.2165	0.8647	1.9551	0.0023	0.0756	233	0.0195
2014	2014Pavers Composite	Pavers Composite		0.1429	0.5277	0.8112	0.0009	0.0564	77.9	0.0129
2014	2014Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0965	0.0002	0.0038	12.6	0.0014
2014	2014Paving Equipment50	Paving Equipment	50	0.1094	0.2974	0.2439	0.0003	0.0247	23.9	0.0099
2014	2014Paving Equipment120	Paving Equipment	120	0.1028	0.3923	0.6241	0.0006	0.0538	54.5	0.0093
2014	2014Paving Equipment175	Paving Equipment	175	0.1323	0.6049	1.0274	0.0011	0.0565	101	0.0119
2014	2014Paving Equipment250	Paving Equipment	250	0.1207	0.3595	1.1333	0.0014	0.0429	122	0.0109
2014	2014Paving Equipment Composite	Paving Equipment Composite		0.1082	0.4273	0.7312	0.0008	0.0502	68.9	0.0098
2014	2014Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2014	2014Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2014	2014Pressure Washers15	Pressure Washers	15	0.0068	0.0321	0.0465	0.0001	0.0026	4.9	0.0006
2014	2014Pressure Washers25	Pressure Washers	25	0.0104	0.0352	0.0631	0.0001	0.0035	7.1	0.0009
2014	2014Pressure Washers50	Pressure Washers	50	0.0281	0.1001	0.1230	0.0002	0.0085	14.3	0.0025
2014	2014Pressure Washers120	Pressure Washers	120	0.0274	0.1429	0.2101	0.0003	0.0143	24.1	0.0025
2014	2014Pressure Washers Composite	Pressure Washers Composite		0.0145	0.0603	0.0838	0.0001	0.0053	9.4	0.0013
2014	2014Pumps15	Pumps	15	0.0117	0.0488	0.0716	0.0001	0.0045	7.4	0.0011
2014	2014Pumps25	Pumps	25	0.0333	0.0959	0.1721	0.0002	0.0101	19.5	0.0030
2014	2014Pumps50	Pumps	50	0.0949	0.3004	0.3098	0.0004	0.0251	34.3	0.0086
2014	2014Pumps120	Pumps	120	0.1049	0.4934	0.7241	0.0009	0.0563	77.9	0.0095
2014	2014Pumps175	Pumps	175	0.1275	0.7382	1.1562	0.0016	0.0556	140	0.0115
2014	2014Pumps250	Pumps	250	0.1175	0.4096	1.4689	0.0023	0.0416	201	0.0106
2014	2014Pumps500	Pumps	500	0.1815	0.7226	2.2468	0.0034	0.0667	345	0.0164
2014	2014Pumps750	Pumps	750	0.3092	1.1947	3.8390	0.0057	0.1124	571	0.0279
2014	2014Pumps9999	Pumps	9999	0.9669	3.3910	12.5393	0.0136	0.3422	1,355	0.0872
2014	2014Pumps Composite	Pumps Composite		0.0683	0.2873	0.4427	0.0006	0.0295	49.6	0.0062
2014	2014Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2014	2014Rollers25	Rollers	25	0.0161	0.0549	0.1019	0.0002	0.0040	13.3	0.0015
2014	2014Rollers50	Rollers	50	0.0947	0.2831	0.2492	0.0003	0.0226	26.0	0.0085
2014	2014Rollers120	Rollers	120	0.0921	0.4030	0.5906	0.0007	0.0494	59.0	0.0083
2014	2014Rollers175	Rollers	175	0.1178	0.6182	0.9537	0.0012	0.0510	108	0.0106
2014	2014Rollers250	Rollers	250	0.1180	0.3717	1.2002	0.0017	0.0407	153	0.0106
2014	2014Rollers500	Rollers	500	0.1555	0.5926	1.5340	0.0022	0.0537	219	0.0140

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2014	2014Rollers Composite	Rollers Composite		0.0912	0.4018	0.6164	0.0008	0.0419	67.1	0.0082
2014	2014Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.1055	0.3654	0.3185	0.0004	0.0271	33.9	0.0095
2014	2014Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0877	0.4292	0.5612	0.0007	0.0474	62.4	0.0079
2014	2014Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.1265	0.7246	0.9750	0.0014	0.0534	125	0.0114
2014	2014Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.1230	0.3717	1.1633	0.0019	0.0376	171	0.0111
2014	2014Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1745	0.5501	1.5313	0.0025	0.0529	257	0.0157
2014	2014Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0929	0.4608	0.6101	0.0008	0.0477	70.3	0.0084
2014	2014Rubber Tired Dozers175	Rubber Tired Dozers	175	0.2034	0.8392	1.4854	0.0015	0.0841	129	0.0183
2014	2014Rubber Tired Dozers250	Rubber Tired Dozers	250	0.2322	0.6560	1.9517	0.0021	0.0821	183	0.0209
2014	2014Rubber Tired Dozers500	Rubber Tired Dozers	500	0.3072	1.3307	2.5592	0.0026	0.1058	265	0.0277
2014	2014Rubber Tired Dozers750	Rubber Tired Dozers	750	0.4633	1.9954	3.9201	0.0040	0.1603	399	0.0418
2014	2014Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.7196	3.2150	7.1336	0.0060	0.2458	592	0.0649
2014	2014Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.2854	1.1058	2.3867	0.0025	0.0993	239	0.0257
2014	2014Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0049	16.9	0.0018
2014	2014Rubber Tired Loaders50	Rubber Tired Loaders	50	0.1092	0.3535	0.3000	0.0004	0.0266	31.1	0.0099
2014	2014Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0902	0.4119	0.5654	0.0007	0.0477	58.9	0.0081
2014	2014Rubber Tired Loaders175	Rubber Tired Loaders	175	0.1168	0.6261	0.8915	0.0012	0.0489	106	0.0105
2014	2014Rubber Tired Loaders250	Rubber Tired Loaders	250	0.1186	0.3553	1.0966	0.0017	0.0375	149	0.0107
2014	2014Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1769	0.6085	1.5507	0.0023	0.0554	237	0.0160
2014	2014Rubber Tired Loaders750	Rubber Tired Loaders	750	0.3648	1.2450	3.2733	0.0049	0.1153	486	0.0329
2014	2014Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.4927	1.7350	5.6204	0.0060	0.1686	594	0.0445
2014	2014Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.1122	0.4683	0.8620	0.0012	0.0461	109	0.0101
2014	2014Scrapers120	Scrapers	120	0.1770	0.6882	1.0571	0.0011	0.0913	93.9	0.0160
2014	2014Scrapers175	Scrapers	175	0.1973	0.9065	1.4751	0.0017	0.0824	148	0.0178
2014	2014Scrapers250	Scrapers	250	0.2135	0.6146	1.8936	0.0024	0.0726	209	0.0193
2014	2014Scrapers500	Scrapers	500	0.3033	1.1355	2.6139	0.0032	0.1012	321	0.0274
2014	2014Scrapers750	Scrapers	750	0.5260	1.9562	4.6194	0.0056	0.1767	555	0.0475
2014	2014Scrapers Composite	Scrapers Composite		0.2648	0.9890	2.2371	0.0027	0.0928	262	0.0239
2014	2014Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2014	2014Signal Boards50	Signal Boards	50	0.1035	0.3331	0.3273	0.0005	0.0269	36.2	0.0093
2014	2014Signal Boards120	Signal Boards	120	0.1072	0.5163	0.7320	0.0009	0.0584	80.2	0.0097
2014	2014Signal Boards175	Signal Boards	175	0.1415	0.8317	1.2462	0.0017	0.0621	155	0.0128
2014	2014Signal Boards250	Signal Boards	250	0.1520	0.5213	1.8056	0.0029	0.0525	255	0.0137
2014	2014Signal Boards Composite	Signal Boards Composite		0.0181	0.0929	0.1332	0.0002	0.0071	16.7	0.0016
2014	2014Skid Steer Loaders25	Skid Steer Loaders	25	0.0195	0.0610	0.1145	0.0002	0.0059	13.8	0.0018
2014	2014Skid Steer Loaders50	Skid Steer Loaders	50	0.0443	0.2196	0.2161	0.0003	0.0134	25.5	0.0040
2014	2014Skid Steer Loaders120	Skid Steer Loaders	120	0.0380	0.2727	0.3020	0.0005	0.0205	42.8	0.0034
2014	2014Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0406	0.2262	0.2369	0.0004	0.0152	30.3	0.0037
2014	2014Surfacing Equipment50	Surfacing Equipment	50	0.0442	0.1367	0.1310	0.0002	0.0110	14.1	0.0040
2014	2014Surfacing Equipment120	Surfacing Equipment	120	0.0904	0.4182	0.6174	0.0007	0.0477	63.8	0.0082
2014	2014Surfacing Equipment175	Surfacing Equipment	175	0.0842	0.4716	0.7317	0.0010	0.0363	85.8	0.0076
2014	2014Surfacing Equipment250	Surfacing Equipment	250	0.0955	0.3237	1.0228	0.0015	0.0341	135	0.0086
2014	2014Surfacing Equipment500	Surfacing Equipment	500	0.1433	0.6069	1.5156	0.0022	0.0516	221	0.0129
2014	2014Surfacing Equipment750	Surfacing Equipment	750	0.2284	0.9503	2.4407	0.0035	0.0820	347	0.0206
2014	2014Surfacing Equipment Composite	Surfacing Equipment Composite		0.1194	0.4930	1.1688	0.0017	0.0427	166	0.0108
2014	2014Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2014	2014Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0057	19.6	0.0021
2014	2014Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0911	0.3300	0.2939	0.0004	0.0241	31.6	0.0082
2014	2014Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0991	0.5098	0.6481	0.0009	0.0543	75.0	0.0089
2014	2014Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.1317	0.7996	1.0280	0.0016	0.0561	139	0.0119
2014	2014Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.1086	0.3327	1.0406	0.0018	0.0325	162	0.0098
2014	2014Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.1029	0.5086	0.6353	0.0009	0.0447	78.5	0.0093
2014	2014Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0193	0.0654	0.1228	0.0002	0.0052	15.9	0.0017
2014	2014Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0792	0.3103	0.2765	0.0004	0.0211	30.3	0.0071
2014	2014Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0634	0.3503	0.4252	0.0006	0.0337	51.7	0.0057
2014	2014Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0924	0.5857	0.7161	0.0011	0.0380	101	0.0083

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2014	2014Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.1142	0.3608	1.0294	0.0019	0.0330	172	0.0103
2014	2014Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.2186	0.7245	1.8255	0.0039	0.0627	345	0.0197
2014	2014Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.3304	1.0864	2.8317	0.0058	0.0958	517	0.0298
2014	2014Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0728	0.3747	0.4977	0.0008	0.0341	66.8	0.0066
2014	2014Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2014	2014Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0095	32.9	0.0036
2014	2014Trenchers50	Trenchers	50	0.1477	0.3990	0.3332	0.0004	0.0333	32.9	0.0133
2014	2014Trenchers120	Trenchers	120	0.1212	0.4640	0.7489	0.0008	0.0629	64.9	0.0109
2014	2014Trenchers175	Trenchers	175	0.1864	0.8579	1.4773	0.0016	0.0798	144	0.0168
2014	2014Trenchers250	Trenchers	250	0.2226	0.6786	2.0933	0.0025	0.0813	223	0.0201
2014	2014Trenchers500	Trenchers	500	0.2835	1.2125	2.6464	0.0031	0.1024	311	0.0256
2014	2014Trenchers750	Trenchers	750	0.5377	2.2784	5.0912	0.0059	0.1947	587	0.0485
2014	2014Trenchers Composite	Trenchers Composite		0.1350	0.4606	0.6384	0.0007	0.0517	58.7	0.0122
2014	2014Welders15	Welders	15	0.0098	0.0408	0.0599	0.0001	0.0038	6.2	0.0009
2014	2014Welders25	Welders	25	0.0193	0.0555	0.0996	0.0001	0.0058	11.3	0.0017
2014	2014Welders50	Welders	50	0.0886	0.2652	0.2435	0.0003	0.0219	26.0	0.0080
2014	2014Welders120	Welders	120	0.0601	0.2632	0.3850	0.0005	0.0328	39.5	0.0054
2014	2014Welders175	Welders	175	0.1021	0.5438	0.8502	0.0011	0.0448	98.2	0.0092
2014	2014Welders250	Welders	250	0.0801	0.2545	0.9129	0.0013	0.0274	119	0.0072
2014	2014Welders500	Welders	500	0.1028	0.3644	1.1332	0.0016	0.0359	168	0.0093
2014	2014Welders Composite	Welders Composite		0.0589	0.2041	0.2436	0.0003	0.0206	25.6	0.0053
2015	2015Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2015	2015Aerial Lifts25	Aerial Lifts	25	0.0155	0.0486	0.0902	0.0001	0.0046	11.0	0.0014
2015	2015Aerial Lifts50	Aerial Lifts	50	0.0480	0.1641	0.1699	0.0003	0.0129	19.6	0.0043
2015	2015Aerial Lifts120	Aerial Lifts	120	0.0460	0.2377	0.3272	0.0004	0.0246	38.1	0.0042
2015	2015Aerial Lifts500	Aerial Lifts	500	0.1026	0.4261	1.2422	0.0021	0.0368	213	0.0093
2015	2015Aerial Lifts750	Aerial Lifts	750	0.1912	0.7702	2.3263	0.0039	0.0680	385	0.0173
2015	2015Aerial Lifts Composite	Aerial Lifts Composite		0.0439	0.1837	0.2670	0.0004	0.0167	34.7	0.0040
2015	2015Air Compressors15	Air Compressors	15	0.0108	0.0466	0.0664	0.0001	0.0040	7.2	0.0010
2015	2015Air Compressors25	Air Compressors	25	0.0229	0.0681	0.1247	0.0002	0.0069	14.4	0.0021
2015	2015Air Compressors50	Air Compressors	50	0.0747	0.2360	0.2056	0.0003	0.0183	22.3	0.0067
2015	2015Air Compressors120	Air Compressors	120	0.0691	0.3182	0.4334	0.0006	0.0375	47.0	0.0062
2015	2015Air Compressors175	Air Compressors	175	0.0903	0.5019	0.7101	0.0010	0.0388	88.5	0.0082
2015	2015Air Compressors250	Air Compressors	250	0.0892	0.2803	0.9294	0.0015	0.0286	131	0.0080
2015	2015Air Compressors500	Air Compressors	500	0.1463	0.4915	1.4297	0.0023	0.0470	232	0.0132
2015	2015Air Compressors750	Air Compressors	750	0.2285	0.7595	2.2932	0.0036	0.0743	358	0.0206
2015	2015Air Compressors1000	Air Compressors	1000	0.3551	1.1843	4.4558	0.0049	0.1239	486	0.0320
2015	2015Air Compressors Composite	Air Compressors Composite		0.0773	0.3257	0.5175	0.0007	0.0357	63.6	0.0070
2015	2015Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2015	2015Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1220	0.0002	0.0047	16.0	0.0017
2015	2015Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0234	0.2235	0.2240	0.0004	0.0075	31.0	0.0021
2015	2015Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0376	0.4676	0.3736	0.0009	0.0160	77.1	0.0034
2015	2015Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0618	0.7540	0.5364	0.0016	0.0198	141	0.0056
2015	2015Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0681	0.3425	0.4900	0.0021	0.0144	188	0.0061
2015	2015Bore/Drill Rigs500	Bore/Drill Rigs	500	0.1118	0.5511	0.7692	0.0031	0.0236	311	0.0101
2015	2015Bore/Drill Rigs750	Bore/Drill Rigs	750	0.2212	1.0888	1.5301	0.0062	0.0466	615	0.0200
2015	2015Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.3562	1.6528	4.9704	0.0093	0.1194	928	0.0321
2015	2015Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0673	0.5022	0.6138	0.0017	0.0200	165	0.0061
2015	2015Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0464	0.0001	0.0019	6.3	0.0007
2015	2015Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0251	0.0782	0.1456	0.0002	0.0074	17.6	0.0023
2015	2015Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0088	0.0419	0.0545	0.0001	0.0024	7.2	0.0008
2015	2015Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2015	2015Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0782	0.2745	0.2652	0.0004	0.0206	30.2	0.0071
2015	2015Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0892	0.4759	0.6249	0.0009	0.0486	74.1	0.0080
2015	2015Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.1340	0.8674	1.1593	0.0018	0.0585	160	0.0121
2015	2015Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0835	0.3982	0.4921	0.0007	0.0374	58.5	0.0075

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2015	2015Cranes50	Cranes	50	0.0853	0.2729	0.2235	0.0003	0.0202	23.2	0.0077
2015	2015Cranes120	Cranes	120	0.0800	0.3559	0.4822	0.0006	0.0415	50.1	0.0072
2015	2015Cranes175	Cranes	175	0.0919	0.4794	0.6684	0.0009	0.0378	80.3	0.0083
2015	2015Cranes250	Cranes	250	0.0925	0.2713	0.8284	0.0013	0.0286	112	0.0083
2015	2015Cranes500	Cranes	500	0.1393	0.4663	1.1812	0.0018	0.0426	180	0.0126
2015	2015Cranes750	Cranes	750	0.2358	0.7835	2.0490	0.0030	0.0729	303	0.0213
2015	2015Cranes9999	Cranes	9999	0.8682	2.8913	9.2743	0.0098	0.2775	971	0.0783
2015	2015Cranes Composite	Cranes Composite		0.1204	0.4395	1.0200	0.0014	0.0426	129	0.0109
2015	2015Crawler Tractors50	Crawler Tractors	50	0.1017	0.3087	0.2464	0.0003	0.0232	24.9	0.0092
2015	2015Crawler Tractors120	Crawler Tractors	120	0.1143	0.4774	0.6815	0.0008	0.0579	65.8	0.0103
2015	2015Crawler Tractors175	Crawler Tractors	175	0.1509	0.7384	1.0951	0.0014	0.0614	121	0.0136
2015	2015Crawler Tractors250	Crawler Tractors	250	0.1582	0.4614	1.3531	0.0019	0.0514	166	0.0143
2015	2015Crawler Tractors500	Crawler Tractors	500	0.2300	0.8352	1.8987	0.0025	0.0732	259	0.0207
2015	2015Crawler Tractors750	Crawler Tractors	750	0.4140	1.4936	3.4863	0.0047	0.1327	465	0.0374
2015	2015Crawler Tractors1000	Crawler Tractors	1000	0.6278	2.3640	6.6574	0.0066	0.2075	658	0.0566
2015	2015Crawler Tractors Composite	Crawler Tractors Composite		0.1415	0.5650	1.0059	0.0013	0.0594	114	0.0128
2015	2015Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.1392	0.4644	0.4024	0.0006	0.0346	44.0	0.0126
2015	2015Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.1167	0.5646	0.7374	0.0010	0.0629	83.1	0.0105
2015	2015Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.1654	0.9559	1.2783	0.0019	0.0700	167	0.0149
2015	2015Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1646	0.5171	1.6355	0.0028	0.0506	245	0.0149
2015	2015Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.2358	0.7790	2.1722	0.0037	0.0722	374	0.0213
2015	2015Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.3723	1.2184	3.5561	0.0059	0.1154	589	0.0336
2015	2015Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.9726	3.0901	11.5626	0.0131	0.3225	1,308	0.0878
2015	2015Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.1465	0.6549	0.9893	0.0015	0.0607	132	0.0132
2015	2015Dumpers/Tenders25	Dumpers/Tenders	25	0.0093	0.0315	0.0591	0.0001	0.0025	7.6	0.0008
2015	2015Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0093	0.0315	0.0591	0.0001	0.0025	7.6	0.0008
2015	2015Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2015	2015Excavators50	Excavators	50	0.0650	0.2683	0.2256	0.0003	0.0167	25.0	0.0059
2015	2015Excavators120	Excavators	120	0.0912	0.5102	0.5787	0.0009	0.0455	73.6	0.0082
2015	2015Excavators175	Excavators	175	0.1052	0.6653	0.7408	0.0013	0.0405	112	0.0095
2015	2015Excavators250	Excavators	250	0.1117	0.3431	0.8935	0.0018	0.0297	159	0.0101
2015	2015Excavators500	Excavators	500	0.1577	0.4964	1.1619	0.0023	0.0413	234	0.0142
2015	2015Excavators750	Excavators	750	0.2630	0.8225	1.9926	0.0039	0.0698	387	0.0237
2015	2015Excavators Composite	Excavators Composite		0.1064	0.5248	0.7416	0.0013	0.0379	120	0.0096
2015	2015Forklifts50	Forklifts	50	0.0324	0.1522	0.1324	0.0002	0.0092	14.7	0.0029
2015	2015Forklifts120	Forklifts	120	0.0345	0.2143	0.2326	0.0004	0.0174	31.2	0.0031
2015	2015Forklifts175	Forklifts	175	0.0486	0.3316	0.3442	0.0006	0.0189	56.1	0.0044
2015	2015Forklifts250	Forklifts	250	0.0518	0.1582	0.4040	0.0009	0.0133	77.1	0.0047
2015	2015Forklifts500	Forklifts	500	0.0724	0.2164	0.5170	0.0011	0.0185	111	0.0065
2015	2015Forklifts Composite	Forklifts Composite		0.0459	0.2200	0.3163	0.0006	0.0156	54.4	0.0041
2015	2015Generator Sets15	Generator Sets	15	0.0135	0.0658	0.0929	0.0002	0.0051	10.2	0.0012
2015	2015Generator Sets25	Generator Sets	25	0.0247	0.0831	0.1522	0.0002	0.0080	17.6	0.0022
2015	2015Generator Sets50	Generator Sets	50	0.0706	0.2465	0.2628	0.0004	0.0193	30.6	0.0064
2015	2015Generator Sets120	Generator Sets	120	0.0910	0.4811	0.6607	0.0009	0.0484	77.9	0.0082
2015	2015Generator Sets175	Generator Sets	175	0.1120	0.7350	1.0463	0.0016	0.0485	142	0.0101
2015	2015Generator Sets250	Generator Sets	250	0.1090	0.4148	1.3776	0.0024	0.0381	213	0.0098
2015	2015Generator Sets500	Generator Sets	500	0.1556	0.6639	1.9429	0.0033	0.0567	337	0.0140
2015	2015Generator Sets750	Generator Sets	750	0.2599	1.0718	3.2483	0.0055	0.0934	544	0.0234
2015	2015Generator Sets9999	Generator Sets	9999	0.6582	2.3655	8.9789	0.0105	0.2325	1,049	0.0594
2015	2015Generator Sets Composite	Generator Sets Composite		0.0640	0.2913	0.4717	0.0007	0.0268	61.0	0.0058
2015	2015Graders50	Graders	50	0.0897	0.3082	0.2569	0.0004	0.0217	27.5	0.0081
2015	2015Graders120	Graders	120	0.1081	0.5230	0.6726	0.0009	0.0555	75.0	0.0098
2015	2015Graders175	Graders	175	0.1299	0.7319	0.9534	0.0014	0.0526	124	0.0117
2015	2015Graders250	Graders	250	0.1326	0.4046	1.1596	0.0019	0.0400	172	0.0120
2015	2015Graders500	Graders	500	0.1666	0.5739	1.3760	0.0023	0.0496	229	0.0150
2015	2015Graders750	Graders	750	0.3549	1.2133	3.0011	0.0049	0.1066	486	0.0320

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2015	2015Graders Composite	Graders Composite		0.1277	0.5931	0.9795	0.0015	0.0489	133	0.0115
2015	2015Off-Highway Tractors120	Off-Highway Tractors	120	0.1905	0.7051	1.1159	0.0011	0.0952	93.7	0.0172
2015	2015Off-Highway Tractors175	Off-Highway Tractors	175	0.1870	0.8216	1.3703	0.0015	0.0771	130	0.0169
2015	2015Off-Highway Tractors250	Off-Highway Tractors	250	0.1489	0.4320	1.2644	0.0015	0.0520	130	0.0134
2015	2015Off-Highway Tractors750	Off-Highway Tractors	750	0.5975	2.5165	5.0885	0.0057	0.2047	568	0.0539
2015	2015Off-Highway Tractors1000	Off-Highway Tractors	1000	0.9006	3.9378	9.2072	0.0082	0.3063	814	0.0813
2015	2015Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1893	0.7244	1.5085	0.0017	0.0717	151	0.0171
2015	2015Off-Highway Trucks175	Off-Highway Trucks	175	0.1259	0.7559	0.8596	0.0014	0.0477	125	0.0114
2015	2015Off-Highway Trucks250	Off-Highway Trucks	250	0.1252	0.3702	0.9818	0.0019	0.0328	167	0.0113
2015	2015Off-Highway Trucks500	Off-Highway Trucks	500	0.1960	0.5949	1.4165	0.0027	0.0505	272	0.0177
2015	2015Off-Highway Trucks750	Off-Highway Trucks	750	0.3198	0.9645	2.3779	0.0044	0.0835	442	0.0289
2015	2015Off-Highway Trucks1000	Off-Highway Trucks	1000	0.4873	1.4801	5.2216	0.0063	0.1505	625	0.0440
2015	2015Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1924	0.5974	1.4932	0.0027	0.0516	260	0.0174
2015	2015Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2015	2015Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0039	13.2	0.0014
2015	2015Other Construction Equipment50	Other Construction Equipment	50	0.0597	0.2506	0.2369	0.0004	0.0162	28.0	0.0054
2015	2015Other Construction Equipment120	Other Construction Equipment	120	0.0827	0.5202	0.6012	0.0009	0.0441	80.9	0.0075
2015	2015Other Construction Equipment175	Other Construction Equipment	175	0.0796	0.5864	0.6636	0.0012	0.0331	107	0.0072
2015	2015Other Construction Equipment500	Other Construction Equipment	500	0.1310	0.4963	1.1867	0.0025	0.0394	254	0.0118
2015	2015Other Construction Equipment Composite	Other Construction Equipment Composite		0.0768	0.3645	0.6392	0.0013	0.0264	123	0.0069
2015	2015Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2015	2015Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2015	2015Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0786	0.2532	0.2077	0.0003	0.0191	21.7	0.0071
2015	2015Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0987	0.4387	0.5864	0.0007	0.0521	62.0	0.0089
2015	2015Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.1083	0.5684	0.7866	0.0011	0.0448	95.9	0.0098
2015	2015Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.1050	0.3015	0.9812	0.0015	0.0312	136	0.0095
2015	2015Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1931	0.5811	1.6702	0.0026	0.0569	265	0.0174
2015	2015Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.3208	0.9578	2.8569	0.0044	0.0959	437	0.0289
2015	2015Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.4546	1.4023	5.2482	0.0056	0.1513	560	0.0410
2015	2015Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.1355	0.4843	1.1215	0.0016	0.0475	152	0.0122
2015	2015Other Material Handling Equipment50	Other Material Handling Equipment	50	0.1090	0.3501	0.2887	0.0004	0.0265	30.3	0.0098
2015	2015Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0959	0.4271	0.5727	0.0007	0.0509	60.7	0.0087
2015	2015Other Material Handling Equipment175	Other Material Handling Equipment	175	0.1365	0.7201	0.9997	0.0014	0.0567	122	0.0123
2015	2015Other Material Handling Equipment250	Other Material Handling Equipment	250	0.1109	0.3211	1.0483	0.0016	0.0332	145	0.0100
2015	2015Other Material Handling Equipment500	Other Material Handling Equipment	500	0.1376	0.4182	1.2042	0.0019	0.0409	192	0.0124
2015	2015Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.6190	1.8527	6.9410	0.0073	0.1995	741	0.0558
2015	2015Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.1289	0.4698	1.0967	0.0015	0.0460	141	0.0116
2015	2015Pavers25	Pavers	25	0.0234	0.0780	0.1458	0.0002	0.0066	18.7	0.0021
2015	2015Pavers50	Pavers	50	0.1198	0.3421	0.2775	0.0004	0.0271	28.0	0.0108
2015	2015Pavers120	Pavers	120	0.1235	0.4969	0.7477	0.0008	0.0636	69.2	0.0111
2015	2015Pavers175	Pavers	175	0.1608	0.7707	1.2155	0.0014	0.0673	128	0.0145
2015	2015Pavers250	Pavers	250	0.1858	0.5585	1.6747	0.0022	0.0640	194	0.0168
2015	2015Pavers500	Pavers	500	0.2059	0.8113	1.8097	0.0023	0.0697	233	0.0186
2015	2015Pavers Composite	Pavers Composite		0.1347	0.5203	0.7607	0.0009	0.0526	77.9	0.0122
2015	2015Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0037	12.6	0.0014
2015	2015Paving Equipment50	Paving Equipment	50	0.1023	0.2901	0.2367	0.0003	0.0231	23.9	0.0092
2015	2015Paving Equipment120	Paving Equipment	120	0.0969	0.3891	0.5874	0.0006	0.0503	54.5	0.0087
2015	2015Paving Equipment175	Paving Equipment	175	0.1254	0.6025	0.9549	0.0011	0.0528	101	0.0113
2015	2015Paving Equipment250	Paving Equipment	250	0.1140	0.3441	1.0498	0.0014	0.0394	122	0.0103
2015	2015Paving Equipment Composite	Paving Equipment Composite		0.1023	0.4234	0.6842	0.0008	0.0469	68.9	0.0092
2015	2015Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2015	2015Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2015	2015Pressure Washers15	Pressure Washers	15	0.0065	0.0315	0.0445	0.0001	0.0024	4.9	0.0006
2015	2015Pressure Washers25	Pressure Washers	25	0.0100	0.0337	0.0617	0.0001	0.0033	7.1	0.0009
2015	2015Pressure Washers50	Pressure Washers	50	0.0251	0.0970	0.1183	0.0002	0.0077	14.3	0.0023
2015	2015Pressure Washers120	Pressure Washers	120	0.0245	0.1416	0.1947	0.0003	0.0128	24.1	0.0022

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2015	2015Pressure Washers Composite	Pressure Washers Composite		0.0133	0.0590	0.0799	0.0001	0.0049	9.4	0.0012
2015	2015Pumps15	Pumps	15	0.0111	0.0479	0.0683	0.0001	0.0041	7.4	0.0010
2015	2015Pumps25	Pumps	25	0.0309	0.0919	0.1682	0.0002	0.0094	19.5	0.0028
2015	2015Pumps50	Pumps	50	0.0855	0.2910	0.2982	0.0004	0.0228	34.3	0.0077
2015	2015Pumps120	Pumps	120	0.0949	0.4887	0.6710	0.0009	0.0508	77.9	0.0086
2015	2015Pumps175	Pumps	175	0.1158	0.7365	1.0489	0.0016	0.0502	140	0.0104
2015	2015Pumps250	Pumps	250	0.1088	0.3998	1.3270	0.0023	0.0376	201	0.0098
2015	2015Pumps500	Pumps	500	0.1686	0.6929	2.0163	0.0034	0.0603	345	0.0152
2015	2015Pumps750	Pumps	750	0.2872	1.1454	3.4529	0.0057	0.1018	571	0.0259
2015	2015Pumps9999	Pumps	9999	0.8773	3.1134	11.7387	0.0136	0.3072	1,355	0.0792
2015	2015Pumps Composite	Pumps Composite		0.0621	0.2825	0.4121	0.0006	0.0267	49.6	0.0056
2015	2015Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2015	2015Rollers25	Rollers	25	0.0161	0.0549	0.1018	0.0002	0.0039	13.3	0.0015
2015	2015Rollers50	Rollers	50	0.0871	0.2754	0.2405	0.0003	0.0209	26.0	0.0079
2015	2015Rollers120	Rollers	120	0.0857	0.4000	0.5498	0.0007	0.0454	59.0	0.0077
2015	2015Rollers175	Rollers	175	0.1104	0.6166	0.8731	0.0012	0.0470	108	0.0100
2015	2015Rollers250	Rollers	250	0.1107	0.3575	1.0948	0.0017	0.0368	153	0.0100
2015	2015Rollers500	Rollers	500	0.1468	0.5595	1.3956	0.0022	0.0487	219	0.0132
2015	2015Rollers Composite	Rollers Composite		0.0851	0.3979	0.5706	0.0008	0.0386	67.1	0.0077
2015	2015Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0942	0.3551	0.3066	0.0004	0.0243	33.9	0.0085
2015	2015Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0801	0.4260	0.5164	0.0007	0.0420	62.4	0.0072
2015	2015Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.1171	0.7240	0.8746	0.0014	0.0477	125	0.0106
2015	2015Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.1168	0.3650	1.0385	0.0019	0.0338	171	0.0105
2015	2015Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1668	0.5337	1.3642	0.0025	0.0477	257	0.0150
2015	2015Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0850	0.4577	0.5588	0.0008	0.0423	70.3	0.0077
2015	2015Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1942	0.8333	1.3944	0.0015	0.0790	129	0.0175
2015	2015Rubber Tired Dozers250	Rubber Tired Dozers	250	0.2209	0.6304	1.8273	0.0021	0.0762	183	0.0199
2015	2015Rubber Tired Dozers500	Rubber Tired Dozers	500	0.2932	1.2456	2.3951	0.0026	0.0985	265	0.0265
2015	2015Rubber Tired Dozers750	Rubber Tired Dozers	750	0.4423	1.8685	3.6712	0.0040	0.1494	399	0.0399
2015	2015Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.6883	3.0139	6.8297	0.0060	0.2311	592	0.0621
2015	2015Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.2721	1.0420	2.2344	0.0025	0.0924	239	0.0246
2015	2015Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0049	16.9	0.0018
2015	2015Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0993	0.3438	0.2888	0.0004	0.0242	31.1	0.0090
2015	2015Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0835	0.4090	0.5226	0.0007	0.0431	58.9	0.0075
2015	2015Rubber Tired Loaders175	Rubber Tired Loaders	175	0.1094	0.6251	0.8077	0.0012	0.0445	106	0.0099
2015	2015Rubber Tired Loaders250	Rubber Tired Loaders	250	0.1118	0.3444	0.9890	0.0017	0.0337	149	0.0101
2015	2015Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1678	0.5818	1.3980	0.0023	0.0499	237	0.0151
2015	2015Rubber Tired Loaders750	Rubber Tired Loaders	750	0.3459	1.1905	2.9534	0.0049	0.1040	486	0.0312
2015	2015Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.4657	1.6412	5.2967	0.0060	0.1552	594	0.0420
2015	2015Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.1050	0.4615	0.7838	0.0012	0.0416	109	0.0095
2015	2015Scrapers120	Scrapers	120	0.1665	0.6826	0.9915	0.0011	0.0846	93.9	0.0150
2015	2015Scrapers175	Scrapers	175	0.1871	0.9030	1.3657	0.0017	0.0766	148	0.0169
2015	2015Scrapers250	Scrapers	250	0.2021	0.5906	1.7470	0.0024	0.0665	209	0.0182
2015	2015Scrapers500	Scrapers	500	0.2883	1.0688	2.4104	0.0032	0.0930	321	0.0260
2015	2015Scrapers750	Scrapers	750	0.5001	1.8419	4.2634	0.0056	0.1624	555	0.0451
2015	2015Scrapers Composite	Scrapers Composite		0.2513	0.9443	2.0647	0.0027	0.0854	262	0.0227
2015	2015Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2015	2015Signal Boards50	Signal Boards	50	0.0931	0.3227	0.3148	0.0005	0.0243	36.2	0.0084
2015	2015Signal Boards120	Signal Boards	120	0.0970	0.5116	0.6762	0.0009	0.0525	80.2	0.0088
2015	2015Signal Boards175	Signal Boards	175	0.1290	0.8300	1.1249	0.0017	0.0559	155	0.0116
2015	2015Signal Boards250	Signal Boards	250	0.1416	0.5098	1.6229	0.0029	0.0474	255	0.0128
2015	2015Signal Boards Composite	Signal Boards Composite		0.0171	0.0925	0.1250	0.0002	0.0066	16.7	0.0015
2015	2015Skid Steer Loaders25	Skid Steer Loaders	25	0.0189	0.0601	0.1125	0.0002	0.0056	13.8	0.0017
2015	2015Skid Steer Loaders50	Skid Steer Loaders	50	0.0378	0.2138	0.2052	0.0003	0.0113	25.5	0.0034
2015	2015Skid Steer Loaders120	Skid Steer Loaders	120	0.0334	0.2710	0.2699	0.0005	0.0170	42.8	0.0030
2015	2015Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0352	0.2220	0.2198	0.0004	0.0128	30.3	0.0032

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2015	2015Surfacing Equipment50	Surfacing Equipment	50	0.0408	0.1333	0.1263	0.0002	0.0101	14.1	0.0037
2015	2015Surfacing Equipment120	Surfacing Equipment	120	0.0840	0.4151	0.5756	0.0007	0.0439	63.8	0.0076
2015	2015Surfacing Equipment175	Surfacing Equipment	175	0.0787	0.4705	0.6706	0.0010	0.0335	85.8	0.0071
2015	2015Surfacing Equipment250	Surfacing Equipment	250	0.0891	0.3116	0.9338	0.0015	0.0309	135	0.0080
2015	2015Surfacing Equipment500	Surfacing Equipment	500	0.1342	0.5759	1.3809	0.0022	0.0468	221	0.0121
2015	2015Surfacing Equipment750	Surfacing Equipment	750	0.2139	0.9020	2.2264	0.0035	0.0745	347	0.0193
2015	2015Surfacing Equipment Composite	Surfacing Equipment Composite		0.1116	0.4705	1.0675	0.0017	0.0389	166	0.0101
2015	2015Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2015	2015Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2015	2015Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0782	0.3186	0.2828	0.0004	0.0211	31.6	0.0071
2015	2015Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0880	0.5056	0.5893	0.0009	0.0466	75.0	0.0079
2015	2015Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.1193	0.7999	0.9051	0.0016	0.0488	139	0.0108
2015	2015Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.1029	0.3286	0.9094	0.0018	0.0289	162	0.0093
2015	2015Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0913	0.5034	0.5746	0.0009	0.0387	78.5	0.0082
2015	2015Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0192	0.0653	0.1221	0.0002	0.0049	15.9	0.0017
2015	2015Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0702	0.3020	0.2646	0.0004	0.0186	30.3	0.0063
2015	2015Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0577	0.3480	0.3870	0.0006	0.0293	51.7	0.0052
2015	2015Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0854	0.5853	0.6331	0.0011	0.0335	101	0.0077
2015	2015Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.1082	0.3566	0.9047	0.0019	0.0294	172	0.0098
2015	2015Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.2085	0.7089	1.6070	0.0039	0.0559	345	0.0188
2015	2015Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.3148	1.0631	2.4922	0.0058	0.0854	517	0.0284
2015	2015Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0666	0.3716	0.4501	0.0008	0.0298	66.8	0.0060
2015	2015Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2015	2015Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2015	2015Trenchers50	Trenchers	50	0.1390	0.3900	0.3235	0.0004	0.0313	32.9	0.0125
2015	2015Trenchers120	Trenchers	120	0.1144	0.4600	0.7060	0.0008	0.0590	64.9	0.0103
2015	2015Trenchers175	Trenchers	175	0.1770	0.8534	1.3767	0.0016	0.0748	144	0.0160
2015	2015Trenchers250	Trenchers	250	0.2105	0.6510	1.9456	0.0025	0.0750	223	0.0190
2015	2015Trenchers500	Trenchers	500	0.2694	1.1349	2.4560	0.0031	0.0947	311	0.0243
2015	2015Trenchers750	Trenchers	750	0.5107	2.1334	4.7300	0.0059	0.1802	587	0.0461
2015	2015Trenchers Composite	Trenchers Composite		0.1274	0.4541	0.6043	0.0007	0.0485	58.7	0.0115
2015	2015Welders15	Welders	15	0.0093	0.0400	0.0571	0.0001	0.0034	6.2	0.0008
2015	2015Welders25	Welders	25	0.0179	0.0532	0.0974	0.0001	0.0054	11.3	0.0016
2015	2015Welders50	Welders	50	0.0801	0.2564	0.2346	0.0003	0.0200	26.0	0.0072
2015	2015Welders120	Welders	120	0.0547	0.2606	0.3567	0.0005	0.0296	39.5	0.0049
2015	2015Welders175	Welders	175	0.0936	0.5424	0.7713	0.0011	0.0405	98.2	0.0084
2015	2015Welders250	Welders	250	0.0749	0.2483	0.8249	0.0013	0.0248	119	0.0068
2015	2015Welders500	Welders	500	0.0968	0.3491	1.0171	0.0016	0.0325	168	0.0087
2015	2015Welders Composite	Welders Composite		0.0534	0.1994	0.2301	0.0003	0.0187	25.6	0.0048
2016	2016Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2016	2016Aerial Lifts25	Aerial Lifts	25	0.0150	0.0479	0.0887	0.0001	0.0043	11.0	0.0014
2016	2016Aerial Lifts50	Aerial Lifts	50	0.0430	0.1592	0.1637	0.0003	0.0116	19.6	0.0039
2016	2016Aerial Lifts120	Aerial Lifts	120	0.0413	0.2355	0.3021	0.0004	0.0219	38.1	0.0037
2016	2016Aerial Lifts500	Aerial Lifts	500	0.0951	0.4103	1.1062	0.0021	0.0331	213	0.0086
2016	2016Aerial Lifts750	Aerial Lifts	750	0.1771	0.7417	2.0748	0.0039	0.0611	385	0.0160
2016	2016Aerial Lifts Composite	Aerial Lifts Composite		0.0397	0.1800	0.2482	0.0004	0.0150	34.7	0.0036
2016	2016Air Compressors15	Air Compressors	15	0.0104	0.0461	0.0642	0.0001	0.0037	7.2	0.0009
2016	2016Air Compressors25	Air Compressors	25	0.0219	0.0665	0.1224	0.0002	0.0066	14.4	0.0020
2016	2016Air Compressors50	Air Compressors	50	0.0667	0.2281	0.1982	0.0003	0.0165	22.3	0.0060
2016	2016Air Compressors120	Air Compressors	120	0.0624	0.3150	0.3994	0.0006	0.0333	47.0	0.0056
2016	2016Air Compressors175	Air Compressors	175	0.0824	0.5006	0.6378	0.0010	0.0346	88.5	0.0074
2016	2016Air Compressors250	Air Compressors	250	0.0838	0.2741	0.8308	0.0015	0.0257	131	0.0076
2016	2016Air Compressors500	Air Compressors	500	0.1387	0.4734	1.2719	0.0023	0.0422	232	0.0125
2016	2016Air Compressors750	Air Compressors	750	0.2164	0.7315	2.0431	0.0036	0.0668	358	0.0195
2016	2016Air Compressors1000	Air Compressors	1000	0.3315	1.1175	4.1882	0.0049	0.1137	486	0.0299
2016	2016Air Compressors Composite	Air Compressors Composite		0.0704	0.3207	0.4729	0.0007	0.0318	63.6	0.0064

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2016	2016Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2016	2016Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2016	2016Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0220	0.2223	0.2106	0.0004	0.0058	31.0	0.0020
2016	2016Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0349	0.4671	0.3308	0.0009	0.0125	77.1	0.0031
2016	2016Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0566	0.7540	0.4376	0.0016	0.0156	141	0.0051
2016	2016Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0628	0.3425	0.3887	0.0021	0.0114	188	0.0057
2016	2016Bore/Drill Rigs500	Bore/Drill Rigs	500	0.1033	0.5511	0.6252	0.0031	0.0186	311	0.0093
2016	2016Bore/Drill Rigs750	Bore/Drill Rigs	750	0.2045	1.0889	1.2440	0.0062	0.0369	615	0.0185
2016	2016Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.3273	1.6484	4.6465	0.0093	0.1011	928	0.0295
2016	2016Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0623	0.5016	0.5340	0.0017	0.0160	165	0.0056
2016	2016Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0462	0.0001	0.0019	6.3	0.0007
2016	2016Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0243	0.0771	0.1432	0.0002	0.0070	17.6	0.0022
2016	2016Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0088	0.0418	0.0542	0.0001	0.0023	7.2	0.0008
2016	2016Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2016	2016Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0703	0.2673	0.2562	0.0004	0.0186	30.2	0.0063
2016	2016Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0809	0.4724	0.5783	0.0009	0.0436	74.1	0.0073
2016	2016Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.1226	0.8668	1.0454	0.0018	0.0525	160	0.0111
2016	2016Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0756	0.3936	0.4589	0.0007	0.0336	58.5	0.0068
2016	2016Cranes50	Cranes	50	0.0779	0.2655	0.2159	0.0003	0.0185	23.2	0.0070
2016	2016Cranes120	Cranes	120	0.0744	0.3533	0.4476	0.0006	0.0378	50.1	0.0067
2016	2016Cranes175	Cranes	175	0.0862	0.4783	0.6099	0.0009	0.0346	80.3	0.0078
2016	2016Cranes250	Cranes	250	0.0875	0.2634	0.7534	0.0013	0.0259	112	0.0079
2016	2016Cranes500	Cranes	500	0.1325	0.4431	1.0723	0.0018	0.0387	180	0.0120
2016	2016Cranes750	Cranes	750	0.2244	0.7448	1.8635	0.0030	0.0663	303	0.0202
2016	2016Cranes9999	Cranes	9999	0.8246	2.7017	8.7644	0.0098	0.2555	971	0.0744
2016	2016Cranes Composite	Cranes Composite		0.1137	0.4263	0.9387	0.0014	0.0388	129	0.0103
2016	2016Crawler Tractors50	Crawler Tractors	50	0.0944	0.3015	0.2386	0.0003	0.0215	24.9	0.0085
2016	2016Crawler Tractors120	Crawler Tractors	120	0.1073	0.4739	0.6379	0.0008	0.0533	65.8	0.0097
2016	2016Crawler Tractors175	Crawler Tractors	175	0.1427	0.7361	1.0097	0.0014	0.0567	121	0.0129
2016	2016Crawler Tractors250	Crawler Tractors	250	0.1496	0.4452	1.2431	0.0019	0.0468	166	0.0135
2016	2016Crawler Tractors500	Crawler Tractors	500	0.2183	0.7903	1.7438	0.0025	0.0669	259	0.0197
2016	2016Crawler Tractors750	Crawler Tractors	750	0.3930	1.4137	3.2045	0.0047	0.1213	465	0.0355
2016	2016Crawler Tractors1000	Crawler Tractors	1000	0.5970	2.2313	6.3308	0.0066	0.1930	658	0.0539
2016	2016Crawler Tractors Composite	Crawler Tractors Composite		0.1335	0.5549	0.9315	0.0013	0.0546	114	0.0120
2016	2016Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.1234	0.4493	0.3877	0.0006	0.0310	44.0	0.0111
2016	2016Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.1054	0.5594	0.6775	0.0010	0.0555	83.1	0.0095
2016	2016Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.1513	0.9539	1.1428	0.0019	0.0620	167	0.0136
2016	2016Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1553	0.5071	1.4547	0.0028	0.0453	245	0.0140
2016	2016Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.2240	0.7541	1.9256	0.0037	0.0648	374	0.0202
2016	2016Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.3524	1.1817	3.1408	0.0059	0.1031	589	0.0318
2016	2016Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.9152	2.9318	10.8280	0.0131	0.2940	1,308	0.0826
2016	2016Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.1337	0.6461	0.8965	0.0015	0.0538	132	0.0121
2016	2016Dumpers/Tenders25	Dumpers/Tenders	25	0.0093	0.0314	0.0587	0.0001	0.0024	7.6	0.0008
2016	2016Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0093	0.0314	0.0587	0.0001	0.0024	7.6	0.0008
2016	2016Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2016	2016Excavators50	Excavators	50	0.0581	0.2621	0.2166	0.0003	0.0147	25.0	0.0052
2016	2016Excavators120	Excavators	120	0.0833	0.5070	0.5292	0.0009	0.0395	73.6	0.0075
2016	2016Excavators175	Excavators	175	0.0972	0.6648	0.6563	0.0013	0.0355	112	0.0088
2016	2016Excavators250	Excavators	250	0.1054	0.3389	0.7862	0.0018	0.0263	159	0.0095
2016	2016Excavators500	Excavators	500	0.1496	0.4851	1.0236	0.0023	0.0366	234	0.0135
2016	2016Excavators750	Excavators	750	0.2493	0.8037	1.7546	0.0039	0.0618	387	0.0225
2016	2016Excavators Composite	Excavators Composite		0.0988	0.5213	0.6603	0.0013	0.0332	120	0.0089
2016	2016Forklifts50	Forklifts	50	0.0284	0.1489	0.1276	0.0002	0.0080	14.7	0.0026
2016	2016Forklifts120	Forklifts	120	0.0313	0.2133	0.2116	0.0004	0.0149	31.2	0.0028
2016	2016Forklifts175	Forklifts	175	0.0454	0.3320	0.3050	0.0006	0.0167	56.1	0.0041
2016	2016Forklifts250	Forklifts	250	0.0493	0.1572	0.3531	0.0009	0.0118	77.1	0.0044

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2016	2016Forklifts500	Forklifts	500	0.0693	0.2150	0.4532	0.0011	0.0165	111	0.0062
2016	2016Forklifts Composite	Forklifts Composite		0.0427	0.2190	0.2816	0.0006	0.0137	54.4	0.0039
2016	2016Generator Sets15	Generator Sets	15	0.0130	0.0652	0.0899	0.0002	0.0048	10.2	0.0012
2016	2016Generator Sets25	Generator Sets	25	0.0241	0.0811	0.1494	0.0002	0.0076	17.6	0.0022
2016	2016Generator Sets50	Generator Sets	50	0.0630	0.2393	0.2532	0.0004	0.0174	30.6	0.0057
2016	2016Generator Sets120	Generator Sets	120	0.0814	0.4767	0.6102	0.0009	0.0431	77.9	0.0073
2016	2016Generator Sets175	Generator Sets	175	0.1006	0.7336	0.9416	0.0016	0.0432	142	0.0091
2016	2016Generator Sets250	Generator Sets	250	0.1003	0.4059	1.2339	0.0024	0.0342	213	0.0091
2016	2016Generator Sets500	Generator Sets	500	0.1437	0.6411	1.7299	0.0033	0.0509	337	0.0130
2016	2016Generator Sets750	Generator Sets	750	0.2399	1.0349	2.8965	0.0055	0.0840	544	0.0216
2016	2016Generator Sets9999	Generator Sets	9999	0.6052	2.2398	8.4480	0.0105	0.2114	1,049	0.0546
2016	2016Generator Sets Composite	Generator Sets Composite		0.0581	0.2862	0.4370	0.0007	0.0241	61.0	0.0052
2016	2016Graders50	Graders	50	0.0816	0.3003	0.2476	0.0004	0.0196	27.5	0.0074
2016	2016Graders120	Graders	120	0.1002	0.5196	0.6220	0.0009	0.0499	75.0	0.0090
2016	2016Graders175	Graders	175	0.1215	0.7310	0.8624	0.0014	0.0476	124	0.0110
2016	2016Graders250	Graders	250	0.1250	0.3936	1.0444	0.0019	0.0359	172	0.0113
2016	2016Graders500	Graders	500	0.1579	0.5525	1.2394	0.0023	0.0446	229	0.0142
2016	2016Graders750	Graders	750	0.3362	1.1682	2.7050	0.0049	0.0960	486	0.0303
2016	2016Graders Composite	Graders Composite		0.1197	0.5883	0.8866	0.0015	0.0441	133	0.0108
2016	2016Off-Highway Tractors120	Off-Highway Tractors	120	0.1806	0.6988	1.0550	0.0011	0.0892	93.7	0.0163
2016	2016Off-Highway Tractors175	Off-Highway Tractors	175	0.1782	0.8166	1.2825	0.0015	0.0723	130	0.0161
2016	2016Off-Highway Tractors250	Off-Highway Tractors	250	0.1415	0.4155	1.1803	0.0015	0.0482	130	0.0128
2016	2016Off-Highway Tractors750	Off-Highway Tractors	750	0.5701	2.3586	4.7515	0.0057	0.1903	568	0.0514
2016	2016Off-Highway Tractors1000	Off-Highway Tractors	1000	0.8608	3.6939	8.8128	0.0082	0.2875	814	0.0777
2016	2016Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1803	0.7067	1.4108	0.0017	0.0670	151	0.0163
2016	2016Off-Highway Trucks175	Off-Highway Trucks	175	0.1164	0.7552	0.7647	0.0014	0.0417	125	0.0105
2016	2016Off-Highway Trucks250	Off-Highway Trucks	250	0.1179	0.3651	0.8678	0.0019	0.0290	167	0.0106
2016	2016Off-Highway Trucks500	Off-Highway Trucks	500	0.1855	0.5796	1.2524	0.0027	0.0448	272	0.0167
2016	2016Off-Highway Trucks750	Off-Highway Trucks	750	0.3026	0.9397	2.1025	0.0044	0.0741	442	0.0273
2016	2016Off-Highway Trucks1000	Off-Highway Trucks	1000	0.4576	1.4117	4.8929	0.0063	0.1360	625	0.0413
2016	2016Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1816	0.5831	1.3322	0.0027	0.0459	260	0.0164
2016	2016Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2016	2016Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2016	2016Other Construction Equipment50	Other Construction Equipment	50	0.0530	0.2447	0.2274	0.0004	0.0143	28.0	0.0048
2016	2016Other Construction Equipment120	Other Construction Equipment	120	0.0747	0.5170	0.5495	0.0009	0.0384	80.9	0.0067
2016	2016Other Construction Equipment175	Other Construction Equipment	175	0.0729	0.5862	0.5856	0.0012	0.0291	107	0.0066
2016	2016Other Construction Equipment500	Other Construction Equipment	500	0.1243	0.4868	1.0415	0.0025	0.0350	254	0.0112
2016	2016Other Construction Equipment Composite	Other Construction Equipment Composite		0.0720	0.3602	0.5680	0.0013	0.0234	123	0.0065
2016	2016Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2016	2016Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2016	2016Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0700	0.2449	0.2003	0.0003	0.0171	21.7	0.0063
2016	2016Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0895	0.4343	0.5394	0.0007	0.0461	62.0	0.0081
2016	2016Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0993	0.5671	0.7059	0.0011	0.0398	95.9	0.0090
2016	2016Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0990	0.2950	0.8757	0.0015	0.0279	136	0.0089
2016	2016Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1832	0.5599	1.4849	0.0026	0.0511	265	0.0165
2016	2016Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.3043	0.9228	2.5436	0.0044	0.0861	437	0.0275
2016	2016Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.4283	1.3244	4.9259	0.0056	0.1385	560	0.0386
2016	2016Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.1267	0.4731	1.0122	0.0016	0.0425	152	0.0114
2016	2016Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0970	0.3384	0.2785	0.0004	0.0237	30.3	0.0088
2016	2016Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0869	0.4228	0.5267	0.0007	0.0450	60.7	0.0078
2016	2016Other Material Handling Equipment175	Other Material Handling Equipment	175	0.1251	0.7182	0.8969	0.0014	0.0504	122	0.0113
2016	2016Other Material Handling Equipment250	Other Material Handling Equipment	250	0.1046	0.3141	0.9355	0.0016	0.0298	145	0.0094
2016	2016Other Material Handling Equipment500	Other Material Handling Equipment	500	0.1305	0.4029	1.0706	0.0019	0.0367	192	0.0118
2016	2016Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.5874	1.7492	6.5148	0.0073	0.1827	741	0.0530
2016	2016Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.1202	0.4608	0.9913	0.0015	0.0411	141	0.0108
2016	2016Pavers25	Pavers	25	0.0230	0.0774	0.1448	0.0002	0.0061	18.7	0.0021

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2016	2016Pavers50	Pavers	50	0.1117	0.3339	0.2694	0.0004	0.0252	28.0	0.0101
2016	2016Pavers120	Pavers	120	0.1164	0.4930	0.7030	0.0008	0.0591	69.2	0.0105
2016	2016Pavers175	Pavers	175	0.1524	0.7678	1.1274	0.0014	0.0627	128	0.0138
2016	2016Pavers250	Pavers	250	0.1758	0.5369	1.5485	0.0022	0.0587	194	0.0159
2016	2016Pavers500	Pavers	500	0.1956	0.7646	1.6718	0.0023	0.0641	233	0.0177
2016	2016Pavers Composite	Pavers Composite		0.1269	0.5135	0.7128	0.0009	0.0489	77.9	0.0114
2016	2016Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2016	2016Paving Equipment50	Paving Equipment	50	0.0953	0.2829	0.2297	0.0003	0.0216	23.9	0.0086
2016	2016Paving Equipment120	Paving Equipment	120	0.0912	0.3862	0.5522	0.0006	0.0468	54.5	0.0082
2016	2016Paving Equipment175	Paving Equipment	175	0.1188	0.6004	0.8857	0.0011	0.0492	101	0.0107
2016	2016Paving Equipment250	Paving Equipment	250	0.1077	0.3302	0.9703	0.0014	0.0360	122	0.0097
2016	2016Paving Equipment Composite	Paving Equipment Composite		0.0965	0.4198	0.6393	0.0008	0.0436	68.9	0.0087
2016	2016Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2016	2016Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2016	2016Pressure Washers15	Pressure Washers	15	0.0062	0.0312	0.0431	0.0001	0.0023	4.9	0.0006
2016	2016Pressure Washers25	Pressure Washers	25	0.0098	0.0329	0.0606	0.0001	0.0031	7.1	0.0009
2016	2016Pressure Washers50	Pressure Washers	50	0.0222	0.0943	0.1139	0.0002	0.0069	14.3	0.0020
2016	2016Pressure Washers120	Pressure Washers	120	0.0217	0.1404	0.1798	0.0003	0.0114	24.1	0.0020
2016	2016Pressure Washers Composite	Pressure Washers Composite		0.0121	0.0579	0.0764	0.0001	0.0044	9.4	0.0011
2016	2016Pumps15	Pumps	15	0.0106	0.0474	0.0660	0.0001	0.0038	7.4	0.0010
2016	2016Pumps25	Pumps	25	0.0296	0.0897	0.1651	0.0002	0.0088	19.5	0.0027
2016	2016Pumps50	Pumps	50	0.0765	0.2823	0.2874	0.0004	0.0206	34.3	0.0069
2016	2016Pumps120	Pumps	120	0.0851	0.4842	0.6196	0.0009	0.0453	77.9	0.0077
2016	2016Pumps175	Pumps	175	0.1044	0.7350	0.9440	0.0016	0.0448	140	0.0094
2016	2016Pumps250	Pumps	250	0.1005	0.3911	1.1887	0.0023	0.0338	201	0.0091
2016	2016Pumps500	Pumps	500	0.1566	0.6672	1.7955	0.0034	0.0542	345	0.0141
2016	2016Pumps750	Pumps	750	0.2663	1.1031	3.0795	0.0057	0.0916	571	0.0240
2016	2016Pumps9999	Pumps	9999	0.8096	2.9411	11.0444	0.0136	0.2798	1,355	0.0730
2016	2016Pumps Composite	Pumps Composite		0.0562	0.2785	0.3830	0.0006	0.0239	49.6	0.0051
2016	2016Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2016	2016Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0039	13.3	0.0015
2016	2016Rollers50	Rollers	50	0.0798	0.2680	0.2323	0.0003	0.0191	26.0	0.0072
2016	2016Rollers120	Rollers	120	0.0795	0.3971	0.5112	0.0007	0.0416	59.0	0.0072
2016	2016Rollers175	Rollers	175	0.1033	0.6152	0.7968	0.0012	0.0431	108	0.0093
2016	2016Rollers250	Rollers	250	0.1042	0.3463	0.9961	0.0017	0.0333	153	0.0094
2016	2016Rollers500	Rollers	500	0.1391	0.5319	1.2666	0.0022	0.0442	219	0.0126
2016	2016Rollers Composite	Rollers Composite		0.0792	0.3944	0.5273	0.0008	0.0353	67.0	0.0071
2016	2016Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0840	0.3459	0.2954	0.0004	0.0216	33.9	0.0076
2016	2016Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0729	0.4231	0.4742	0.0007	0.0369	62.4	0.0066
2016	2016Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.1081	0.7236	0.7797	0.0014	0.0423	125	0.0098
2016	2016Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.1107	0.3592	0.9207	0.0019	0.0302	171	0.0100
2016	2016Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1590	0.5205	1.2089	0.0025	0.0428	257	0.0143
2016	2016Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0775	0.4549	0.5104	0.0008	0.0372	70.3	0.0070
2016	2016Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1852	0.8280	1.3073	0.0015	0.0740	129	0.0167
2016	2016Rubber Tired Dozers250	Rubber Tired Dozers	250	0.2099	0.6066	1.7084	0.0021	0.0707	183	0.0189
2016	2016Rubber Tired Dozers500	Rubber Tired Dozers	500	0.2794	1.1678	2.2384	0.0026	0.0915	265	0.0252
2016	2016Rubber Tired Dozers750	Rubber Tired Dozers	750	0.4216	1.7523	3.4334	0.0040	0.1388	399	0.0380
2016	2016Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.6575	2.8291	6.5404	0.0060	0.2169	592	0.0593
2016	2016Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.2591	0.9834	2.0891	0.0025	0.0858	239	0.0234
2016	2016Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2016	2016Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0901	0.3349	0.2783	0.0004	0.0218	31.1	0.0081
2016	2016Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0773	0.4063	0.4828	0.0007	0.0387	58.9	0.0070
2016	2016Rubber Tired Loaders175	Rubber Tired Loaders	175	0.1022	0.6242	0.7295	0.0012	0.0402	106	0.0092
2016	2016Rubber Tired Loaders250	Rubber Tired Loaders	250	0.1056	0.3357	0.8897	0.0017	0.0302	149	0.0095
2016	2016Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1592	0.5594	1.2576	0.0023	0.0449	237	0.0144
2016	2016Rubber Tired Loaders750	Rubber Tired Loaders	750	0.3283	1.1450	2.6587	0.0049	0.0937	486	0.0296

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2016	2016Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.4397	1.5570	4.9948	0.0060	0.1424	594	0.0397
2016	2016Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0983	0.4557	0.7114	0.0012	0.0375	109	0.0089
2016	2016Scrapers120	Scrapers	120	0.1566	0.6775	0.9295	0.0011	0.0781	93.9	0.0141
2016	2016Scrapers175	Scrapers	175	0.1771	0.9000	1.2619	0.0017	0.0709	148	0.0160
2016	2016Scrapers250	Scrapers	250	0.1911	0.5689	1.6086	0.0024	0.0607	209	0.0172
2016	2016Scrapers500	Scrapers	500	0.2736	1.0107	2.2183	0.0032	0.0851	321	0.0247
2016	2016Scrapers750	Scrapers	750	0.4747	1.7423	3.9270	0.0056	0.1488	555	0.0428
2016	2016Scrapers Composite	Scrapers Composite		0.2383	0.9053	1.9017	0.0027	0.0783	262	0.0215
2016	2016Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2016	2016Signal Boards50	Signal Boards	50	0.0832	0.3134	0.3032	0.0005	0.0219	36.2	0.0075
2016	2016Signal Boards120	Signal Boards	120	0.0873	0.5072	0.6231	0.0009	0.0466	80.2	0.0079
2016	2016Signal Boards175	Signal Boards	175	0.1169	0.8288	1.0085	0.0017	0.0498	155	0.0106
2016	2016Signal Boards250	Signal Boards	250	0.1318	0.4998	1.4477	0.0029	0.0424	255	0.0119
2016	2016Signal Boards Composite	Signal Boards Composite		0.0161	0.0921	0.1172	0.0002	0.0060	16.7	0.0014
2016	2016Skid Steer Loaders25	Skid Steer Loaders	25	0.0184	0.0594	0.1107	0.0002	0.0053	13.8	0.0017
2016	2016Skid Steer Loaders50	Skid Steer Loaders	50	0.0323	0.2089	0.1953	0.0003	0.0094	25.5	0.0029
2016	2016Skid Steer Loaders120	Skid Steer Loaders	120	0.0295	0.2695	0.2411	0.0005	0.0138	42.8	0.0027
2016	2016Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0305	0.2184	0.2044	0.0004	0.0106	30.3	0.0028
2016	2016Surfacing Equipment50	Surfacing Equipment	50	0.0376	0.1300	0.1219	0.0002	0.0093	14.1	0.0034
2016	2016Surfacing Equipment120	Surfacing Equipment	120	0.0779	0.4123	0.5363	0.0007	0.0403	63.8	0.0070
2016	2016Surfacing Equipment175	Surfacing Equipment	175	0.0734	0.4695	0.6130	0.0010	0.0308	85.8	0.0066
2016	2016Surfacing Equipment250	Surfacing Equipment	250	0.0833	0.3013	0.8507	0.0015	0.0280	135	0.0075
2016	2016Surfacing Equipment500	Surfacing Equipment	500	0.1260	0.5485	1.2555	0.0022	0.0425	221	0.0114
2016	2016Surfacing Equipment750	Surfacing Equipment	750	0.2006	0.8594	2.0266	0.0035	0.0677	347	0.0181
2016	2016Surfacing Equipment Composite	Surfacing Equipment Composite		0.1045	0.4506	0.9731	0.0017	0.0353	166	0.0094
2016	2016Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2016	2016Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2016	2016Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0662	0.3084	0.2720	0.0004	0.0182	31.6	0.0060
2016	2016Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0774	0.5017	0.5324	0.0009	0.0392	75.0	0.0070
2016	2016Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.1100	0.8005	0.7999	0.0016	0.0429	139	0.0099
2016	2016Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0979	0.3255	0.7954	0.0018	0.0258	162	0.0088
2016	2016Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0810	0.4988	0.5192	0.0009	0.0332	78.5	0.0073
2016	2016Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0192	0.0653	0.1216	0.0002	0.0048	15.9	0.0017
2016	2016Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0623	0.2949	0.2536	0.0004	0.0162	30.3	0.0056
2016	2016Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0524	0.3460	0.3526	0.0006	0.0253	51.7	0.0047
2016	2016Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0788	0.5850	0.5574	0.0011	0.0293	101	0.0071
2016	2016Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.1025	0.3534	0.7914	0.0019	0.0260	172	0.0092
2016	2016Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1985	0.6964	1.4092	0.0039	0.0496	345	0.0179
2016	2016Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.2995	1.0443	2.1837	0.0058	0.0758	517	0.0270
2016	2016Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0610	0.3689	0.4070	0.0008	0.0258	66.8	0.0055
2016	2016Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2016	2016Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2016	2016Trenchers50	Trenchers	50	0.1305	0.3813	0.3141	0.0004	0.0293	32.9	0.0118
2016	2016Trenchers120	Trenchers	120	0.1080	0.4563	0.6653	0.0008	0.0551	64.9	0.0097
2016	2016Trenchers175	Trenchers	175	0.1678	0.8496	1.2809	0.0016	0.0700	144	0.0151
2016	2016Trenchers250	Trenchers	250	0.1991	0.6260	1.8052	0.0025	0.0691	223	0.0180
2016	2016Trenchers500	Trenchers	500	0.2560	1.0680	2.2757	0.0031	0.0874	311	0.0231
2016	2016Trenchers750	Trenchers	750	0.4852	2.0082	4.3873	0.0059	0.1665	587	0.0438
2016	2016Trenchers Composite	Trenchers Composite		0.1200	0.4479	0.5719	0.0007	0.0453	58.7	0.0108
2016	2016Welders15	Welders	15	0.0089	0.0396	0.0551	0.0001	0.0032	6.2	0.0008
2016	2016Welders25	Welders	25	0.0171	0.0519	0.0956	0.0001	0.0051	11.3	0.0015
2016	2016Welders50	Welders	50	0.0717	0.2483	0.2262	0.0003	0.0181	26.0	0.0065
2016	2016Welders120	Welders	120	0.0494	0.2581	0.3291	0.0005	0.0265	39.5	0.0045
2016	2016Welders175	Welders	175	0.0852	0.5411	0.6939	0.0011	0.0362	98.2	0.0077
2016	2016Welders250	Welders	250	0.0700	0.2427	0.7386	0.0013	0.0223	119	0.0063
2016	2016Welders500	Welders	500	0.0912	0.3361	0.9056	0.0016	0.0292	168	0.0082

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2016	2016Welders Composite	Welders Composite		0.0482	0.1951	0.2173	0.0003	0.0168	25.6	0.0044
2017	2017Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2017	2017Aerial Lifts25	Aerial Lifts	25	0.0146	0.0473	0.0873	0.0001	0.0041	11.0	0.0013
2017	2017Aerial Lifts50	Aerial Lifts	50	0.0382	0.1548	0.1580	0.0003	0.0104	19.6	0.0034
2017	2017Aerial Lifts120	Aerial Lifts	120	0.0368	0.2336	0.2787	0.0004	0.0194	38.1	0.0033
2017	2017Aerial Lifts500	Aerial Lifts	500	0.0890	0.3983	0.9891	0.0021	0.0299	213	0.0080
2017	2017Aerial Lifts750	Aerial Lifts	750	0.1647	0.7200	1.8445	0.0039	0.0549	385	0.0149
2017	2017Aerial Lifts Composite	Aerial Lifts Composite		0.0358	0.1768	0.2310	0.0004	0.0134	34.7	0.0032
2017	2017Air Compressors15	Air Compressors	15	0.0101	0.0458	0.0624	0.0001	0.0035	7.2	0.0009
2017	2017Air Compressors25	Air Compressors	25	0.0212	0.0654	0.1205	0.0002	0.0062	14.4	0.0019
2017	2017Air Compressors50	Air Compressors	50	0.0591	0.2209	0.1914	0.0003	0.0148	22.3	0.0053
2017	2017Air Compressors120	Air Compressors	120	0.0562	0.3122	0.3674	0.0006	0.0294	47.0	0.0051
2017	2017Air Compressors175	Air Compressors	175	0.0752	0.4998	0.5700	0.0010	0.0306	88.5	0.0068
2017	2017Air Compressors250	Air Compressors	250	0.0791	0.2692	0.7388	0.0015	0.0230	131	0.0071
2017	2017Air Compressors500	Air Compressors	500	0.1321	0.4598	1.1363	0.0023	0.0381	232	0.0119
2017	2017Air Compressors750	Air Compressors	750	0.2057	0.7106	1.8141	0.0036	0.0600	358	0.0186
2017	2017Air Compressors1000	Air Compressors	1000	0.3127	1.0739	3.9506	0.0049	0.1048	486	0.0282
2017	2017Air Compressors Composite	Air Compressors Composite		0.0641	0.3165	0.4318	0.0007	0.0282	63.6	0.0058
2017	2017Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2017	2017Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2017	2017Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0210	0.2215	0.1992	0.0004	0.0044	31.0	0.0019
2017	2017Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0326	0.4667	0.2962	0.0009	0.0095	77.1	0.0029
2017	2017Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0519	0.7541	0.3589	0.0016	0.0121	141	0.0047
2017	2017Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0580	0.3426	0.3124	0.0021	0.0088	188	0.0052
2017	2017Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0955	0.5511	0.5035	0.0031	0.0145	311	0.0086
2017	2017Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1891	1.0890	1.0018	0.0062	0.0287	615	0.0171
2017	2017Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.3016	1.6457	4.3972	0.0093	0.0855	928	0.0272
2017	2017Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0578	0.5013	0.4692	0.0017	0.0126	165	0.0052
2017	2017Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2017	2017Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0237	0.0762	0.1411	0.0002	0.0067	17.6	0.0021
2017	2017Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0087	0.0417	0.0539	0.0001	0.0022	7.2	0.0008
2017	2017Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2017	2017Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0625	0.2602	0.2473	0.0004	0.0167	30.2	0.0056
2017	2017Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0728	0.4691	0.5331	0.0009	0.0385	74.1	0.0066
2017	2017Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.1116	0.8663	0.9349	0.0018	0.0466	160	0.0101
2017	2017Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0679	0.3892	0.4267	0.0007	0.0298	58.5	0.0061
2017	2017Cranes50	Cranes	50	0.0709	0.2588	0.2087	0.0003	0.0168	23.2	0.0064
2017	2017Cranes120	Cranes	120	0.0690	0.3509	0.4155	0.0006	0.0341	50.1	0.0062
2017	2017Cranes175	Cranes	175	0.0807	0.4774	0.5549	0.0009	0.0314	80.3	0.0073
2017	2017Cranes250	Cranes	250	0.0830	0.2572	0.6832	0.0013	0.0235	112	0.0075
2017	2017Cranes500	Cranes	500	0.1262	0.4243	0.9704	0.0018	0.0351	180	0.0114
2017	2017Cranes750	Cranes	750	0.2137	0.7132	1.6890	0.0030	0.0602	303	0.0193
2017	2017Cranes9999	Cranes	9999	0.7823	2.5343	8.2827	0.0098	0.2344	971	0.0706
2017	2017Cranes Composite	Cranes Composite		0.1073	0.4152	0.8625	0.0014	0.0352	129	0.0097
2017	2017Crawler Tractors50	Crawler Tractors	50	0.0876	0.2947	0.2312	0.0003	0.0197	24.9	0.0079
2017	2017Crawler Tractors120	Crawler Tractors	120	0.1008	0.4707	0.5971	0.0008	0.0489	65.8	0.0091
2017	2017Crawler Tractors175	Crawler Tractors	175	0.1347	0.7342	0.9293	0.0014	0.0522	121	0.0122
2017	2017Crawler Tractors250	Crawler Tractors	250	0.1413	0.4308	1.1399	0.0019	0.0426	166	0.0127
2017	2017Crawler Tractors500	Crawler Tractors	500	0.2069	0.7531	1.5987	0.0025	0.0609	259	0.0187
2017	2017Crawler Tractors750	Crawler Tractors	750	0.3726	1.3475	2.9402	0.0047	0.1106	465	0.0336
2017	2017Crawler Tractors1000	Crawler Tractors	1000	0.5672	2.1186	6.0245	0.0066	0.1793	658	0.0512
2017	2017Crawler Tractors Composite	Crawler Tractors Composite		0.1258	0.5464	0.8617	0.0013	0.0500	114	0.0114
2017	2017Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.1086	0.4355	0.3739	0.0006	0.0274	44.0	0.0098
2017	2017Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0948	0.5547	0.6210	0.0010	0.0484	83.1	0.0086
2017	2017Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.1380	0.9527	1.0155	0.0019	0.0545	167	0.0124
2017	2017Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1466	0.4993	1.2854	0.0028	0.0405	245	0.0132

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2017	2017Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.2135	0.7357	1.7109	0.0037	0.0582	374	0.0193
2017	2017Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.3347	1.1549	2.7641	0.0059	0.0920	589	0.0302
2017	2017Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.8702	2.8310	10.1798	0.0131	0.2693	1,308	0.0785
2017	2017Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.1219	0.6388	0.8113	0.0015	0.0473	132	0.0110
2017	2017Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0585	0.0001	0.0023	7.6	0.0008
2017	2017Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0585	0.0001	0.0023	7.6	0.0008
2017	2017Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2017	2017Excavators50	Excavators	50	0.0521	0.2568	0.2082	0.0003	0.0128	25.0	0.0047
2017	2017Excavators120	Excavators	120	0.0760	0.5042	0.4840	0.0009	0.0340	73.6	0.0069
2017	2017Excavators175	Excavators	175	0.0896	0.6644	0.5783	0.0013	0.0308	112	0.0081
2017	2017Excavators250	Excavators	250	0.0992	0.3354	0.6878	0.0018	0.0231	159	0.0090
2017	2017Excavators500	Excavators	500	0.1415	0.4762	0.8988	0.0023	0.0323	234	0.0128
2017	2017Excavators750	Excavators	750	0.2356	0.7890	1.5359	0.0039	0.0544	387	0.0213
2017	2017Excavators Composite	Excavators Composite		0.0916	0.5184	0.5858	0.0013	0.0289	120	0.0083
2017	2017Forklifts50	Forklifts	50	0.0254	0.1463	0.1228	0.0002	0.0068	14.7	0.0023
2017	2017Forklifts120	Forklifts	120	0.0287	0.2125	0.1926	0.0004	0.0128	31.2	0.0026
2017	2017Forklifts175	Forklifts	175	0.0425	0.3322	0.2685	0.0006	0.0146	56.1	0.0038
2017	2017Forklifts250	Forklifts	250	0.0467	0.1564	0.3057	0.0009	0.0103	77.1	0.0042
2017	2017Forklifts500	Forklifts	500	0.0659	0.2139	0.3937	0.0011	0.0145	111	0.0059
2017	2017Forklifts Composite	Forklifts Composite		0.0399	0.2181	0.2493	0.0006	0.0119	54.4	0.0036
2017	2017Generator Sets15	Generator Sets	15	0.0126	0.0647	0.0874	0.0002	0.0045	10.2	0.0011
2017	2017Generator Sets25	Generator Sets	25	0.0236	0.0799	0.1471	0.0002	0.0073	17.6	0.0021
2017	2017Generator Sets50	Generator Sets	50	0.0559	0.2326	0.2443	0.0004	0.0156	30.6	0.0050
2017	2017Generator Sets120	Generator Sets	120	0.0725	0.4728	0.5629	0.0009	0.0381	77.9	0.0065
2017	2017Generator Sets175	Generator Sets	175	0.0902	0.7328	0.8439	0.0016	0.0383	142	0.0081
2017	2017Generator Sets250	Generator Sets	250	0.0926	0.3988	1.1003	0.0024	0.0307	213	0.0084
2017	2017Generator Sets500	Generator Sets	500	0.1343	0.6237	1.5464	0.0033	0.0459	337	0.0121
2017	2017Generator Sets750	Generator Sets	750	0.2224	1.0068	2.5746	0.0055	0.0754	544	0.0201
2017	2017Generator Sets9999	Generator Sets	9999	0.5622	2.1570	7.9778	0.0105	0.1939	1,049	0.0507
2017	2017Generator Sets Composite	Generator Sets Composite		0.0527	0.2821	0.4052	0.0007	0.0216	61.0	0.0048
2017	2017Graders50	Graders	50	0.0743	0.2932	0.2387	0.0004	0.0176	27.5	0.0067
2017	2017Graders120	Graders	120	0.0928	0.5166	0.5753	0.0009	0.0447	75.0	0.0084
2017	2017Graders175	Graders	175	0.1135	0.7301	0.7781	0.0014	0.0429	124	0.0102
2017	2017Graders250	Graders	250	0.1180	0.3848	0.9383	0.0019	0.0321	172	0.0106
2017	2017Graders500	Graders	500	0.1497	0.5344	1.1139	0.0023	0.0400	229	0.0135
2017	2017Graders750	Graders	750	0.3187	1.1303	2.4323	0.0049	0.0862	486	0.0288
2017	2017Graders Composite	Graders Composite		0.1121	0.5844	0.8008	0.0015	0.0397	133	0.0101
2017	2017Off-Highway Tractors120	Off-Highway Tractors	120	0.1712	0.6931	0.9973	0.0011	0.0834	93.7	0.0154
2017	2017Off-Highway Tractors175	Off-Highway Tractors	175	0.1697	0.8122	1.1987	0.0015	0.0677	130	0.0153
2017	2017Off-Highway Tractors250	Off-Highway Tractors	250	0.1344	0.4001	1.1003	0.0015	0.0446	130	0.0121
2017	2017Off-Highway Tractors750	Off-Highway Tractors	750	0.5434	2.2170	4.4309	0.0057	0.1765	568	0.0490
2017	2017Off-Highway Tractors1000	Off-Highway Tractors	1000	0.8220	3.4738	8.4378	0.0082	0.2696	814	0.0742
2017	2017Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1716	0.6906	1.3177	0.0017	0.0623	151	0.0155
2017	2017Off-Highway Trucks175	Off-Highway Trucks	175	0.1072	0.7547	0.6764	0.0014	0.0363	125	0.0097
2017	2017Off-Highway Trucks250	Off-Highway Trucks	250	0.1109	0.3608	0.7625	0.0019	0.0256	167	0.0100
2017	2017Off-Highway Trucks500	Off-Highway Trucks	500	0.1753	0.5676	1.1034	0.0027	0.0397	272	0.0158
2017	2017Off-Highway Trucks750	Off-Highway Trucks	750	0.2856	0.9204	1.8476	0.0044	0.0655	442	0.0258
2017	2017Off-Highway Trucks1000	Off-Highway Trucks	1000	0.4308	1.3660	4.6014	0.0063	0.1229	625	0.0389
2017	2017Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1712	0.5722	1.1851	0.0027	0.0407	260	0.0154
2017	2017Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2017	2017Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2017	2017Other Construction Equipment50	Other Construction Equipment	50	0.0468	0.2392	0.2185	0.0004	0.0125	28.0	0.0042
2017	2017Other Construction Equipment120	Other Construction Equipment	120	0.0671	0.5141	0.5013	0.0009	0.0329	80.9	0.0061
2017	2017Other Construction Equipment175	Other Construction Equipment	175	0.0665	0.5860	0.5133	0.0012	0.0252	107	0.0060
2017	2017Other Construction Equipment500	Other Construction Equipment	500	0.1181	0.4796	0.9136	0.0025	0.0311	254	0.0107
2017	2017Other Construction Equipment Composite	Other Construction Equipment Composite		0.0675	0.3568	0.5044	0.0013	0.0206	123	0.0061

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2017	2017Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2017	2017Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2017	2017Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0621	0.2377	0.1935	0.0003	0.0152	21.7	0.0056
2017	2017Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0811	0.4307	0.4956	0.0007	0.0404	62.0	0.0073
2017	2017Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0911	0.5665	0.6307	0.0011	0.0351	95.9	0.0082
2017	2017Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0936	0.2900	0.7778	0.0015	0.0249	136	0.0084
2017	2017Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1745	0.5443	1.3258	0.0026	0.0459	265	0.0157
2017	2017Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.2894	0.8971	2.2570	0.0044	0.0770	437	0.0261
2017	2017Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.4068	1.2739	4.6403	0.0056	0.1274	560	0.0367
2017	2017Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.1187	0.4650	0.9138	0.0016	0.0379	152	0.0107
2017	2017Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0860	0.3282	0.2689	0.0004	0.0211	30.3	0.0078
2017	2017Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0786	0.4192	0.4839	0.0007	0.0394	60.7	0.0071
2017	2017Other Material Handling Equipment175	Other Material Handling Equipment	175	0.1146	0.7173	0.8014	0.0014	0.0445	122	0.0103
2017	2017Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0988	0.3087	0.8309	0.0016	0.0266	145	0.0089
2017	2017Other Material Handling Equipment500	Other Material Handling Equipment	500	0.1243	0.3915	0.9560	0.0019	0.0330	192	0.0112
2017	2017Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.5621	1.6821	6.1372	0.0073	0.1681	741	0.0507
2017	2017Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.1123	0.4544	0.8948	0.0015	0.0366	141	0.0101
2017	2017Pavers25	Pavers	25	0.0228	0.0771	0.1440	0.0002	0.0058	18.7	0.0021
2017	2017Pavers50	Pavers	50	0.1040	0.3262	0.2615	0.0004	0.0234	28.0	0.0094
2017	2017Pavers120	Pavers	120	0.1095	0.4895	0.6606	0.0008	0.0548	69.2	0.0099
2017	2017Pavers175	Pavers	175	0.1443	0.7653	1.0437	0.0014	0.0582	128	0.0130
2017	2017Pavers250	Pavers	250	0.1664	0.5174	1.4290	0.0022	0.0537	194	0.0150
2017	2017Pavers500	Pavers	500	0.1858	0.7239	1.5415	0.0023	0.0588	233	0.0168
2017	2017Pavers Composite	Pavers Composite		0.1193	0.5073	0.6672	0.0009	0.0453	77.9	0.0108
2017	2017Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2017	2017Paving Equipment50	Paving Equipment	50	0.0885	0.2760	0.2230	0.0003	0.0200	23.9	0.0080
2017	2017Paving Equipment120	Paving Equipment	120	0.0858	0.3834	0.5187	0.0006	0.0433	54.5	0.0077
2017	2017Paving Equipment175	Paving Equipment	175	0.1124	0.5987	0.8196	0.0011	0.0458	101	0.0101
2017	2017Paving Equipment250	Paving Equipment	250	0.1018	0.3178	0.8949	0.0014	0.0329	122	0.0092
2017	2017Paving Equipment Composite	Paving Equipment Composite		0.0910	0.4165	0.5965	0.0008	0.0404	68.9	0.0082
2017	2017Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2017	2017Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2017	2017Pressure Washers15	Pressure Washers	15	0.0060	0.0310	0.0419	0.0001	0.0022	4.9	0.0005
2017	2017Pressure Washers25	Pressure Washers	25	0.0096	0.0324	0.0596	0.0001	0.0030	7.1	0.0009
2017	2017Pressure Washers50	Pressure Washers	50	0.0195	0.0918	0.1098	0.0002	0.0061	14.3	0.0018
2017	2017Pressure Washers120	Pressure Washers	120	0.0191	0.1393	0.1659	0.0003	0.0100	24.1	0.0017
2017	2017Pressure Washers Composite	Pressure Washers Composite		0.0111	0.0570	0.0733	0.0001	0.0040	9.4	0.0010
2017	2017Pumps15	Pumps	15	0.0103	0.0471	0.0641	0.0001	0.0036	7.4	0.0009
2017	2017Pumps25	Pumps	25	0.0286	0.0883	0.1625	0.0002	0.0084	19.5	0.0026
2017	2017Pumps50	Pumps	50	0.0680	0.2744	0.2773	0.0004	0.0184	34.3	0.0061
2017	2017Pumps120	Pumps	120	0.0760	0.4802	0.5715	0.0009	0.0400	77.9	0.0069
2017	2017Pumps175	Pumps	175	0.0940	0.7342	0.8462	0.0016	0.0398	140	0.0085
2017	2017Pumps250	Pumps	250	0.0932	0.3841	1.0601	0.0023	0.0303	201	0.0084
2017	2017Pumps500	Pumps	500	0.1468	0.6478	1.6054	0.0034	0.0489	345	0.0132
2017	2017Pumps750	Pumps	750	0.2481	1.0709	2.7377	0.0057	0.0823	571	0.0224
2017	2017Pumps9999	Pumps	9999	0.7548	2.8273	10.4295	0.0136	0.2569	1,355	0.0681
2017	2017Pumps Composite	Pumps Composite		0.0508	0.2751	0.3560	0.0006	0.0214	49.6	0.0046
2017	2017Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2017	2017Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2017	2017Rollers50	Rollers	50	0.0729	0.2611	0.2245	0.0003	0.0174	26.0	0.0066
2017	2017Rollers120	Rollers	120	0.0736	0.3944	0.4749	0.0007	0.0378	59.0	0.0066
2017	2017Rollers175	Rollers	175	0.0964	0.6140	0.7248	0.0012	0.0393	108	0.0087
2017	2017Rollers250	Rollers	250	0.0985	0.3375	0.9035	0.0017	0.0302	153	0.0089
2017	2017Rollers500	Rollers	500	0.1323	0.5091	1.1463	0.0022	0.0401	219	0.0119
2017	2017Rollers Composite	Rollers Composite		0.0736	0.3913	0.4866	0.0008	0.0322	67.0	0.0066
2017	2017Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0743	0.3373	0.2846	0.0004	0.0190	33.9	0.0067

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2017	2017Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0660	0.4203	0.4341	0.0007	0.0319	62.4	0.0060
2017	2017Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0993	0.7233	0.6899	0.0014	0.0371	125	0.0090
2017	2017Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.1047	0.3544	0.8098	0.0019	0.0269	171	0.0094
2017	2017Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1514	0.5104	1.0707	0.0025	0.0383	257	0.0137
2017	2017Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0704	0.4522	0.4645	0.0008	0.0323	70.3	0.0064
2017	2017Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1763	0.8232	1.2239	0.0015	0.0692	129	0.0159
2017	2017Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1992	0.5845	1.5954	0.0021	0.0654	183	0.0180
2017	2017Rubber Tired Dozers500	Rubber Tired Dozers	500	0.2660	1.0972	2.0893	0.0026	0.0849	265	0.0240
2017	2017Rubber Tired Dozers750	Rubber Tired Dozers	750	0.4016	1.6469	3.2071	0.0040	0.1289	399	0.0362
2017	2017Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.6276	2.6606	6.2665	0.0060	0.2034	592	0.0566
2017	2017Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.2465	0.9300	1.9508	0.0025	0.0796	239	0.0222
2017	2017Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2017	2017Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0818	0.3270	0.2684	0.0004	0.0195	31.1	0.0074
2017	2017Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0714	0.4038	0.4460	0.0007	0.0346	58.9	0.0064
2017	2017Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0954	0.6234	0.6571	0.0012	0.0362	106	0.0086
2017	2017Rubber Tired Loaders250	Rubber Tired Loaders	250	0.1000	0.3290	0.7984	0.0017	0.0272	149	0.0090
2017	2017Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1514	0.5411	1.1288	0.0023	0.0405	237	0.0137
2017	2017Rubber Tired Loaders750	Rubber Tired Loaders	750	0.3121	1.1077	2.3876	0.0049	0.0844	486	0.0282
2017	2017Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.4149	1.4822	4.7146	0.0060	0.1302	594	0.0374
2017	2017Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0920	0.4510	0.6446	0.0012	0.0336	109	0.0083
2017	2017Scrapers120	Scrapers	120	0.1471	0.6728	0.8712	0.0011	0.0719	93.9	0.0133
2017	2017Scrapers175	Scrapers	175	0.1673	0.8975	1.1638	0.0017	0.0655	148	0.0151
2017	2017Scrapers250	Scrapers	250	0.1805	0.5495	1.4783	0.0024	0.0552	209	0.0163
2017	2017Scrapers500	Scrapers	500	0.2594	0.9602	2.0375	0.0032	0.0777	321	0.0234
2017	2017Scrapers750	Scrapers	750	0.4502	1.6557	3.6101	0.0056	0.1359	555	0.0406
2017	2017Scrapers Composite	Scrapers Composite		0.2257	0.8713	1.7483	0.0027	0.0716	262	0.0204
2017	2017Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2017	2017Signal Boards50	Signal Boards	50	0.0738	0.3047	0.2923	0.0005	0.0195	36.2	0.0067
2017	2017Signal Boards120	Signal Boards	120	0.0781	0.5033	0.5729	0.0009	0.0410	80.2	0.0070
2017	2017Signal Boards175	Signal Boards	175	0.1057	0.8280	0.8988	0.0017	0.0440	155	0.0095
2017	2017Signal Boards250	Signal Boards	250	0.1230	0.4919	1.2834	0.0029	0.0379	255	0.0111
2017	2017Signal Boards Composite	Signal Boards Composite		0.0151	0.0918	0.1098	0.0002	0.0055	16.7	0.0014
2017	2017Skid Steer Loaders25	Skid Steer Loaders	25	0.0179	0.0588	0.1090	0.0002	0.0050	13.8	0.0016
2017	2017Skid Steer Loaders50	Skid Steer Loaders	50	0.0288	0.2057	0.1865	0.0003	0.0079	25.5	0.0026
2017	2017Skid Steer Loaders120	Skid Steer Loaders	120	0.0268	0.2686	0.2172	0.0005	0.0114	42.8	0.0024
2017	2017Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0274	0.2161	0.1912	0.0004	0.0088	30.3	0.0025
2017	2017Surfacing Equipment50	Surfacing Equipment	50	0.0346	0.1270	0.1178	0.0002	0.0085	14.1	0.0031
2017	2017Surfacing Equipment120	Surfacing Equipment	120	0.0722	0.4096	0.4995	0.0007	0.0368	63.8	0.0065
2017	2017Surfacing Equipment175	Surfacing Equipment	175	0.0685	0.4685	0.5589	0.0010	0.0282	85.8	0.0062
2017	2017Surfacing Equipment250	Surfacing Equipment	250	0.0780	0.2927	0.7732	0.0015	0.0253	135	0.0070
2017	2017Surfacing Equipment500	Surfacing Equipment	500	0.1186	0.5248	1.1392	0.0022	0.0385	221	0.0107
2017	2017Surfacing Equipment750	Surfacing Equipment	750	0.1888	0.8224	1.8408	0.0035	0.0614	347	0.0170
2017	2017Surfacing Equipment Composite	Surfacing Equipment Composite		0.0981	0.4333	0.8855	0.0017	0.0321	166	0.0088
2017	2017Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2017	2017Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2017	2017Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0581	0.3019	0.2627	0.0004	0.0158	31.6	0.0052
2017	2017Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0701	0.4996	0.4855	0.0009	0.0336	75.0	0.0063
2017	2017Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.1029	0.8018	0.7099	0.0016	0.0381	139	0.0093
2017	2017Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0936	0.3232	0.6970	0.0018	0.0230	162	0.0084
2017	2017Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0737	0.4962	0.4726	0.0009	0.0288	78.5	0.0067
2017	2017Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0192	0.0653	0.1213	0.0002	0.0047	15.9	0.0017
2017	2017Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0555	0.2889	0.2435	0.0004	0.0141	30.3	0.0050
2017	2017Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0477	0.3442	0.3216	0.0006	0.0217	51.7	0.0043
2017	2017Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0726	0.5847	0.4886	0.0011	0.0254	101	0.0066
2017	2017Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0968	0.3506	0.6887	0.0019	0.0229	172	0.0087
2017	2017Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1886	0.6859	1.2315	0.0039	0.0438	345	0.0170

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2017	2017Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.2842	1.0286	1.9040	0.0058	0.0668	517	0.0256
2017	2017Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0559	0.3666	0.3681	0.0008	0.0222	66.8	0.0050
2017	2017Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2017	2017Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2017	2017Trenchers50	Trenchers	50	0.1222	0.3728	0.3051	0.0004	0.0274	32.9	0.0110
2017	2017Trenchers120	Trenchers	120	0.1018	0.4529	0.6266	0.0008	0.0514	64.9	0.0092
2017	2017Trenchers175	Trenchers	175	0.1590	0.8464	1.1893	0.0016	0.0653	144	0.0143
2017	2017Trenchers250	Trenchers	250	0.1883	0.6031	1.6715	0.0025	0.0635	223	0.0170
2017	2017Trenchers500	Trenchers	500	0.2433	1.0086	2.1048	0.0031	0.0805	311	0.0220
2017	2017Trenchers750	Trenchers	750	0.4610	1.8971	4.0616	0.0059	0.1535	587	0.0416
2017	2017Trenchers Composite	Trenchers Composite		0.1129	0.4422	0.5410	0.0007	0.0423	58.7	0.0102
2017	2017Welders15	Welders	15	0.0086	0.0394	0.0536	0.0001	0.0030	6.2	0.0008
2017	2017Welders25	Welders	25	0.0166	0.0511	0.0941	0.0001	0.0049	11.3	0.0015
2017	2017Welders50	Welders	50	0.0638	0.2408	0.2183	0.0003	0.0162	26.0	0.0058
2017	2017Welders120	Welders	120	0.0444	0.2559	0.3033	0.0005	0.0234	39.5	0.0040
2017	2017Welders175	Welders	175	0.0774	0.5404	0.6214	0.0011	0.0322	98.2	0.0070
2017	2017Welders250	Welders	250	0.0657	0.2384	0.6582	0.0013	0.0200	119	0.0059
2017	2017Welders500	Welders	500	0.0865	0.3263	0.8096	0.0016	0.0264	168	0.0078
2017	2017Welders Composite	Welders Composite		0.0434	0.1912	0.2054	0.0003	0.0150	25.6	0.0039
2018	2018Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2018	2018Aerial Lifts25	Aerial Lifts	25	0.0143	0.0468	0.0865	0.0001	0.0039	11.0	0.0013
2018	2018Aerial Lifts50	Aerial Lifts	50	0.0336	0.1506	0.1525	0.0003	0.0093	19.6	0.0030
2018	2018Aerial Lifts120	Aerial Lifts	120	0.0327	0.2319	0.2565	0.0004	0.0170	38.1	0.0029
2018	2018Aerial Lifts500	Aerial Lifts	500	0.0840	0.3899	0.8852	0.0021	0.0270	213	0.0076
2018	2018Aerial Lifts750	Aerial Lifts	750	0.1545	0.7049	1.6423	0.0039	0.0494	385	0.0139
2018	2018Aerial Lifts Composite	Aerial Lifts Composite		0.0322	0.1740	0.2152	0.0004	0.0119	34.7	0.0029
2018	2018Air Compressors15	Air Compressors	15	0.0098	0.0456	0.0608	0.0001	0.0033	7.2	0.0009
2018	2018Air Compressors25	Air Compressors	25	0.0207	0.0645	0.1187	0.0002	0.0060	14.4	0.0019
2018	2018Air Compressors50	Air Compressors	50	0.0518	0.2142	0.1848	0.0003	0.0131	22.3	0.0047
2018	2018Air Compressors120	Air Compressors	120	0.0504	0.3097	0.3370	0.0006	0.0255	47.0	0.0045
2018	2018Air Compressors175	Air Compressors	175	0.0685	0.4994	0.5069	0.0010	0.0268	88.5	0.0062
2018	2018Air Compressors250	Air Compressors	250	0.0747	0.2653	0.6529	0.0015	0.0206	131	0.0067
2018	2018Air Compressors500	Air Compressors	500	0.1262	0.4504	1.0161	0.0023	0.0345	232	0.0114
2018	2018Air Compressors750	Air Compressors	750	0.1960	0.6961	1.6134	0.0036	0.0540	358	0.0177
2018	2018Air Compressors1000	Air Compressors	1000	0.2958	1.0416	3.7257	0.0049	0.0965	486	0.0267
2018	2018Air Compressors Composite	Air Compressors Composite		0.0582	0.3130	0.3935	0.0007	0.0246	63.6	0.0052
2018	2018Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2018	2018Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2018	2018Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0204	0.2211	0.1897	0.0004	0.0034	31.0	0.0018
2018	2018Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0308	0.4665	0.2710	0.0009	0.0072	77.1	0.0028
2018	2018Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0475	0.7542	0.2910	0.0016	0.0092	141	0.0043
2018	2018Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0538	0.3426	0.2499	0.0021	0.0068	188	0.0049
2018	2018Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0887	0.5512	0.4035	0.0031	0.0112	311	0.0080
2018	2018Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1755	1.0891	0.8022	0.0062	0.0222	615	0.0158
2018	2018Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2789	1.6441	4.2095	0.0093	0.0723	928	0.0252
2018	2018Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0539	0.5011	0.4175	0.0017	0.0099	165	0.0049
2018	2018Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2018	2018Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0232	0.0754	0.1391	0.0002	0.0064	17.6	0.0021
2018	2018Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0087	0.0416	0.0538	0.0001	0.0022	7.2	0.0008
2018	2018Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2018	2018Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0549	0.2534	0.2388	0.0004	0.0148	30.2	0.0050
2018	2018Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0650	0.4661	0.4898	0.0009	0.0335	74.1	0.0059
2018	2018Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.1012	0.8661	0.8304	0.0018	0.0410	160	0.0091
2018	2018Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0605	0.3850	0.3959	0.0007	0.0261	58.5	0.0055
2018	2018Cranes50	Cranes	50	0.0646	0.2527	0.2019	0.0003	0.0151	23.2	0.0058
2018	2018Cranes120	Cranes	120	0.0639	0.3486	0.3857	0.0006	0.0306	50.1	0.0058

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2018	2018Cranes175	Cranes	175	0.0752	0.4766	0.5029	0.0009	0.0283	80.3	0.0068
2018	2018Cranes250	Cranes	250	0.0787	0.2521	0.6168	0.0013	0.0212	112	0.0071
2018	2018Cranes500	Cranes	500	0.1202	0.4085	0.8748	0.0018	0.0317	180	0.0108
2018	2018Cranes750	Cranes	750	0.2034	0.6869	1.5239	0.0030	0.0544	303	0.0184
2018	2018Cranes9999	Cranes	9999	0.7422	2.3933	7.8338	0.0098	0.2146	971	0.0670
2018	2018Cranes Composite	Cranes Composite		0.1012	0.4060	0.7908	0.0014	0.0318	129	0.0091
2018	2018Crawler Tractors50	Crawler Tractors	50	0.0813	0.2884	0.2240	0.0003	0.0181	24.9	0.0073
2018	2018Crawler Tractors120	Crawler Tractors	120	0.0945	0.4679	0.5589	0.0008	0.0448	65.8	0.0085
2018	2018Crawler Tractors175	Crawler Tractors	175	0.1270	0.7327	0.8534	0.0014	0.0479	121	0.0115
2018	2018Crawler Tractors250	Crawler Tractors	250	0.1333	0.4179	1.0430	0.0019	0.0385	166	0.0120
2018	2018Crawler Tractors500	Crawler Tractors	500	0.1959	0.7202	1.4625	0.0025	0.0554	259	0.0177
2018	2018Crawler Tractors750	Crawler Tractors	750	0.3529	1.2889	2.6916	0.0047	0.1006	465	0.0318
2018	2018Crawler Tractors1000	Crawler Tractors	1000	0.5380	2.0171	5.7362	0.0066	0.1663	658	0.0485
2018	2018Crawler Tractors Composite	Crawler Tractors Composite		0.1185	0.5387	0.7960	0.0013	0.0457	114	0.0107
2018	2018Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0949	0.4230	0.3607	0.0006	0.0241	44.0	0.0086
2018	2018Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0849	0.5506	0.5679	0.0010	0.0416	83.1	0.0077
2018	2018Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.1258	0.9520	0.8975	0.0019	0.0475	167	0.0113
2018	2018Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1386	0.4932	1.1284	0.0028	0.0359	245	0.0125
2018	2018Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.2037	0.7231	1.5205	0.0037	0.0524	374	0.0184
2018	2018Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.3193	1.1368	2.4441	0.0059	0.0824	589	0.0288
2018	2018Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.8312	2.7569	9.5902	0.0131	0.2467	1,308	0.0750
2018	2018Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.1109	0.6328	0.7330	0.0015	0.0412	132	0.0100
2018	2018Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0584	0.0001	0.0023	7.6	0.0008
2018	2018Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0584	0.0001	0.0023	7.6	0.0008
2018	2018Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2018	2018Excavators50	Excavators	50	0.0468	0.2521	0.2002	0.0003	0.0111	25.0	0.0042
2018	2018Excavators120	Excavators	120	0.0693	0.5017	0.4425	0.0009	0.0289	73.6	0.0063
2018	2018Excavators175	Excavators	175	0.0824	0.6641	0.5069	0.0013	0.0264	112	0.0074
2018	2018Excavators250	Excavators	250	0.0933	0.3323	0.5984	0.0018	0.0202	159	0.0084
2018	2018Excavators500	Excavators	500	0.1339	0.4689	0.7881	0.0023	0.0284	234	0.0121
2018	2018Excavators750	Excavators	750	0.2224	0.7769	1.3381	0.0039	0.0476	387	0.0201
2018	2018Excavators Composite	Excavators Composite		0.0848	0.5160	0.5181	0.0013	0.0249	120	0.0077
2018	2018Forklifts50	Forklifts	50	0.0229	0.1440	0.1180	0.0002	0.0058	14.7	0.0021
2018	2018Forklifts120	Forklifts	120	0.0265	0.2118	0.1745	0.0004	0.0108	31.2	0.0024
2018	2018Forklifts175	Forklifts	175	0.0394	0.3322	0.2328	0.0006	0.0125	56.1	0.0036
2018	2018Forklifts250	Forklifts	250	0.0440	0.1559	0.2594	0.0009	0.0089	77.1	0.0040
2018	2018Forklifts500	Forklifts	500	0.0623	0.2131	0.3432	0.0011	0.0125	111	0.0056
2018	2018Forklifts Composite	Forklifts Composite		0.0372	0.2173	0.2186	0.0006	0.0101	54.4	0.0034
2018	2018Generator Sets15	Generator Sets	15	0.0123	0.0644	0.0852	0.0002	0.0043	10.2	0.0011
2018	2018Generator Sets25	Generator Sets	25	0.0231	0.0788	0.1449	0.0002	0.0070	17.6	0.0021
2018	2018Generator Sets50	Generator Sets	50	0.0491	0.2265	0.2357	0.0004	0.0138	30.6	0.0044
2018	2018Generator Sets120	Generator Sets	120	0.0642	0.4694	0.5181	0.0009	0.0333	77.9	0.0058
2018	2018Generator Sets175	Generator Sets	175	0.0808	0.7324	0.7528	0.0016	0.0337	142	0.0073
2018	2018Generator Sets250	Generator Sets	250	0.0857	0.3931	0.9756	0.0024	0.0274	213	0.0077
2018	2018Generator Sets500	Generator Sets	500	0.1264	0.6113	1.3836	0.0033	0.0415	337	0.0114
2018	2018Generator Sets750	Generator Sets	750	0.2080	0.9868	2.2918	0.0055	0.0679	544	0.0188
2018	2018Generator Sets9999	Generator Sets	9999	0.5230	2.0948	7.5356	0.0105	0.1778	1,049	0.0472
2018	2018Generator Sets Composite	Generator Sets Composite		0.0477	0.2786	0.3759	0.0007	0.0192	61.0	0.0043
2018	2018Graders50	Graders	50	0.0676	0.2868	0.2305	0.0004	0.0157	27.5	0.0061
2018	2018Graders120	Graders	120	0.0860	0.5138	0.5323	0.0009	0.0398	75.0	0.0078
2018	2018Graders175	Graders	175	0.1059	0.7294	0.7002	0.0014	0.0385	124	0.0096
2018	2018Graders250	Graders	250	0.1115	0.3778	0.8409	0.0019	0.0287	172	0.0101
2018	2018Graders500	Graders	500	0.1420	0.5194	0.9989	0.0023	0.0359	229	0.0128
2018	2018Graders750	Graders	750	0.3024	1.0988	2.1820	0.0049	0.0774	486	0.0273
2018	2018Graders Composite	Graders Composite		0.1049	0.5812	0.7217	0.0015	0.0355	133	0.0095
2018	2018Off-Highway Tractors120	Off-Highway Tractors	120	0.1622	0.6879	0.9427	0.0011	0.0779	93.7	0.0146

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2018	2018Off-Highway Tractors175	Off-Highway Tractors	175	0.1614	0.8085	1.1191	0.0015	0.0632	130	0.0146
2018	2018Off-Highway Tractors250	Off-Highway Tractors	250	0.1275	0.3861	1.0244	0.0015	0.0411	130	0.0115
2018	2018Off-Highway Tractors750	Off-Highway Tractors	750	0.5173	2.0914	4.1264	0.0057	0.1633	568	0.0467
2018	2018Off-Highway Tractors1000	Off-Highway Tractors	1000	0.7842	3.2770	8.0820	0.0082	0.2526	814	0.0708
2018	2018Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1631	0.6762	1.2293	0.0017	0.0579	151	0.0147
2018	2018Off-Highway Trucks175	Off-Highway Trucks	175	0.0983	0.7542	0.5947	0.0014	0.0314	125	0.0089
2018	2018Off-Highway Trucks250	Off-Highway Trucks	250	0.1042	0.3572	0.6660	0.0019	0.0225	167	0.0094
2018	2018Off-Highway Trucks500	Off-Highway Trucks	500	0.1656	0.5578	0.9706	0.0027	0.0351	272	0.0149
2018	2018Off-Highway Trucks750	Off-Highway Trucks	750	0.2693	0.9044	1.6152	0.0044	0.0577	442	0.0243
2018	2018Off-Highway Trucks1000	Off-Highway Trucks	1000	0.4058	1.3339	4.3394	0.0063	0.1110	625	0.0366
2018	2018Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1613	0.5634	1.0525	0.0027	0.0360	260	0.0146
2018	2018Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2018	2018Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2018	2018Other Construction Equipment50	Other Construction Equipment	50	0.0412	0.2342	0.2102	0.0004	0.0108	28.0	0.0037
2018	2018Other Construction Equipment120	Other Construction Equipment	120	0.0604	0.5116	0.4573	0.0009	0.0279	80.9	0.0054
2018	2018Other Construction Equipment175	Other Construction Equipment	175	0.0608	0.5859	0.4478	0.0012	0.0218	107	0.0055
2018	2018Other Construction Equipment500	Other Construction Equipment	500	0.1122	0.4743	0.8004	0.0025	0.0275	254	0.0101
2018	2018Other Construction Equipment Composite	Other Construction Equipment Composite		0.0633	0.3542	0.4478	0.0013	0.0181	123	0.0057
2018	2018Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2018	2018Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2018	2018Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0548	0.2314	0.1869	0.0003	0.0134	21.7	0.0049
2018	2018Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0732	0.4277	0.4544	0.0007	0.0350	62.0	0.0066
2018	2018Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0835	0.5664	0.5608	0.0011	0.0307	95.9	0.0075
2018	2018Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0884	0.2862	0.6866	0.0015	0.0221	136	0.0080
2018	2018Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1664	0.5336	1.1846	0.0026	0.0412	265	0.0150
2018	2018Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.2755	0.8795	2.0057	0.0044	0.0689	437	0.0249
2018	2018Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.3866	1.2370	4.3716	0.0056	0.1169	560	0.0349
2018	2018Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.1113	0.4591	0.8242	0.0016	0.0336	152	0.0100
2018	2018Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0758	0.3192	0.2598	0.0004	0.0186	30.3	0.0068
2018	2018Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0709	0.4162	0.4437	0.0007	0.0341	60.7	0.0064
2018	2018Other Material Handling Equipment175	Other Material Handling Equipment	175	0.1050	0.7171	0.7125	0.0014	0.0389	122	0.0095
2018	2018Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0934	0.3046	0.7336	0.0016	0.0237	145	0.0084
2018	2018Other Material Handling Equipment500	Other Material Handling Equipment	500	0.1186	0.3838	0.8543	0.0019	0.0297	192	0.0107
2018	2018Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.5386	1.6331	5.7822	0.0073	0.1543	741	0.0486
2018	2018Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.1050	0.4495	0.8053	0.0015	0.0324	141	0.0095
2018	2018Pavers25	Pavers	25	0.0226	0.0769	0.1434	0.0002	0.0057	18.7	0.0020
2018	2018Pavers50	Pavers	50	0.0968	0.3188	0.2539	0.0004	0.0217	28.0	0.0087
2018	2018Pavers120	Pavers	120	0.1030	0.4862	0.6205	0.0008	0.0506	69.2	0.0093
2018	2018Pavers175	Pavers	175	0.1365	0.7632	0.9644	0.0014	0.0539	128	0.0123
2018	2018Pavers250	Pavers	250	0.1574	0.5000	1.3162	0.0022	0.0490	194	0.0142
2018	2018Pavers500	Pavers	500	0.1765	0.6885	1.4189	0.0023	0.0539	233	0.0159
2018	2018Pavers Composite	Pavers Composite		0.1121	0.5017	0.6241	0.0009	0.0419	77.9	0.0101
2018	2018Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2018	2018Paving Equipment50	Paving Equipment	50	0.0821	0.2696	0.2165	0.0003	0.0185	23.9	0.0074
2018	2018Paving Equipment120	Paving Equipment	120	0.0805	0.3809	0.4869	0.0006	0.0400	54.5	0.0073
2018	2018Paving Equipment175	Paving Equipment	175	0.1062	0.5971	0.7567	0.0011	0.0424	101	0.0096
2018	2018Paving Equipment250	Paving Equipment	250	0.0962	0.3068	0.8236	0.0014	0.0300	122	0.0087
2018	2018Paving Equipment Composite	Paving Equipment Composite		0.0857	0.4136	0.5558	0.0008	0.0374	68.9	0.0077
2018	2018Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2018	2018Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2018	2018Pressure Washers15	Pressure Washers	15	0.0059	0.0308	0.0408	0.0001	0.0021	4.9	0.0005
2018	2018Pressure Washers25	Pressure Washers	25	0.0094	0.0319	0.0587	0.0001	0.0028	7.1	0.0008
2018	2018Pressure Washers50	Pressure Washers	50	0.0170	0.0895	0.1059	0.0002	0.0054	14.3	0.0015
2018	2018Pressure Washers120	Pressure Washers	120	0.0167	0.1383	0.1528	0.0003	0.0087	24.1	0.0015
2018	2018Pressure Washers Composite	Pressure Washers Composite		0.0101	0.0562	0.0703	0.0001	0.0036	9.4	0.0009
2018	2018Pumps15	Pumps	15	0.0101	0.0468	0.0625	0.0001	0.0034	7.4	0.0009

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2018	2018Pumps25	Pumps	25	0.0279	0.0871	0.1601	0.0002	0.0080	19.5	0.0025
2018	2018Pumps50	Pumps	50	0.0599	0.2670	0.2677	0.0004	0.0164	34.3	0.0054
2018	2018Pumps120	Pumps	120	0.0676	0.4767	0.5260	0.0009	0.0350	77.9	0.0061
2018	2018Pumps175	Pumps	175	0.0845	0.7338	0.7548	0.0016	0.0350	140	0.0076
2018	2018Pumps250	Pumps	250	0.0866	0.3786	0.9399	0.0023	0.0271	201	0.0078
2018	2018Pumps500	Pumps	500	0.1387	0.6343	1.4367	0.0034	0.0442	345	0.0125
2018	2018Pumps750	Pumps	750	0.2330	1.0487	2.4376	0.0057	0.0741	571	0.0210
2018	2018Pumps9999	Pumps	9999	0.7050	2.7434	9.8509	0.0136	0.2358	1,355	0.0636
2018	2018Pumps Composite	Pumps Composite		0.0458	0.2722	0.3306	0.0006	0.0189	49.6	0.0041
2018	2018Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2018	2018Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2018	2018Rollers50	Rollers	50	0.0662	0.2547	0.2171	0.0003	0.0158	26.0	0.0060
2018	2018Rollers120	Rollers	120	0.0680	0.3919	0.4411	0.0007	0.0341	59.0	0.0061
2018	2018Rollers175	Rollers	175	0.0897	0.6130	0.6569	0.0012	0.0356	108	0.0081
2018	2018Rollers250	Rollers	250	0.0934	0.3306	0.8164	0.0017	0.0274	153	0.0084
2018	2018Rollers500	Rollers	500	0.1262	0.4902	1.0345	0.0022	0.0365	219	0.0114
2018	2018Rollers Composite	Rollers Composite		0.0683	0.3885	0.4485	0.0008	0.0291	67.0	0.0062
2018	2018Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0655	0.3294	0.2744	0.0004	0.0166	33.9	0.0059
2018	2018Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0596	0.4179	0.3967	0.0007	0.0273	62.4	0.0054
2018	2018Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0911	0.7231	0.6072	0.0014	0.0322	125	0.0082
2018	2018Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0988	0.3504	0.7075	0.0019	0.0237	171	0.0089
2018	2018Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1441	0.5029	0.9468	0.0025	0.0341	257	0.0130
2018	2018Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0638	0.4499	0.4219	0.0008	0.0277	70.3	0.0058
2018	2018Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1676	0.8191	1.1443	0.0015	0.0646	129	0.0151
2018	2018Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1890	0.5640	1.4879	0.0021	0.0605	183	0.0171
2018	2018Rubber Tired Dozers500	Rubber Tired Dozers	500	0.2531	1.0338	1.9476	0.0026	0.0787	265	0.0228
2018	2018Rubber Tired Dozers750	Rubber Tired Dozers	750	0.3821	1.5520	2.9917	0.0040	0.1195	399	0.0345
2018	2018Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.5986	2.5082	6.0072	0.0060	0.1906	592	0.0540
2018	2018Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.2343	0.8819	1.8194	0.0025	0.0737	239	0.0211
2018	2018Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2018	2018Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0742	0.3198	0.2591	0.0004	0.0174	31.1	0.0067
2018	2018Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0660	0.4016	0.4121	0.0007	0.0307	58.9	0.0060
2018	2018Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0888	0.6227	0.5902	0.0012	0.0323	106	0.0080
2018	2018Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0946	0.3237	0.7142	0.0017	0.0244	149	0.0085
2018	2018Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1440	0.5256	1.0103	0.0023	0.0363	237	0.0130
2018	2018Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2966	1.0762	2.1374	0.0049	0.0758	486	0.0268
2018	2018Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.3912	1.4170	4.4558	0.0060	0.1188	594	0.0353
2018	2018Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0861	0.4470	0.5831	0.0012	0.0300	109	0.0078
2018	2018Scrapers120	Scrapers	120	0.1382	0.6686	0.8165	0.0011	0.0661	93.9	0.0125
2018	2018Scrapers175	Scrapers	175	0.1579	0.8954	1.0712	0.0017	0.0603	148	0.0142
2018	2018Scrapers250	Scrapers	250	0.1704	0.5324	1.3558	0.0024	0.0501	209	0.0154
2018	2018Scrapers500	Scrapers	500	0.2458	0.9165	1.8678	0.0032	0.0707	321	0.0222
2018	2018Scrapers750	Scrapers	750	0.4267	1.5807	3.3123	0.0056	0.1238	555	0.0385
2018	2018Scrapers Composite	Scrapers Composite		0.2135	0.8418	1.6042	0.0027	0.0653	262	0.0193
2018	2018Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2018	2018Signal Boards50	Signal Boards	50	0.0649	0.2966	0.2820	0.0005	0.0172	36.2	0.0059
2018	2018Signal Boards120	Signal Boards	120	0.0695	0.4999	0.5256	0.0009	0.0356	80.2	0.0063
2018	2018Signal Boards175	Signal Boards	175	0.0955	0.8276	0.7968	0.0017	0.0385	155	0.0086
2018	2018Signal Boards250	Signal Boards	250	0.1151	0.4857	1.1305	0.0029	0.0337	255	0.0104
2018	2018Signal Boards Composite	Signal Boards Composite		0.0143	0.0916	0.1029	0.0002	0.0050	16.7	0.0013
2018	2018Skid Steer Loaders25	Skid Steer Loaders	25	0.0176	0.0582	0.1081	0.0002	0.0048	13.8	0.0016
2018	2018Skid Steer Loaders50	Skid Steer Loaders	50	0.0263	0.2035	0.1787	0.0003	0.0065	25.5	0.0024
2018	2018Skid Steer Loaders120	Skid Steer Loaders	120	0.0248	0.2680	0.1970	0.0005	0.0095	42.8	0.0022
2018	2018Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0253	0.2146	0.1799	0.0004	0.0074	30.3	0.0023
2018	2018Surfacing Equipment50	Surfacing Equipment	50	0.0317	0.1242	0.1139	0.0002	0.0077	14.1	0.0029
2018	2018Surfacing Equipment120	Surfacing Equipment	120	0.0668	0.4072	0.4651	0.0007	0.0334	63.8	0.0060

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2018	2018Surfacing Equipment175	Surfacing Equipment	175	0.0637	0.4677	0.5082	0.0010	0.0257	85.8	0.0058
2018	2018Surfacing Equipment250	Surfacing Equipment	250	0.0733	0.2858	0.7013	0.0015	0.0230	135	0.0066
2018	2018Surfacing Equipment500	Surfacing Equipment	500	0.1120	0.5047	1.0316	0.0022	0.0350	221	0.0101
2018	2018Surfacing Equipment750	Surfacing Equipment	750	0.1782	0.7911	1.6685	0.0035	0.0558	347	0.0161
2018	2018Surfacing Equipment Composite	Surfacing Equipment Composite		0.0923	0.4187	0.8043	0.0017	0.0291	166	0.0083
2018	2018Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2018	2018Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2018	2018Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0522	0.2974	0.2539	0.0004	0.0137	31.6	0.0047
2018	2018Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0647	0.4983	0.4442	0.0009	0.0291	75.0	0.0058
2018	2018Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0966	0.8030	0.6280	0.0016	0.0337	139	0.0087
2018	2018Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0894	0.3218	0.6073	0.0018	0.0204	162	0.0081
2018	2018Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0681	0.4946	0.4308	0.0009	0.0251	78.5	0.0061
2018	2018Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1211	0.0002	0.0046	15.9	0.0017
2018	2018Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0497	0.2839	0.2342	0.0004	0.0121	30.3	0.0045
2018	2018Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0435	0.3426	0.2937	0.0006	0.0184	51.7	0.0039
2018	2018Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0669	0.5845	0.4264	0.0011	0.0218	101	0.0060
2018	2018Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0914	0.3483	0.5964	0.0019	0.0200	172	0.0082
2018	2018Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1788	0.6771	1.0736	0.0039	0.0385	345	0.0161
2018	2018Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.2691	1.0154	1.6525	0.0058	0.0585	517	0.0243
2018	2018Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0513	0.3647	0.3331	0.0008	0.0189	66.8	0.0046
2018	2018Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2018	2018Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2018	2018Trenchers50	Trenchers	50	0.1142	0.3647	0.2965	0.0004	0.0255	32.9	0.0103
2018	2018Trenchers120	Trenchers	120	0.0959	0.4498	0.5899	0.0008	0.0477	64.9	0.0087
2018	2018Trenchers175	Trenchers	175	0.1505	0.8436	1.1021	0.0016	0.0607	144	0.0136
2018	2018Trenchers250	Trenchers	250	0.1783	0.5823	1.5446	0.0025	0.0582	223	0.0161
2018	2018Trenchers500	Trenchers	500	0.2312	0.9564	1.9434	0.0031	0.0740	311	0.0209
2018	2018Trenchers750	Trenchers	750	0.4382	1.7994	3.7533	0.0059	0.1413	587	0.0395
2018	2018Trenchers Composite	Trenchers Composite		0.1061	0.4368	0.5117	0.0007	0.0393	58.7	0.0096
2018	2018Welders15	Welders	15	0.0084	0.0392	0.0522	0.0001	0.0028	6.2	0.0008
2018	2018Welders25	Welders	25	0.0161	0.0504	0.0927	0.0001	0.0047	11.3	0.0015
2018	2018Welders50	Welders	50	0.0563	0.2339	0.2108	0.0003	0.0144	26.0	0.0051
2018	2018Welders120	Welders	120	0.0398	0.2540	0.2787	0.0005	0.0205	39.5	0.0036
2018	2018Welders175	Welders	175	0.0703	0.5400	0.5536	0.0011	0.0283	98.2	0.0063
2018	2018Welders250	Welders	250	0.0617	0.2348	0.5828	0.0013	0.0179	119	0.0056
2018	2018Welders500	Welders	500	0.0825	0.3196	0.7244	0.0016	0.0239	168	0.0074
2018	2018Welders Composite	Welders Composite		0.0388	0.1876	0.1941	0.0003	0.0133	25.6	0.0035
2019	2019Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2019	2019Aerial Lifts25	Aerial Lifts	25	0.0140	0.0463	0.0859	0.0001	0.0037	11.0	0.0013
2019	2019Aerial Lifts50	Aerial Lifts	50	0.0293	0.1466	0.1471	0.0003	0.0081	19.6	0.0026
2019	2019Aerial Lifts120	Aerial Lifts	120	0.0288	0.2304	0.2354	0.0004	0.0146	38.1	0.0026
2019	2019Aerial Lifts500	Aerial Lifts	500	0.0794	0.3843	0.7878	0.0021	0.0243	213	0.0072
2019	2019Aerial Lifts750	Aerial Lifts	750	0.1455	0.6947	1.4582	0.0039	0.0444	385	0.0131
2019	2019Aerial Lifts Composite	Aerial Lifts Composite		0.0288	0.1715	0.2002	0.0004	0.0104	34.7	0.0026
2019	2019Air Compressors15	Air Compressors	15	0.0096	0.0453	0.0593	0.0001	0.0031	7.2	0.0009
2019	2019Air Compressors25	Air Compressors	25	0.0201	0.0638	0.1170	0.0002	0.0057	14.4	0.0018
2019	2019Air Compressors50	Air Compressors	50	0.0450	0.2078	0.1784	0.0003	0.0114	22.3	0.0041
2019	2019Air Compressors120	Air Compressors	120	0.0450	0.3075	0.3081	0.0006	0.0218	47.0	0.0041
2019	2019Air Compressors175	Air Compressors	175	0.0631	0.4991	0.4511	0.0010	0.0237	88.5	0.0057
2019	2019Air Compressors250	Air Compressors	250	0.0707	0.2619	0.5761	0.0015	0.0183	131	0.0064
2019	2019Air Compressors500	Air Compressors	500	0.1203	0.4440	0.9034	0.0023	0.0310	232	0.0109
2019	2019Air Compressors750	Air Compressors	750	0.1867	0.6861	1.4307	0.0036	0.0485	358	0.0168
2019	2019Air Compressors1000	Air Compressors	1000	0.2796	1.0167	3.5067	0.0049	0.0884	486	0.0252
2019	2019Air Compressors Composite	Air Compressors Composite		0.0526	0.3100	0.3577	0.0007	0.0213	63.6	0.0047
2019	2019Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2019	2019Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0045	16.0	0.0017

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2019	2019Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0199	0.2207	0.1818	0.0004	0.0026	31.0	0.0018
2019	2019Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0293	0.4663	0.2501	0.0009	0.0054	77.1	0.0026
2019	2019Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0436	0.7542	0.2336	0.0016	0.0068	141	0.0039
2019	2019Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0502	0.3426	0.2000	0.0021	0.0054	188	0.0045
2019	2019Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0829	0.5512	0.3237	0.0031	0.0088	311	0.0075
2019	2019Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1640	1.0891	0.6432	0.0062	0.0174	615	0.0148
2019	2019Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2597	1.6436	4.0728	0.0093	0.0615	928	0.0234
2019	2019Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0506	0.5009	0.3760	0.0017	0.0078	165	0.0046
2019	2019Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2019	2019Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0227	0.0747	0.1381	0.0002	0.0061	17.6	0.0021
2019	2019Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0086	0.0416	0.0537	0.0001	0.0022	7.2	0.0008
2019	2019Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2019	2019Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0478	0.2469	0.2306	0.0004	0.0129	30.2	0.0043
2019	2019Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0579	0.4633	0.4490	0.0009	0.0288	74.1	0.0052
2019	2019Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0931	0.8661	0.7382	0.0018	0.0363	160	0.0084
2019	2019Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0536	0.3812	0.3669	0.0007	0.0225	58.5	0.0048
2019	2019Cranes50	Cranes	50	0.0587	0.2472	0.1955	0.0003	0.0136	23.2	0.0053
2019	2019Cranes120	Cranes	120	0.0589	0.3465	0.3579	0.0006	0.0272	50.1	0.0053
2019	2019Cranes175	Cranes	175	0.0699	0.4760	0.4536	0.0009	0.0252	80.3	0.0063
2019	2019Cranes250	Cranes	250	0.0745	0.2478	0.5539	0.0013	0.0190	112	0.0067
2019	2019Cranes500	Cranes	500	0.1143	0.3951	0.7861	0.0018	0.0286	180	0.0103
2019	2019Cranes750	Cranes	750	0.1934	0.6644	1.3678	0.0030	0.0490	303	0.0174
2019	2019Cranes9999	Cranes	9999	0.7049	2.2802	7.4207	0.0098	0.1963	971	0.0636
2019	2019Cranes Composite	Cranes Composite		0.0954	0.3982	0.7236	0.0014	0.0286	129	0.0086
2019	2019Crawler Tractors50	Crawler Tractors	50	0.0754	0.2825	0.2172	0.0003	0.0165	24.9	0.0068
2019	2019Crawler Tractors120	Crawler Tractors	120	0.0887	0.4652	0.5230	0.0008	0.0408	65.8	0.0080
2019	2019Crawler Tractors175	Crawler Tractors	175	0.1194	0.7313	0.7820	0.0014	0.0437	121	0.0108
2019	2019Crawler Tractors250	Crawler Tractors	250	0.1258	0.4065	0.9524	0.0019	0.0349	166	0.0114
2019	2019Crawler Tractors500	Crawler Tractors	500	0.1856	0.6914	1.3353	0.0025	0.0502	259	0.0167
2019	2019Crawler Tractors750	Crawler Tractors	750	0.3343	1.2378	2.4593	0.0047	0.0913	465	0.0302
2019	2019Crawler Tractors1000	Crawler Tractors	1000	0.5101	1.9264	5.4669	0.0066	0.1540	658	0.0460
2019	2019Crawler Tractors Composite	Crawler Tractors Composite		0.1115	0.5319	0.7346	0.0013	0.0416	114	0.0101
2019	2019Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0825	0.4118	0.3482	0.0006	0.0209	44.0	0.0074
2019	2019Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0760	0.5471	0.5185	0.0010	0.0353	83.1	0.0069
2019	2019Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.1161	0.9518	0.7948	0.0019	0.0417	167	0.0105
2019	2019Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1312	0.4883	0.9900	0.0028	0.0319	245	0.0118
2019	2019Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1943	0.7148	1.3454	0.0037	0.0468	374	0.0175
2019	2019Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.3049	1.1248	2.1610	0.0059	0.0737	589	0.0275
2019	2019Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.7943	2.7001	9.0361	0.0131	0.2254	1,308	0.0717
2019	2019Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.1011	0.6280	0.6619	0.0015	0.0356	132	0.0091
2019	2019Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0583	0.0001	0.0022	7.6	0.0008
2019	2019Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0583	0.0001	0.0022	7.6	0.0008
2019	2019Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2019	2019Excavators50	Excavators	50	0.0422	0.2480	0.1928	0.0003	0.0094	25.0	0.0038
2019	2019Excavators120	Excavators	120	0.0633	0.4996	0.4050	0.0009	0.0244	73.6	0.0057
2019	2019Excavators175	Excavators	175	0.0759	0.6638	0.4429	0.0013	0.0227	112	0.0068
2019	2019Excavators250	Excavators	250	0.0878	0.3298	0.5187	0.0018	0.0176	159	0.0079
2019	2019Excavators500	Excavators	500	0.1266	0.4632	0.6900	0.0023	0.0250	234	0.0114
2019	2019Excavators750	Excavators	750	0.2100	0.7674	1.1653	0.0039	0.0417	387	0.0189
2019	2019Excavators Composite	Excavators Composite		0.0787	0.5140	0.4575	0.0013	0.0214	120	0.0071
2019	2019Forklifts50	Forklifts	50	0.0207	0.1418	0.1131	0.0002	0.0047	14.7	0.0019
2019	2019Forklifts120	Forklifts	120	0.0243	0.2109	0.1572	0.0004	0.0089	31.2	0.0022
2019	2019Forklifts175	Forklifts	175	0.0364	0.3319	0.2037	0.0006	0.0105	56.1	0.0033
2019	2019Forklifts250	Forklifts	250	0.0412	0.1556	0.2222	0.0009	0.0075	77.1	0.0037
2019	2019Forklifts500	Forklifts	500	0.0586	0.2128	0.2968	0.0011	0.0106	111	0.0053
2019	2019Forklifts Composite	Forklifts Composite		0.0345	0.2166	0.1924	0.0006	0.0085	54.4	0.0031

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2019	2019Generator Sets15	Generator Sets	15	0.0119	0.0641	0.0832	0.0002	0.0041	10.2	0.0011
2019	2019Generator Sets25	Generator Sets	25	0.0228	0.0778	0.1428	0.0002	0.0067	17.6	0.0021
2019	2019Generator Sets50	Generator Sets	50	0.0428	0.2206	0.2274	0.0004	0.0121	30.6	0.0039
2019	2019Generator Sets120	Generator Sets	120	0.0564	0.4663	0.4757	0.0009	0.0287	77.9	0.0051
2019	2019Generator Sets175	Generator Sets	175	0.0734	0.7323	0.6719	0.0016	0.0299	142	0.0066
2019	2019Generator Sets250	Generator Sets	250	0.0798	0.3883	0.8633	0.0024	0.0245	213	0.0072
2019	2019Generator Sets500	Generator Sets	500	0.1192	0.6027	1.2312	0.0033	0.0373	337	0.0108
2019	2019Generator Sets750	Generator Sets	750	0.1955	0.9730	2.0345	0.0055	0.0609	544	0.0176
2019	2019Generator Sets9999	Generator Sets	9999	0.4857	2.0464	7.1075	0.0105	0.1624	1,049	0.0438
2019	2019Generator Sets Composite	Generator Sets Composite		0.0431	0.2755	0.3483	0.0007	0.0169	61.0	0.0039
2019	2019Graders50	Graders	50	0.0617	0.2812	0.2228	0.0004	0.0140	27.5	0.0056
2019	2019Graders120	Graders	120	0.0796	0.5112	0.4929	0.0009	0.0353	75.0	0.0072
2019	2019Graders175	Graders	175	0.0987	0.7288	0.6283	0.0014	0.0343	124	0.0089
2019	2019Graders250	Graders	250	0.1055	0.3726	0.7518	0.0019	0.0257	172	0.0095
2019	2019Graders500	Graders	500	0.1350	0.5072	0.8940	0.0023	0.0322	229	0.0122
2019	2019Graders750	Graders	750	0.2873	1.0731	1.9527	0.0049	0.0694	486	0.0259
2019	2019Graders Composite	Graders Composite		0.0982	0.5787	0.6490	0.0015	0.0316	133	0.0089
2019	2019Off-Highway Tractors120	Off-Highway Tractors	120	0.1537	0.6832	0.8910	0.0011	0.0726	93.7	0.0139
2019	2019Off-Highway Tractors175	Off-Highway Tractors	175	0.1533	0.8053	1.0433	0.0015	0.0588	130	0.0138
2019	2019Off-Highway Tractors250	Off-Highway Tractors	250	0.1210	0.3732	0.9525	0.0015	0.0379	130	0.0109
2019	2019Off-Highway Tractors750	Off-Highway Tractors	750	0.4923	1.9813	3.8379	0.0057	0.1508	568	0.0444
2019	2019Off-Highway Tractors1000	Off-Highway Tractors	1000	0.7478	3.1026	7.7459	0.0082	0.2366	814	0.0675
2019	2019Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1549	0.6634	1.1454	0.0017	0.0537	151	0.0140
2019	2019Off-Highway Trucks175	Off-Highway Trucks	175	0.0904	0.7539	0.5208	0.0014	0.0270	125	0.0082
2019	2019Off-Highway Trucks250	Off-Highway Trucks	250	0.0981	0.3540	0.5797	0.0019	0.0198	167	0.0089
2019	2019Off-Highway Trucks500	Off-Highway Trucks	500	0.1568	0.5502	0.8530	0.0027	0.0310	272	0.0142
2019	2019Off-Highway Trucks750	Off-Highway Trucks	750	0.2547	0.8921	1.4118	0.0044	0.0507	442	0.0230
2019	2019Off-Highway Trucks1000	Off-Highway Trucks	1000	0.3824	1.3098	4.1038	0.0063	0.1001	625	0.0345
2019	2019Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1524	0.5565	0.9348	0.0027	0.0318	260	0.0137
2019	2019Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2019	2019Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2019	2019Other Construction Equipment50	Other Construction Equipment	50	0.0363	0.2299	0.2025	0.0004	0.0092	28.0	0.0033
2019	2019Other Construction Equipment120	Other Construction Equipment	120	0.0545	0.5095	0.4176	0.0009	0.0235	80.9	0.0049
2019	2019Other Construction Equipment175	Other Construction Equipment	175	0.0562	0.5859	0.3912	0.0012	0.0189	107	0.0051
2019	2019Other Construction Equipment500	Other Construction Equipment	500	0.1066	0.4705	0.6985	0.0025	0.0243	254	0.0096
2019	2019Other Construction Equipment Composite	Other Construction Equipment Composite		0.0596	0.3522	0.3972	0.0013	0.0159	123	0.0054
2019	2019Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2019	2019Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2019	2019Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0481	0.2255	0.1804	0.0003	0.0117	21.7	0.0043
2019	2019Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0658	0.4250	0.4154	0.0007	0.0298	62.0	0.0059
2019	2019Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0772	0.5666	0.4991	0.0011	0.0269	95.9	0.0070
2019	2019Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0836	0.2830	0.6051	0.0015	0.0196	136	0.0075
2019	2019Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1584	0.5265	1.0524	0.0026	0.0368	265	0.0143
2019	2019Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.2620	0.8678	1.7772	0.0044	0.0614	437	0.0236
2019	2019Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.3666	1.2089	4.1118	0.0056	0.1068	560	0.0331
2019	2019Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.1044	0.4549	0.7419	0.0016	0.0297	152	0.0094
2019	2019Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0664	0.3109	0.2508	0.0004	0.0162	30.3	0.0060
2019	2019Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0637	0.4135	0.4056	0.0007	0.0291	60.7	0.0058
2019	2019Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0972	0.7172	0.6342	0.0014	0.0342	122	0.0088
2019	2019Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0883	0.3011	0.6467	0.0016	0.0209	145	0.0080
2019	2019Other Material Handling Equipment500	Other Material Handling Equipment	500	0.1130	0.3786	0.7591	0.0019	0.0265	192	0.0102
2019	2019Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.5150	1.5956	5.4382	0.0073	0.1409	741	0.0465
2019	2019Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0983	0.4458	0.7239	0.0015	0.0286	141	0.0089
2019	2019Pavers25	Pavers	25	0.0226	0.0768	0.1430	0.0002	0.0056	18.7	0.0020
2019	2019Pavers50	Pavers	50	0.0899	0.3119	0.2467	0.0004	0.0200	28.0	0.0081
2019	2019Pavers120	Pavers	120	0.0969	0.4833	0.5827	0.0008	0.0466	69.2	0.0087

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2019	2019Pavers175	Pavers	175	0.1290	0.7615	0.8894	0.0014	0.0498	128	0.0116
2019	2019Pavers250	Pavers	250	0.1490	0.4846	1.2101	0.0022	0.0447	194	0.0134
2019	2019Pavers500	Pavers	500	0.1677	0.6576	1.3038	0.0023	0.0493	233	0.0151
2019	2019Pavers Composite	Pavers Composite		0.1053	0.4966	0.5833	0.0009	0.0386	77.9	0.0095
2019	2019Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2019	2019Paving Equipment50	Paving Equipment	50	0.0760	0.2634	0.2103	0.0003	0.0171	23.9	0.0069
2019	2019Paving Equipment120	Paving Equipment	120	0.0756	0.3785	0.4566	0.0006	0.0368	54.5	0.0068
2019	2019Paving Equipment175	Paving Equipment	175	0.1002	0.5958	0.6969	0.0011	0.0391	101	0.0090
2019	2019Paving Equipment250	Paving Equipment	250	0.0911	0.2974	0.7562	0.0014	0.0273	122	0.0082
2019	2019Paving Equipment Composite	Paving Equipment Composite		0.0806	0.4109	0.5172	0.0008	0.0344	68.9	0.0073
2019	2019Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2019	2019Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2019	2019Pressure Washers15	Pressure Washers	15	0.0057	0.0307	0.0399	0.0001	0.0019	4.9	0.0005
2019	2019Pressure Washers25	Pressure Washers	25	0.0092	0.0315	0.0579	0.0001	0.0027	7.1	0.0008
2019	2019Pressure Washers50	Pressure Washers	50	0.0146	0.0873	0.1021	0.0002	0.0047	14.3	0.0013
2019	2019Pressure Washers120	Pressure Washers	120	0.0145	0.1374	0.1404	0.0003	0.0075	24.1	0.0013
2019	2019Pressure Washers Composite	Pressure Washers Composite		0.0092	0.0554	0.0675	0.0001	0.0033	9.4	0.0008
2019	2019Pumps15	Pumps	15	0.0098	0.0466	0.0609	0.0001	0.0032	7.4	0.0009
2019	2019Pumps25	Pumps	25	0.0271	0.0860	0.1579	0.0002	0.0077	19.5	0.0024
2019	2019Pumps50	Pumps	50	0.0523	0.2600	0.2583	0.0004	0.0144	34.3	0.0047
2019	2019Pumps120	Pumps	120	0.0596	0.4736	0.4827	0.0009	0.0302	77.9	0.0054
2019	2019Pumps175	Pumps	175	0.0771	0.7336	0.6737	0.0016	0.0311	140	0.0070
2019	2019Pumps250	Pumps	250	0.0809	0.3738	0.8318	0.0023	0.0242	201	0.0073
2019	2019Pumps500	Pumps	500	0.1312	0.6252	1.2788	0.0034	0.0398	345	0.0118
2019	2019Pumps750	Pumps	750	0.2196	1.0336	2.1645	0.0057	0.0666	571	0.0198
2019	2019Pumps9999	Pumps	9999	0.6578	2.6790	9.2901	0.0136	0.2156	1,355	0.0593
2019	2019Pumps Composite	Pumps Composite		0.0412	0.2695	0.3068	0.0006	0.0166	49.6	0.0037
2019	2019Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2019	2019Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2019	2019Rollers50	Rollers	50	0.0600	0.2489	0.2103	0.0003	0.0143	26.0	0.0054
2019	2019Rollers120	Rollers	120	0.0626	0.3895	0.4094	0.0007	0.0305	59.0	0.0057
2019	2019Rollers175	Rollers	175	0.0834	0.6121	0.5929	0.0012	0.0320	108	0.0075
2019	2019Rollers250	Rollers	250	0.0886	0.3249	0.7347	0.0017	0.0248	153	0.0080
2019	2019Rollers500	Rollers	500	0.1205	0.4743	0.9309	0.0022	0.0331	219	0.0109
2019	2019Rollers Composite	Rollers Composite		0.0632	0.3859	0.4127	0.0008	0.0261	67.0	0.0057
2019	2019Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0577	0.3224	0.2646	0.0004	0.0143	33.9	0.0052
2019	2019Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0539	0.4158	0.3625	0.0007	0.0231	62.4	0.0049
2019	2019Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0844	0.7230	0.5350	0.0014	0.0281	125	0.0076
2019	2019Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0933	0.3470	0.6177	0.0019	0.0208	171	0.0084
2019	2019Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1368	0.4976	0.8334	0.0025	0.0302	257	0.0123
2019	2019Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0579	0.4479	0.3832	0.0008	0.0235	70.3	0.0052
2019	2019Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1591	0.8155	1.0684	0.0015	0.0602	129	0.0144
2019	2019Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1792	0.5451	1.3860	0.0021	0.0559	183	0.0162
2019	2019Rubber Tired Dozers500	Rubber Tired Dozers	500	0.2407	0.9773	1.8134	0.0026	0.0728	265	0.0217
2019	2019Rubber Tired Dozers750	Rubber Tired Dozers	750	0.3635	1.4676	2.7876	0.0040	0.1107	399	0.0328
2019	2019Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.5706	2.3715	5.7623	0.0060	0.1786	592	0.0515
2019	2019Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.2227	0.8388	1.6948	0.0025	0.0682	239	0.0201
2019	2019Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2019	2019Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0675	0.3135	0.2504	0.0004	0.0155	31.1	0.0061
2019	2019Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0609	0.3995	0.3812	0.0007	0.0271	58.9	0.0055
2019	2019Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0825	0.6221	0.5283	0.0012	0.0287	106	0.0074
2019	2019Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0896	0.3194	0.6366	0.0017	0.0218	149	0.0081
2019	2019Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1369	0.5126	0.9018	0.0023	0.0326	237	0.0124
2019	2019Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2819	1.0497	1.9070	0.0049	0.0679	486	0.0254
2019	2019Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.3690	1.3618	4.2187	0.0060	0.1081	594	0.0333
2019	2019Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0805	0.4436	0.5265	0.0012	0.0266	109	0.0073

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2019	2019Scrapers120	Scrapers	120	0.1298	0.6648	0.7651	0.0011	0.0604	93.9	0.0117
2019	2019Scrapers175	Scrapers	175	0.1488	0.8936	0.9840	0.0017	0.0552	148	0.0134
2019	2019Scrapers250	Scrapers	250	0.1610	0.5173	1.2413	0.0024	0.0455	209	0.0145
2019	2019Scrapers500	Scrapers	500	0.2330	0.8785	1.7092	0.0032	0.0643	321	0.0210
2019	2019Scrapers750	Scrapers	750	0.4045	1.5154	3.0335	0.0056	0.1126	555	0.0365
2019	2019Scrapers Composite	Scrapers Composite		0.2021	0.8161	1.4693	0.0027	0.0594	262	0.0182
2019	2019Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2019	2019Signal Boards50	Signal Boards	50	0.0565	0.2890	0.2721	0.0005	0.0150	36.2	0.0051
2019	2019Signal Boards120	Signal Boards	120	0.0617	0.4968	0.4813	0.0009	0.0305	80.2	0.0056
2019	2019Signal Boards175	Signal Boards	175	0.0875	0.8275	0.7074	0.0017	0.0340	155	0.0079
2019	2019Signal Boards250	Signal Boards	250	0.1082	0.4806	0.9949	0.0029	0.0300	255	0.0098
2019	2019Signal Boards Composite	Signal Boards Composite		0.0135	0.0913	0.0967	0.0002	0.0046	16.7	0.0012
2019	2019Skid Steer Loaders25	Skid Steer Loaders	25	0.0173	0.0578	0.1075	0.0002	0.0046	13.8	0.0016
2019	2019Skid Steer Loaders50	Skid Steer Loaders	50	0.0245	0.2019	0.1717	0.0003	0.0053	25.5	0.0022
2019	2019Skid Steer Loaders120	Skid Steer Loaders	120	0.0232	0.2676	0.1796	0.0005	0.0079	42.8	0.0021
2019	2019Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0236	0.2134	0.1700	0.0004	0.0061	30.3	0.0021
2019	2019Surfacing Equipment50	Surfacing Equipment	50	0.0290	0.1215	0.1103	0.0002	0.0070	14.1	0.0026
2019	2019Surfacing Equipment120	Surfacing Equipment	120	0.0617	0.4049	0.4331	0.0007	0.0302	63.8	0.0056
2019	2019Surfacing Equipment175	Surfacing Equipment	175	0.0592	0.4670	0.4609	0.0010	0.0233	85.8	0.0053
2019	2019Surfacing Equipment250	Surfacing Equipment	250	0.0691	0.2801	0.6343	0.0015	0.0208	135	0.0062
2019	2019Surfacing Equipment500	Surfacing Equipment	500	0.1061	0.4875	0.9319	0.0022	0.0317	221	0.0096
2019	2019Surfacing Equipment750	Surfacing Equipment	750	0.1686	0.7643	1.5081	0.0035	0.0507	347	0.0152
2019	2019Surfacing Equipment Composite	Surfacing Equipment Composite		0.0871	0.4061	0.7289	0.0017	0.0264	166	0.0079
2019	2019Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2019	2019Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2019	2019Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0474	0.2937	0.2454	0.0004	0.0117	31.6	0.0043
2019	2019Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0600	0.4973	0.4064	0.0009	0.0250	75.0	0.0054
2019	2019Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0904	0.8041	0.5513	0.0016	0.0295	139	0.0082
2019	2019Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0850	0.3207	0.5231	0.0018	0.0178	162	0.0077
2019	2019Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0632	0.4933	0.3919	0.0009	0.0217	78.5	0.0057
2019	2019Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1210	0.0002	0.0046	15.9	0.0017
2019	2019Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0448	0.2796	0.2257	0.0004	0.0103	30.3	0.0040
2019	2019Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0398	0.3413	0.2687	0.0006	0.0154	51.7	0.0036
2019	2019Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0617	0.5843	0.3708	0.0011	0.0187	101	0.0056
2019	2019Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0861	0.3462	0.5143	0.0019	0.0174	172	0.0078
2019	2019Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1694	0.6700	0.9349	0.0039	0.0337	345	0.0153
2019	2019Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.2545	1.0047	1.4302	0.0058	0.0510	517	0.0230
2019	2019Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0472	0.3630	0.3019	0.0008	0.0160	66.8	0.0043
2019	2019Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2019	2019Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2019	2019Trenchers50	Trenchers	50	0.1064	0.3569	0.2883	0.0004	0.0236	32.9	0.0096
2019	2019Trenchers120	Trenchers	120	0.0903	0.4470	0.5551	0.0008	0.0442	64.9	0.0081
2019	2019Trenchers175	Trenchers	175	0.1424	0.8413	1.0194	0.0016	0.0563	144	0.0128
2019	2019Trenchers250	Trenchers	250	0.1688	0.5637	1.4248	0.0025	0.0533	223	0.0152
2019	2019Trenchers500	Trenchers	500	0.2199	0.9107	1.7915	0.0031	0.0680	311	0.0198
2019	2019Trenchers750	Trenchers	750	0.4166	1.7139	3.4627	0.0059	0.1298	587	0.0376
2019	2019Trenchers Composite	Trenchers Composite		0.0995	0.4317	0.4838	0.0007	0.0364	58.7	0.0090
2019	2019Welders15	Welders	15	0.0082	0.0390	0.0509	0.0001	0.0027	6.2	0.0007
2019	2019Welders25	Welders	25	0.0157	0.0498	0.0914	0.0001	0.0044	11.3	0.0014
2019	2019Welders50	Welders	50	0.0490	0.2271	0.2035	0.0003	0.0126	26.0	0.0044
2019	2019Welders120	Welders	120	0.0354	0.2522	0.2552	0.0005	0.0176	39.5	0.0032
2019	2019Welders175	Welders	175	0.0646	0.5398	0.4934	0.0011	0.0251	98.2	0.0058
2019	2019Welders250	Welders	250	0.0582	0.2319	0.5150	0.0013	0.0159	119	0.0053
2019	2019Welders500	Welders	500	0.0786	0.3149	0.6445	0.0016	0.0215	168	0.0071
2019	2019Welders Composite	Welders Composite		0.0344	0.1843	0.1832	0.0003	0.0117	25.6	0.0031
2020	2020Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009

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2020	2020Aerial Lifts25	Aerial Lifts	25	0.0138	0.0459	0.0854	0.0001	0.0035	11.0	0.0012
2020	2020Aerial Lifts50	Aerial Lifts	50	0.0261	0.1436	0.1422	0.0003	0.0071	19.6	0.0024
2020	2020Aerial Lifts120	Aerial Lifts	120	0.0259	0.2292	0.2166	0.0004	0.0127	38.1	0.0023
2020	2020Aerial Lifts500	Aerial Lifts	500	0.0751	0.3804	0.6959	0.0021	0.0217	213	0.0068
2020	2020Aerial Lifts750	Aerial Lifts	750	0.1373	0.6877	1.2876	0.0039	0.0396	385	0.0124
2020	2020Aerial Lifts Composite	Aerial Lifts Composite		0.0261	0.1696	0.1866	0.0004	0.0092	34.7	0.0024
2020	2020Air Compressors15	Air Compressors	15	0.0093	0.0451	0.0579	0.0001	0.0029	7.2	0.0008
2020	2020Air Compressors25	Air Compressors	25	0.0196	0.0630	0.1155	0.0002	0.0054	14.4	0.0018
2020	2020Air Compressors50	Air Compressors	50	0.0398	0.2030	0.1725	0.0003	0.0099	22.3	0.0036
2020	2020Air Compressors120	Air Compressors	120	0.0408	0.3058	0.2826	0.0006	0.0188	47.0	0.0037
2020	2020Air Compressors175	Air Compressors	175	0.0587	0.4989	0.4013	0.0010	0.0210	88.5	0.0053
2020	2020Air Compressors250	Air Compressors	250	0.0669	0.2592	0.5067	0.0015	0.0163	131	0.0060
2020	2020Air Compressors500	Air Compressors	500	0.1146	0.4395	0.7970	0.0023	0.0276	232	0.0103
2020	2020Air Compressors750	Air Compressors	750	0.1777	0.6792	1.2615	0.0036	0.0432	358	0.0160
2020	2020Air Compressors1000	Air Compressors	1000	0.2641	0.9959	3.2946	0.0049	0.0804	486	0.0238
2020	2020Air Compressors Composite	Air Compressors Composite		0.0483	0.3077	0.3255	0.0007	0.0185	63.6	0.0044
2020	2020Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2020	2020Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2020	2020Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0196	0.2205	0.1756	0.0004	0.0020	31.0	0.0018
2020	2020Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0280	0.4662	0.2329	0.0009	0.0040	77.1	0.0025
2020	2020Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0402	0.7542	0.1862	0.0016	0.0051	141	0.0036
2020	2020Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0474	0.3426	0.1617	0.0021	0.0044	188	0.0043
2020	2020Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0784	0.5512	0.2622	0.0031	0.0072	311	0.0071
2020	2020Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1549	1.0891	0.5202	0.0062	0.0143	615	0.0140
2020	2020Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2442	1.6437	3.9853	0.0093	0.0530	928	0.0220
2020	2020Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0480	0.5008	0.3439	0.0017	0.0062	165	0.0043
2020	2020Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2020	2020Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0223	0.0741	0.1372	0.0002	0.0058	17.6	0.0020
2020	2020Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0086	0.0415	0.0536	0.0001	0.0021	7.2	0.0008
2020	2020Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2020	2020Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0424	0.2420	0.2231	0.0004	0.0113	30.2	0.0038
2020	2020Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0524	0.4613	0.4128	0.0009	0.0249	74.1	0.0047
2020	2020Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0865	0.8662	0.6554	0.0018	0.0323	160	0.0078
2020	2020Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0484	0.3783	0.3410	0.0007	0.0196	58.5	0.0044
2020	2020Cranes50	Cranes	50	0.0532	0.2423	0.1894	0.0003	0.0121	23.2	0.0048
2020	2020Cranes120	Cranes	120	0.0542	0.3446	0.3317	0.0006	0.0240	50.1	0.0049
2020	2020Cranes175	Cranes	175	0.0648	0.4754	0.4071	0.0009	0.0223	80.3	0.0058
2020	2020Cranes250	Cranes	250	0.0704	0.2440	0.4949	0.0013	0.0170	112	0.0064
2020	2020Cranes500	Cranes	500	0.1087	0.3839	0.7047	0.0018	0.0257	180	0.0098
2020	2020Cranes750	Cranes	750	0.1837	0.6455	1.2225	0.0030	0.0439	303	0.0166
2020	2020Cranes9999	Cranes	9999	0.6702	2.1934	7.0436	0.0098	0.1797	971	0.0605
2020	2020Cranes Composite	Cranes Composite		0.0898	0.3917	0.6610	0.0014	0.0256	129	0.0081
2020	2020Crawler Tractors50	Crawler Tractors	50	0.0699	0.2771	0.2107	0.0003	0.0150	24.9	0.0063
2020	2020Crawler Tractors120	Crawler Tractors	120	0.0831	0.4628	0.4896	0.0008	0.0371	65.8	0.0075
2020	2020Crawler Tractors175	Crawler Tractors	175	0.1123	0.7302	0.7150	0.0014	0.0398	121	0.0101
2020	2020Crawler Tractors250	Crawler Tractors	250	0.1188	0.3966	0.8681	0.0019	0.0315	166	0.0107
2020	2020Crawler Tractors500	Crawler Tractors	500	0.1759	0.6665	1.2170	0.0025	0.0455	259	0.0159
2020	2020Crawler Tractors750	Crawler Tractors	750	0.3168	1.1935	2.2429	0.0047	0.0828	465	0.0286
2020	2020Crawler Tractors1000	Crawler Tractors	1000	0.4836	1.8458	5.2162	0.0066	0.1425	658	0.0436
2020	2020Crawler Tractors Composite	Crawler Tractors Composite		0.1049	0.5260	0.6772	0.0013	0.0378	114	0.0095
2020	2020Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0734	0.4036	0.3367	0.0006	0.0181	44.0	0.0066
2020	2020Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0692	0.5446	0.4754	0.0010	0.0302	83.1	0.0062
2020	2020Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.1083	0.9519	0.7042	0.0019	0.0368	167	0.0098
2020	2020Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1245	0.4844	0.8670	0.0028	0.0282	245	0.0112
2020	2020Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1852	0.7092	1.1829	0.0037	0.0416	374	0.0167
2020	2020Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2912	1.1167	1.9026	0.0059	0.0655	589	0.0263

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2020	2020Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.7584	2.6528	8.5119	0.0131	0.2049	1,308	0.0684
2020	2020Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0934	0.6247	0.5983	0.0015	0.0310	132	0.0084
2020	2020Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0582	0.0001	0.0022	7.6	0.0008
2020	2020Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0582	0.0001	0.0022	7.6	0.0008
2020	2020Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2020	2020Excavators50	Excavators	50	0.0384	0.2446	0.1862	0.0003	0.0080	25.0	0.0035
2020	2020Excavators120	Excavators	120	0.0583	0.4979	0.3717	0.0009	0.0206	73.6	0.0053
2020	2020Excavators175	Excavators	175	0.0703	0.6637	0.3868	0.0013	0.0195	112	0.0063
2020	2020Excavators250	Excavators	250	0.0828	0.3276	0.4493	0.0018	0.0154	159	0.0075
2020	2020Excavators500	Excavators	500	0.1198	0.4591	0.6028	0.0023	0.0219	234	0.0108
2020	2020Excavators750	Excavators	750	0.1987	0.7606	1.0153	0.0039	0.0365	387	0.0179
2020	2020Excavators Composite	Excavators Composite		0.0733	0.5124	0.4042	0.0013	0.0184	120	0.0066
2020	2020Forklifts50	Forklifts	50	0.0191	0.1400	0.1084	0.0002	0.0039	14.7	0.0017
2020	2020Forklifts120	Forklifts	120	0.0225	0.2102	0.1443	0.0004	0.0074	31.2	0.0020
2020	2020Forklifts175	Forklifts	175	0.0336	0.3315	0.1772	0.0006	0.0087	56.1	0.0030
2020	2020Forklifts250	Forklifts	250	0.0385	0.1554	0.1887	0.0009	0.0062	77.1	0.0035
2020	2020Forklifts500	Forklifts	500	0.0548	0.2126	0.2528	0.0011	0.0088	111	0.0049
2020	2020Forklifts Composite	Forklifts Composite		0.0320	0.2160	0.1691	0.0006	0.0070	54.4	0.0029
2020	2020Generator Sets15	Generator Sets	15	0.0116	0.0638	0.0814	0.0002	0.0038	10.2	0.0011
2020	2020Generator Sets25	Generator Sets	25	0.0224	0.0769	0.1410	0.0002	0.0064	17.6	0.0020
2020	2020Generator Sets50	Generator Sets	50	0.0379	0.2161	0.2199	0.0004	0.0106	30.6	0.0034
2020	2020Generator Sets120	Generator Sets	120	0.0506	0.4641	0.4378	0.0009	0.0250	77.9	0.0046
2020	2020Generator Sets175	Generator Sets	175	0.0676	0.7323	0.5990	0.0016	0.0266	142	0.0061
2020	2020Generator Sets250	Generator Sets	250	0.0747	0.3844	0.7614	0.0024	0.0218	213	0.0067
2020	2020Generator Sets500	Generator Sets	500	0.1125	0.5968	1.0874	0.0033	0.0333	337	0.0102
2020	2020Generator Sets750	Generator Sets	750	0.1842	0.9634	1.7962	0.0055	0.0544	544	0.0166
2020	2020Generator Sets9999	Generator Sets	9999	0.4502	2.0059	6.6947	0.0105	0.1476	1,049	0.0406
2020	2020Generator Sets Composite	Generator Sets Composite		0.0395	0.2732	0.3232	0.0007	0.0150	61.0	0.0036
2020	2020Graders50	Graders	50	0.0563	0.2762	0.2156	0.0004	0.0124	27.5	0.0051
2020	2020Graders120	Graders	120	0.0738	0.5090	0.4568	0.0009	0.0311	75.0	0.0067
2020	2020Graders175	Graders	175	0.0918	0.7282	0.5622	0.0014	0.0303	124	0.0083
2020	2020Graders250	Graders	250	0.0999	0.3683	0.6701	0.0019	0.0230	172	0.0090
2020	2020Graders500	Graders	500	0.1284	0.4966	0.7982	0.0023	0.0288	229	0.0116
2020	2020Graders750	Graders	750	0.2731	1.0508	1.7425	0.0049	0.0621	486	0.0246
2020	2020Graders Composite	Graders Composite		0.0919	0.5765	0.5823	0.0015	0.0280	133	0.0083
2020	2020Off-Highway Tractors120	Off-Highway Tractors	120	0.1455	0.6789	0.8421	0.0011	0.0674	93.7	0.0131
2020	2020Off-Highway Tractors175	Off-Highway Tractors	175	0.1455	0.8025	0.9712	0.0015	0.0547	130	0.0131
2020	2020Off-Highway Tractors250	Off-Highway Tractors	250	0.1147	0.3614	0.8843	0.0015	0.0348	130	0.0103
2020	2020Off-Highway Tractors750	Off-Highway Tractors	750	0.4683	1.8825	3.5643	0.0057	0.1391	568	0.0423
2020	2020Off-Highway Tractors1000	Off-Highway Tractors	1000	0.7129	2.9445	7.4279	0.0082	0.2214	814	0.0643
2020	2020Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1470	0.6517	1.0657	0.0017	0.0497	151	0.0133
2020	2020Off-Highway Trucks175	Off-Highway Trucks	175	0.0837	0.7538	0.4564	0.0014	0.0234	125	0.0076
2020	2020Off-Highway Trucks250	Off-Highway Trucks	250	0.0927	0.3514	0.5042	0.0019	0.0173	167	0.0084
2020	2020Off-Highway Trucks500	Off-Highway Trucks	500	0.1488	0.5446	0.7481	0.0027	0.0273	272	0.0134
2020	2020Off-Highway Trucks750	Off-Highway Trucks	750	0.2416	0.8831	1.2347	0.0044	0.0446	442	0.0218
2020	2020Off-Highway Trucks1000	Off-Highway Trucks	1000	0.3613	1.2913	3.8920	0.0063	0.0903	625	0.0326
2020	2020Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1443	0.5514	0.8306	0.0027	0.0280	260	0.0130
2020	2020Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2020	2020Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2020	2020Other Construction Equipment50	Other Construction Equipment	50	0.0328	0.2267	0.1956	0.0004	0.0078	28.0	0.0030
2020	2020Other Construction Equipment120	Other Construction Equipment	120	0.0501	0.5080	0.3835	0.0009	0.0199	80.9	0.0045
2020	2020Other Construction Equipment175	Other Construction Equipment	175	0.0524	0.5859	0.3414	0.0012	0.0164	107	0.0047
2020	2020Other Construction Equipment500	Other Construction Equipment	500	0.1012	0.4676	0.6065	0.0025	0.0212	254	0.0091
2020	2020Other Construction Equipment Composite	Other Construction Equipment Composite		0.0563	0.3508	0.3519	0.0013	0.0139	122	0.0051
2020	2020Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2020	2020Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017

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2020	2020Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0431	0.2211	0.1744	0.0003	0.0101	21.7	0.0039
2020	2020Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0602	0.4232	0.3810	0.0007	0.0256	62.0	0.0054
2020	2020Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0721	0.5668	0.4439	0.0011	0.0237	95.9	0.0065
2020	2020Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0791	0.2804	0.5318	0.0015	0.0173	136	0.0071
2020	2020Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1506	0.5217	0.9276	0.0026	0.0326	265	0.0136
2020	2020Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.2490	0.8599	1.5657	0.0044	0.0543	437	0.0225
2020	2020Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.3467	1.1855	3.8628	0.0056	0.0969	560	0.0313
2020	2020Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0983	0.4517	0.6661	0.0016	0.0262	152	0.0089
2020	2020Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0595	0.3049	0.2425	0.0004	0.0141	30.3	0.0054
2020	2020Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0583	0.4117	0.3720	0.0007	0.0250	60.7	0.0053
2020	2020Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0907	0.7176	0.5642	0.0014	0.0301	122	0.0082
2020	2020Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0836	0.2984	0.5684	0.0016	0.0185	145	0.0075
2020	2020Other Material Handling Equipment500	Other Material Handling Equipment	500	0.1074	0.3752	0.6692	0.0019	0.0235	192	0.0097
2020	2020Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.4910	1.5647	5.1082	0.0073	0.1280	741	0.0443
2020	2020Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0924	0.4429	0.6500	0.0015	0.0252	141	0.0083
2020	2020Pavers25	Pavers	25	0.0225	0.0768	0.1427	0.0002	0.0055	18.7	0.0020
2020	2020Pavers50	Pavers	50	0.0834	0.3055	0.2398	0.0004	0.0184	28.0	0.0075
2020	2020Pavers120	Pavers	120	0.0910	0.4805	0.5471	0.0008	0.0428	69.2	0.0082
2020	2020Pavers175	Pavers	175	0.1217	0.7599	0.8187	0.0014	0.0459	128	0.0110
2020	2020Pavers250	Pavers	250	0.1411	0.4713	1.1106	0.0022	0.0407	194	0.0127
2020	2020Pavers500	Pavers	500	0.1595	0.6305	1.1959	0.0023	0.0450	233	0.0144
2020	2020Pavers Composite	Pavers Composite		0.0989	0.4920	0.5450	0.0009	0.0355	77.9	0.0089
2020	2020Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2020	2020Paving Equipment50	Paving Equipment	50	0.0702	0.2577	0.2043	0.0003	0.0157	23.9	0.0063
2020	2020Paving Equipment120	Paving Equipment	120	0.0708	0.3762	0.4280	0.0006	0.0337	54.5	0.0064
2020	2020Paving Equipment175	Paving Equipment	175	0.0944	0.5945	0.6403	0.0011	0.0360	101	0.0085
2020	2020Paving Equipment250	Paving Equipment	250	0.0864	0.2894	0.6928	0.0014	0.0249	122	0.0078
2020	2020Paving Equipment Composite	Paving Equipment Composite		0.0757	0.4084	0.4807	0.0008	0.0315	68.9	0.0068
2020	2020Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2020	2020Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2020	2020Pressure Washers15	Pressure Washers	15	0.0056	0.0305	0.0390	0.0001	0.0018	4.9	0.0005
2020	2020Pressure Washers25	Pressure Washers	25	0.0091	0.0312	0.0572	0.0001	0.0026	7.1	0.0008
2020	2020Pressure Washers50	Pressure Washers	50	0.0128	0.0856	0.0986	0.0002	0.0041	14.3	0.0012
2020	2020Pressure Washers120	Pressure Washers	120	0.0128	0.1367	0.1293	0.0003	0.0065	24.1	0.0012
2020	2020Pressure Washers Composite	Pressure Washers Composite		0.0085	0.0549	0.0650	0.0001	0.0030	9.4	0.0008
2020	2020Pumps15	Pumps	15	0.0096	0.0464	0.0595	0.0001	0.0030	7.4	0.0009
2020	2020Pumps25	Pumps	25	0.0265	0.0850	0.1558	0.0002	0.0073	19.5	0.0024
2020	2020Pumps50	Pumps	50	0.0465	0.2546	0.2497	0.0004	0.0126	34.3	0.0042
2020	2020Pumps120	Pumps	120	0.0537	0.4713	0.4442	0.0009	0.0263	77.9	0.0048
2020	2020Pumps175	Pumps	175	0.0712	0.7336	0.6007	0.0016	0.0277	140	0.0064
2020	2020Pumps250	Pumps	250	0.0760	0.3700	0.7338	0.0023	0.0215	201	0.0069
2020	2020Pumps500	Pumps	500	0.1241	0.6189	1.1297	0.0034	0.0355	345	0.0112
2020	2020Pumps750	Pumps	750	0.2075	1.0232	1.9114	0.0057	0.0594	571	0.0187
2020	2020Pumps9999	Pumps	9999	0.6127	2.6255	8.7489	0.0136	0.1961	1,355	0.0553
2020	2020Pumps Composite	Pumps Composite		0.0376	0.2674	0.2854	0.0006	0.0147	49.6	0.0034
2020	2020Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2020	2020Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2020	2020Rollers50	Rollers	50	0.0543	0.2436	0.2039	0.0003	0.0128	26.0	0.0049
2020	2020Rollers120	Rollers	120	0.0576	0.3873	0.3799	0.0007	0.0270	59.0	0.0052
2020	2020Rollers175	Rollers	175	0.0774	0.6114	0.5331	0.0012	0.0286	108	0.0070
2020	2020Rollers250	Rollers	250	0.0842	0.3201	0.6581	0.0017	0.0223	153	0.0076
2020	2020Rollers500	Rollers	500	0.1151	0.4607	0.8354	0.0022	0.0299	219	0.0104
2020	2020Rollers Composite	Rollers Composite		0.0584	0.3837	0.3793	0.0008	0.0232	67.0	0.0053
2020	2020Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0520	0.3171	0.2556	0.0004	0.0122	33.9	0.0047
2020	2020Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0495	0.4142	0.3326	0.0007	0.0197	62.4	0.0045
2020	2020Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0788	0.7229	0.4710	0.0014	0.0245	125	0.0071

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2020	2020Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0881	0.3442	0.5378	0.0019	0.0182	171	0.0079
2020	2020Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1296	0.4936	0.7287	0.0025	0.0265	257	0.0117
2020	2020Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0533	0.4464	0.3494	0.0008	0.0201	70.3	0.0048
2020	2020Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1509	0.8124	0.9962	0.0015	0.0561	129	0.0136
2020	2020Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1701	0.5279	1.2898	0.0021	0.0516	183	0.0153
2020	2020Rubber Tired Dozers500	Rubber Tired Dozers	500	0.2291	0.9276	1.6868	0.0026	0.0673	265	0.0207
2020	2020Rubber Tired Dozers750	Rubber Tired Dozers	750	0.3461	1.3934	2.5948	0.0040	0.1024	399	0.0312
2020	2020Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.5438	2.2500	5.5311	0.0060	0.1672	592	0.0491
2020	2020Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.2118	0.8006	1.5773	0.0025	0.0630	239	0.0191
2020	2020Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2020	2020Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0615	0.3080	0.2424	0.0004	0.0137	31.1	0.0055
2020	2020Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0563	0.3977	0.3529	0.0007	0.0237	58.9	0.0051
2020	2020Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0767	0.6215	0.4713	0.0012	0.0253	106	0.0069
2020	2020Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0848	0.3159	0.5655	0.0017	0.0194	149	0.0077
2020	2020Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1302	0.5016	0.8032	0.0023	0.0291	237	0.0118
2020	2020Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2680	1.0271	1.6958	0.0049	0.0606	486	0.0242
2020	2020Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.3484	1.3166	4.0040	0.0060	0.0983	594	0.0314
2020	2020Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0753	0.4406	0.4747	0.0012	0.0235	109	0.0068
2020	2020Scrapers120	Scrapers	120	0.1218	0.6612	0.7170	0.0011	0.0551	93.9	0.0110
2020	2020Scrapers175	Scrapers	175	0.1400	0.8921	0.9020	0.0017	0.0505	148	0.0126
2020	2020Scrapers250	Scrapers	250	0.1522	0.5044	1.1344	0.0024	0.0412	209	0.0137
2020	2020Scrapers500	Scrapers	500	0.2211	0.8455	1.5615	0.0032	0.0584	321	0.0200
2020	2020Scrapers750	Scrapers	750	0.3839	1.4588	2.7734	0.0056	0.1024	555	0.0346
2020	2020Scrapers Composite	Scrapers Composite		0.1914	0.7938	1.3434	0.0027	0.0541	262	0.0173
2020	2020Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2020	2020Signal Boards50	Signal Boards	50	0.0502	0.2833	0.2631	0.0005	0.0131	36.2	0.0045
2020	2020Signal Boards120	Signal Boards	120	0.0558	0.4946	0.4424	0.0009	0.0264	80.2	0.0050
2020	2020Signal Boards175	Signal Boards	175	0.0811	0.8276	0.6279	0.0017	0.0302	155	0.0073
2020	2020Signal Boards250	Signal Boards	250	0.1022	0.4765	0.8737	0.0029	0.0266	255	0.0092
2020	2020Signal Boards Composite	Signal Boards Composite		0.0129	0.0912	0.0912	0.0002	0.0042	16.7	0.0012
2020	2020Skid Steer Loaders25	Skid Steer Loaders	25	0.0171	0.0575	0.1070	0.0002	0.0044	13.8	0.0015
2020	2020Skid Steer Loaders50	Skid Steer Loaders	50	0.0230	0.2006	0.1655	0.0003	0.0043	25.5	0.0021
2020	2020Skid Steer Loaders120	Skid Steer Loaders	120	0.0218	0.2673	0.1647	0.0005	0.0064	42.8	0.0020
2020	2020Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0222	0.2125	0.1614	0.0004	0.0050	30.3	0.0020
2020	2020Surfacing Equipment50	Surfacing Equipment	50	0.0265	0.1191	0.1069	0.0002	0.0063	14.1	0.0024
2020	2020Surfacing Equipment120	Surfacing Equipment	120	0.0570	0.4028	0.4035	0.0007	0.0271	63.8	0.0051
2020	2020Surfacing Equipment175	Surfacing Equipment	175	0.0550	0.4663	0.4168	0.0010	0.0210	85.8	0.0050
2020	2020Surfacing Equipment250	Surfacing Equipment	250	0.0652	0.2754	0.5719	0.0015	0.0188	135	0.0059
2020	2020Surfacing Equipment500	Surfacing Equipment	500	0.1008	0.4728	0.8400	0.0022	0.0288	221	0.0091
2020	2020Surfacing Equipment750	Surfacing Equipment	750	0.1599	0.7413	1.3593	0.0035	0.0459	347	0.0144
2020	2020Surfacing Equipment Composite	Surfacing Equipment Composite		0.0823	0.3953	0.6593	0.0017	0.0239	166	0.0074
2020	2020Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2020	2020Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2020	2020Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0430	0.2898	0.2365	0.0004	0.0098	31.6	0.0039
2020	2020Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0555	0.4959	0.3694	0.0009	0.0210	75.0	0.0050
2020	2020Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0845	0.8043	0.4869	0.0016	0.0253	139	0.0076
2020	2020Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0803	0.3198	0.4530	0.0018	0.0152	162	0.0072
2020	2020Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0584	0.4916	0.3563	0.0009	0.0183	78.5	0.0053
2020	2020Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0046	15.9	0.0017
2020	2020Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0407	0.2760	0.2179	0.0004	0.0087	30.3	0.0037
2020	2020Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0366	0.3402	0.2466	0.0006	0.0129	51.7	0.0033
2020	2020Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0571	0.5841	0.3220	0.0011	0.0159	101	0.0052
2020	2020Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0813	0.3445	0.4427	0.0019	0.0151	172	0.0073
2020	2020Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1606	0.6642	0.8132	0.0039	0.0294	345	0.0145
2020	2020Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.2409	0.9959	1.2387	0.0058	0.0443	517	0.0217
2020	2020Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0436	0.3616	0.2744	0.0008	0.0134	66.8	0.0039

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2020	2020Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2020	2020Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2020	2020Trenchers50	Trenchers	50	0.0990	0.3495	0.2804	0.0004	0.0218	32.9	0.0089
2020	2020Trenchers120	Trenchers	120	0.0849	0.4443	0.5223	0.0008	0.0408	64.9	0.0077
2020	2020Trenchers175	Trenchers	175	0.1346	0.8393	0.9412	0.0016	0.0521	144	0.0121
2020	2020Trenchers250	Trenchers	250	0.1600	0.5472	1.3120	0.0025	0.0487	223	0.0144
2020	2020Trenchers500	Trenchers	500	0.2092	0.8710	1.6487	0.0031	0.0623	311	0.0189
2020	2020Trenchers750	Trenchers	750	0.3964	1.6395	3.1894	0.0059	0.1191	587	0.0358
2020	2020Trenchers Composite	Trenchers Composite		0.0933	0.4270	0.4575	0.0007	0.0336	58.7	0.0084
2020	2020Welders15	Welders	15	0.0080	0.0388	0.0498	0.0001	0.0025	6.2	0.0007
2020	2020Welders25	Welders	25	0.0153	0.0492	0.0903	0.0001	0.0042	11.3	0.0014
2020	2020Welders50	Welders	50	0.0435	0.2219	0.1968	0.0003	0.0110	26.0	0.0039
2020	2020Welders120	Welders	120	0.0321	0.2508	0.2344	0.0005	0.0153	39.5	0.0029
2020	2020Welders175	Welders	175	0.0600	0.5396	0.4393	0.0011	0.0223	98.2	0.0054
2020	2020Welders250	Welders	250	0.0551	0.2294	0.4536	0.0013	0.0142	119	0.0050
2020	2020Welders500	Welders	500	0.0748	0.3117	0.5690	0.0016	0.0192	168	0.0067
2020	2020Welders Composite	Welders Composite		0.0310	0.1816	0.1735	0.0003	0.0102	25.6	0.0028
2021	2021Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2021	2021Aerial Lifts25	Aerial Lifts	25	0.0136	0.0456	0.0849	0.0001	0.0034	11.0	0.0012
2021	2021Aerial Lifts50	Aerial Lifts	50	0.0233	0.1405	0.1369	0.0003	0.0061	19.6	0.0021
2021	2021Aerial Lifts120	Aerial Lifts	120	0.0234	0.2280	0.1978	0.0004	0.0110	38.1	0.0021
2021	2021Aerial Lifts500	Aerial Lifts	500	0.0703	0.3769	0.6021	0.0021	0.0189	213	0.0063
2021	2021Aerial Lifts750	Aerial Lifts	750	0.1283	0.6813	1.1121	0.0039	0.0346	385	0.0116
2021	2021Aerial Lifts Composite	Aerial Lifts Composite		0.0238	0.1677	0.1726	0.0004	0.0080	34.7	0.0021
2021	2021Air Compressors15	Air Compressors	15	0.0092	0.0449	0.0569	0.0001	0.0027	7.2	0.0008
2021	2021Air Compressors25	Air Compressors	25	0.0192	0.0623	0.1145	0.0002	0.0052	14.4	0.0017
2021	2021Air Compressors50	Air Compressors	50	0.0355	0.1979	0.1659	0.0003	0.0085	22.3	0.0032
2021	2021Air Compressors120	Air Compressors	120	0.0371	0.3037	0.2570	0.0006	0.0160	47.0	0.0033
2021	2021Air Compressors175	Air Compressors	175	0.0541	0.4975	0.3498	0.0010	0.0183	88.5	0.0049
2021	2021Air Compressors250	Air Compressors	250	0.0626	0.2564	0.4359	0.0015	0.0141	131	0.0056
2021	2021Air Compressors500	Air Compressors	500	0.1075	0.4350	0.6881	0.0023	0.0240	232	0.0097
2021	2021Air Compressors750	Air Compressors	750	0.1667	0.6723	1.0871	0.0036	0.0376	358	0.0150
2021	2021Air Compressors1000	Air Compressors	1000	0.2459	0.9751	3.0739	0.0049	0.0717	486	0.0222
2021	2021Air Compressors Composite	Air Compressors Composite		0.0442	0.3051	0.2928	0.0007	0.0158	63.6	0.0040
2021	2021Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2021	2021Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2021	2021Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0193	0.2202	0.1710	0.0004	0.0015	31.0	0.0017
2021	2021Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0269	0.4661	0.2191	0.0009	0.0030	77.1	0.0024
2021	2021Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0373	0.7542	0.1473	0.0016	0.0039	141	0.0034
2021	2021Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0456	0.3426	0.1364	0.0021	0.0041	188	0.0041
2021	2021Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0753	0.5512	0.2223	0.0031	0.0068	311	0.0068
2021	2021Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1488	1.0889	0.4398	0.0062	0.0134	615	0.0134
2021	2021Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2329	1.6434	3.9539	0.0093	0.0472	928	0.0210
2021	2021Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0460	0.5007	0.3219	0.0017	0.0053	165	0.0042
2021	2021Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2021	2021Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0220	0.0736	0.1365	0.0002	0.0056	17.6	0.0020
2021	2021Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0086	0.0415	0.0535	0.0001	0.0021	7.2	0.0008
2021	2021Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2021	2021Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0384	0.2382	0.2160	0.0004	0.0098	30.2	0.0035
2021	2021Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0483	0.4598	0.3802	0.0009	0.0217	74.1	0.0044
2021	2021Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0808	0.8662	0.5793	0.0018	0.0286	160	0.0073
2021	2021Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0444	0.3761	0.3176	0.0007	0.0171	58.5	0.0040
2021	2021Cranes50	Cranes	50	0.0483	0.2377	0.1837	0.0003	0.0107	23.2	0.0044
2021	2021Cranes120	Cranes	120	0.0499	0.3428	0.3072	0.0006	0.0210	50.1	0.0045
2021	2021Cranes175	Cranes	175	0.0601	0.4750	0.3641	0.0009	0.0197	80.3	0.0054
2021	2021Cranes250	Cranes	250	0.0667	0.2407	0.4404	0.0013	0.0152	112	0.0060

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2021	2021Cranes500	Cranes	500	0.1035	0.3747	0.6303	0.0018	0.0231	180	0.0093
2021	2021Cranes750	Cranes	750	0.1746	0.6301	1.0891	0.0030	0.0393	303	0.0158
2021	2021Cranes9999	Cranes	9999	0.6375	2.1272	6.6964	0.0098	0.1645	971	0.0575
2021	2021Cranes Composite	Cranes Composite		0.0846	0.3865	0.6033	0.0014	0.0229	129	0.0076
2021	2021Crawler Tractors50	Crawler Tractors	50	0.0649	0.2722	0.2046	0.0003	0.0136	24.9	0.0059
2021	2021Crawler Tractors120	Crawler Tractors	120	0.0780	0.4606	0.4585	0.0008	0.0336	65.8	0.0070
2021	2021Crawler Tractors175	Crawler Tractors	175	0.1054	0.7292	0.6524	0.0014	0.0362	121	0.0095
2021	2021Crawler Tractors250	Crawler Tractors	250	0.1123	0.3881	0.7899	0.0019	0.0285	166	0.0101
2021	2021Crawler Tractors500	Crawler Tractors	500	0.1669	0.6452	1.1075	0.0025	0.0412	259	0.0151
2021	2021Crawler Tractors750	Crawler Tractors	750	0.3006	1.1555	2.0421	0.0047	0.0750	465	0.0271
2021	2021Crawler Tractors1000	Crawler Tractors	1000	0.4584	1.7742	4.9834	0.0066	0.1317	658	0.0414
2021	2021Crawler Tractors Composite	Crawler Tractors Composite		0.0988	0.5208	0.6239	0.0013	0.0343	114	0.0089
2021	2021Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0668	0.3978	0.3262	0.0006	0.0156	44.0	0.0060
2021	2021Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0641	0.5430	0.4374	0.0010	0.0261	83.1	0.0058
2021	2021Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.1015	0.9522	0.6223	0.0019	0.0324	167	0.0092
2021	2021Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1182	0.4815	0.7556	0.0028	0.0248	245	0.0107
2021	2021Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1765	0.7050	1.0353	0.0037	0.0366	374	0.0159
2021	2021Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2779	1.1108	1.6653	0.0059	0.0578	589	0.0251
2021	2021Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.7241	2.6136	8.0264	0.0131	0.1854	1,308	0.0653
2021	2021Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0872	0.6224	0.5412	0.0015	0.0270	132	0.0079
2021	2021Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2021	2021Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2021	2021Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2021	2021Excavators50	Excavators	50	0.0356	0.2421	0.1802	0.0003	0.0068	25.0	0.0032
2021	2021Excavators120	Excavators	120	0.0543	0.4967	0.3429	0.0009	0.0174	73.6	0.0049
2021	2021Excavators175	Excavators	175	0.0655	0.6637	0.3377	0.0013	0.0168	112	0.0059
2021	2021Excavators250	Excavators	250	0.0783	0.3258	0.3891	0.0018	0.0134	159	0.0071
2021	2021Excavators500	Excavators	500	0.1137	0.4561	0.5254	0.0023	0.0191	234	0.0103
2021	2021Excavators750	Excavators	750	0.1885	0.7559	0.8840	0.0039	0.0319	387	0.0170
2021	2021Excavators Composite	Excavators Composite		0.0687	0.5113	0.3577	0.0013	0.0158	120	0.0062
2021	2021Forklifts50	Forklifts	50	0.0175	0.1376	0.1034	0.0002	0.0032	14.7	0.0016
2021	2021Forklifts120	Forklifts	120	0.0207	0.2091	0.1321	0.0004	0.0059	31.2	0.0019
2021	2021Forklifts175	Forklifts	175	0.0305	0.3303	0.1503	0.0006	0.0069	56.1	0.0027
2021	2021Forklifts250	Forklifts	250	0.0354	0.1548	0.1554	0.0009	0.0050	77.1	0.0032
2021	2021Forklifts500	Forklifts	500	0.0506	0.2120	0.2091	0.0011	0.0070	111	0.0046
2021	2021Forklifts Composite	Forklifts Composite		0.0294	0.2148	0.1459	0.0006	0.0056	54.4	0.0027
2021	2021Generator Sets15	Generator Sets	15	0.0114	0.0635	0.0800	0.0002	0.0036	10.2	0.0010
2021	2021Generator Sets25	Generator Sets	25	0.0221	0.0761	0.1397	0.0002	0.0061	17.6	0.0020
2021	2021Generator Sets50	Generator Sets	50	0.0338	0.2115	0.2116	0.0004	0.0091	30.6	0.0030
2021	2021Generator Sets120	Generator Sets	120	0.0456	0.4617	0.3996	0.0009	0.0215	77.9	0.0041
2021	2021Generator Sets175	Generator Sets	175	0.0617	0.7313	0.5233	0.0016	0.0233	142	0.0056
2021	2021Generator Sets250	Generator Sets	250	0.0694	0.3807	0.6568	0.0024	0.0190	213	0.0063
2021	2021Generator Sets500	Generator Sets	500	0.1052	0.5913	0.9401	0.0033	0.0291	337	0.0095
2021	2021Generator Sets750	Generator Sets	750	0.1717	0.9545	1.5502	0.0055	0.0475	544	0.0155
2021	2021Generator Sets9999	Generator Sets	9999	0.4120	1.9665	6.2664	0.0105	0.1316	1,049	0.0372
2021	2021Generator Sets Composite	Generator Sets Composite		0.0363	0.2708	0.2978	0.0007	0.0131	61.0	0.0033
2021	2021Graders50	Graders	50	0.0516	0.2718	0.2089	0.0004	0.0109	27.5	0.0047
2021	2021Graders120	Graders	120	0.0684	0.5069	0.4241	0.0009	0.0272	75.0	0.0062
2021	2021Graders175	Graders	175	0.0854	0.7277	0.5015	0.0014	0.0267	124	0.0077
2021	2021Graders250	Graders	250	0.0947	0.3647	0.5955	0.0019	0.0205	172	0.0085
2021	2021Graders500	Graders	500	0.1222	0.4875	0.7112	0.0023	0.0258	229	0.0110
2021	2021Graders750	Graders	750	0.2598	1.0314	1.5507	0.0049	0.0555	486	0.0234
2021	2021Graders Composite	Graders Composite		0.0861	0.5747	0.5213	0.0015	0.0247	133	0.0078
2021	2021Off-Highway Tractors120	Off-Highway Tractors	120	0.1378	0.6749	0.7959	0.0011	0.0626	93.7	0.0124
2021	2021Off-Highway Tractors175	Off-Highway Tractors	175	0.1379	0.8000	0.9027	0.0015	0.0507	130	0.0124
2021	2021Off-Highway Tractors250	Off-Highway Tractors	250	0.1087	0.3507	0.8198	0.0015	0.0320	130	0.0098

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2021	2021Off-Highway Tractors750	Off-Highway Tractors	750	0.4454	1.7945	3.3054	0.0057	0.1282	568	0.0402
2021	2021Off-Highway Tractors1000	Off-Highway Tractors	1000	0.6794	2.8019	7.1274	0.0082	0.2070	814	0.0613
2021	2021Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1394	0.6413	0.9902	0.0017	0.0459	151	0.0126
2021	2021Off-Highway Trucks175	Off-Highway Trucks	175	0.0782	0.7537	0.4000	0.0014	0.0203	125	0.0071
2021	2021Off-Highway Trucks250	Off-Highway Trucks	250	0.0879	0.3493	0.4383	0.0019	0.0151	167	0.0079
2021	2021Off-Highway Trucks500	Off-Highway Trucks	500	0.1415	0.5407	0.6543	0.0027	0.0240	272	0.0128
2021	2021Off-Highway Trucks750	Off-Highway Trucks	750	0.2297	0.8769	1.0788	0.0044	0.0391	442	0.0207
2021	2021Off-Highway Trucks1000	Off-Highway Trucks	1000	0.3421	1.2771	3.7016	0.0063	0.0814	625	0.0309
2021	2021Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1370	0.5476	0.7382	0.0027	0.0246	260	0.0124
2021	2021Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2021	2021Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2021	2021Other Construction Equipment50	Other Construction Equipment	50	0.0303	0.2243	0.1893	0.0004	0.0067	28.0	0.0027
2021	2021Other Construction Equipment120	Other Construction Equipment	120	0.0468	0.5069	0.3537	0.0009	0.0169	80.9	0.0042
2021	2021Other Construction Equipment175	Other Construction Equipment	175	0.0491	0.5858	0.2972	0.0012	0.0142	107	0.0044
2021	2021Other Construction Equipment500	Other Construction Equipment	500	0.0961	0.4654	0.5253	0.0025	0.0185	254	0.0087
2021	2021Other Construction Equipment Composite	Other Construction Equipment Composite		0.0534	0.3497	0.3120	0.0013	0.0121	122	0.0048
2021	2021Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2021	2021Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2021	2021Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0388	0.2161	0.1676	0.0003	0.0086	21.7	0.0035
2021	2021Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0551	0.4205	0.3467	0.0007	0.0218	62.0	0.0050
2021	2021Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0664	0.5654	0.3871	0.0011	0.0205	95.9	0.0060
2021	2021Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0739	0.2775	0.4574	0.0015	0.0149	136	0.0067
2021	2021Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1411	0.5167	0.8006	0.0026	0.0282	265	0.0127
2021	2021Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.2333	0.8515	1.3488	0.0044	0.0470	437	0.0210
2021	2021Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.3231	1.1617	3.6053	0.0056	0.0863	560	0.0292
2021	2021Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0915	0.4479	0.5887	0.0016	0.0227	152	0.0083
2021	2021Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0535	0.2980	0.2331	0.0004	0.0120	30.3	0.0048
2021	2021Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0533	0.4091	0.3386	0.0007	0.0213	60.7	0.0048
2021	2021Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0837	0.7158	0.4921	0.0014	0.0261	122	0.0075
2021	2021Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0781	0.2953	0.4889	0.0016	0.0159	145	0.0070
2021	2021Other Material Handling Equipment500	Other Material Handling Equipment	500	0.1007	0.3715	0.5777	0.0019	0.0203	192	0.0091
2021	2021Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.4606	1.5333	4.7673	0.0073	0.1140	741	0.0416
2021	2021Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0860	0.4392	0.5748	0.0015	0.0218	141	0.0078
2021	2021Pavers25	Pavers	25	0.0225	0.0768	0.1425	0.0002	0.0055	18.7	0.0020
2021	2021Pavers50	Pavers	50	0.0774	0.2996	0.2332	0.0004	0.0168	28.0	0.0070
2021	2021Pavers120	Pavers	120	0.0855	0.4780	0.5137	0.0008	0.0391	69.2	0.0077
2021	2021Pavers175	Pavers	175	0.1148	0.7586	0.7520	0.0014	0.0421	128	0.0104
2021	2021Pavers250	Pavers	250	0.1338	0.4598	1.0174	0.0022	0.0371	194	0.0121
2021	2021Pavers500	Pavers	500	0.1518	0.6069	1.0951	0.0023	0.0410	233	0.0137
2021	2021Pavers Composite	Pavers Composite		0.0928	0.4878	0.5089	0.0009	0.0325	77.9	0.0084
2021	2021Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2021	2021Paving Equipment50	Paving Equipment	50	0.0648	0.2524	0.1987	0.0003	0.0143	23.9	0.0058
2021	2021Paving Equipment120	Paving Equipment	120	0.0662	0.3741	0.4010	0.0006	0.0307	54.5	0.0060
2021	2021Paving Equipment175	Paving Equipment	175	0.0888	0.5934	0.5867	0.0011	0.0329	101	0.0080
2021	2021Paving Equipment250	Paving Equipment	250	0.0820	0.2827	0.6331	0.0014	0.0227	122	0.0074
2021	2021Paving Equipment Composite	Paving Equipment Composite		0.0710	0.4062	0.4462	0.0008	0.0288	68.9	0.0064
2021	2021Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2021	2021Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2021	2021Pressure Washers15	Pressure Washers	15	0.0055	0.0304	0.0383	0.0001	0.0017	4.9	0.0005
2021	2021Pressure Washers25	Pressure Washers	25	0.0090	0.0308	0.0566	0.0001	0.0025	7.1	0.0008
2021	2021Pressure Washers50	Pressure Washers	50	0.0113	0.0841	0.0949	0.0002	0.0035	14.3	0.0010
2021	2021Pressure Washers120	Pressure Washers	120	0.0114	0.1362	0.1182	0.0003	0.0056	24.1	0.0010
2021	2021Pressure Washers Composite	Pressure Washers Composite		0.0079	0.0543	0.0625	0.0001	0.0027	9.4	0.0007
2021	2021Pumps15	Pumps	15	0.0094	0.0462	0.0585	0.0001	0.0028	7.4	0.0008
2021	2021Pumps25	Pumps	25	0.0259	0.0841	0.1544	0.0002	0.0070	19.5	0.0023
2021	2021Pumps50	Pumps	50	0.0415	0.2490	0.2404	0.0004	0.0108	34.3	0.0037

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2021	2021Pumps120	Pumps	120	0.0484	0.4687	0.4054	0.0009	0.0227	77.9	0.0044
2021	2021Pumps175	Pumps	175	0.0652	0.7325	0.5249	0.0016	0.0242	140	0.0059
2021	2021Pumps250	Pumps	250	0.0707	0.3662	0.6331	0.0023	0.0187	201	0.0064
2021	2021Pumps500	Pumps	500	0.1162	0.6131	0.9769	0.0034	0.0310	345	0.0105
2021	2021Pumps750	Pumps	750	0.1939	1.0135	1.6500	0.0057	0.0519	571	0.0175
2021	2021Pumps9999	Pumps	9999	0.5635	2.5731	8.1862	0.0136	0.1751	1,355	0.0508
2021	2021Pumps Composite	Pumps Composite		0.0344	0.2652	0.2637	0.0006	0.0128	49.6	0.0031
2021	2021Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2021	2021Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2021	2021Rollers50	Rollers	50	0.0491	0.2389	0.1979	0.0003	0.0114	26.0	0.0044
2021	2021Rollers120	Rollers	120	0.0529	0.3854	0.3524	0.0007	0.0238	59.0	0.0048
2021	2021Rollers175	Rollers	175	0.0719	0.6108	0.4775	0.0012	0.0254	108	0.0065
2021	2021Rollers250	Rollers	250	0.0800	0.3158	0.5870	0.0017	0.0201	153	0.0072
2021	2021Rollers500	Rollers	500	0.1100	0.4490	0.7481	0.0022	0.0270	219	0.0099
2021	2021Rollers Composite	Rollers Composite		0.0540	0.3816	0.3483	0.0008	0.0206	67.0	0.0049
2021	2021Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0479	0.3133	0.2472	0.0004	0.0105	33.9	0.0043
2021	2021Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0461	0.4131	0.3062	0.0007	0.0168	62.4	0.0042
2021	2021Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0736	0.7229	0.4132	0.0014	0.0213	125	0.0066
2021	2021Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0832	0.3419	0.4658	0.0019	0.0158	171	0.0075
2021	2021Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1228	0.4904	0.6343	0.0025	0.0231	257	0.0111
2021	2021Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0497	0.4454	0.3193	0.0008	0.0172	70.3	0.0045
2021	2021Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1432	0.8097	0.9278	0.0015	0.0522	129	0.0129
2021	2021Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1616	0.5121	1.1988	0.0021	0.0475	183	0.0146
2021	2021Rubber Tired Dozers500	Rubber Tired Dozers	500	0.2182	0.8829	1.5670	0.0026	0.0622	265	0.0197
2021	2021Rubber Tired Dozers750	Rubber Tired Dozers	750	0.3297	1.3266	2.4124	0.0040	0.0946	399	0.0297
2021	2021Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.5186	2.1395	5.3122	0.0060	0.1566	592	0.0468
2021	2021Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.2015	0.7661	1.4661	0.0025	0.0582	239	0.0182
2021	2021Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2021	2021Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0561	0.3032	0.2349	0.0004	0.0120	31.1	0.0051
2021	2021Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0520	0.3960	0.3271	0.0007	0.0206	58.9	0.0047
2021	2021Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0712	0.6211	0.4192	0.0012	0.0222	106	0.0064
2021	2021Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0804	0.3129	0.5008	0.0017	0.0173	149	0.0073
2021	2021Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1240	0.4920	0.7143	0.0023	0.0260	237	0.0112
2021	2021Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2549	1.0075	1.5039	0.0049	0.0540	486	0.0230
2021	2021Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.3298	1.2808	3.8115	0.0060	0.0894	594	0.0298
2021	2021Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0705	0.4381	0.4275	0.0012	0.0206	109	0.0064
2021	2021Scrapers120	Scrapers	120	0.1142	0.6580	0.6720	0.0011	0.0501	93.9	0.0103
2021	2021Scrapers175	Scrapers	175	0.1316	0.8907	0.8250	0.0017	0.0460	148	0.0119
2021	2021Scrapers250	Scrapers	250	0.1442	0.4935	1.0349	0.0024	0.0374	209	0.0130
2021	2021Scrapers500	Scrapers	500	0.2102	0.8168	1.4242	0.0032	0.0531	321	0.0190
2021	2021Scrapers750	Scrapers	750	0.3649	1.4095	2.5312	0.0056	0.0932	555	0.0329
2021	2021Scrapers Composite	Scrapers Composite		0.1815	0.7745	1.2263	0.0027	0.0492	262	0.0164
2021	2021Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2021	2021Signal Boards50	Signal Boards	50	0.0455	0.2789	0.2549	0.0005	0.0114	36.2	0.0041
2021	2021Signal Boards120	Signal Boards	120	0.0513	0.4930	0.4078	0.0009	0.0230	80.2	0.0046
2021	2021Signal Boards175	Signal Boards	175	0.0757	0.8277	0.5557	0.0017	0.0267	155	0.0068
2021	2021Signal Boards250	Signal Boards	250	0.0968	0.4734	0.7633	0.0029	0.0235	255	0.0087
2021	2021Signal Boards Composite	Signal Boards Composite		0.0125	0.0911	0.0863	0.0002	0.0039	16.7	0.0011
2021	2021Skid Steer Loaders25	Skid Steer Loaders	25	0.0169	0.0572	0.1065	0.0002	0.0042	13.8	0.0015
2021	2021Skid Steer Loaders50	Skid Steer Loaders	50	0.0220	0.1998	0.1600	0.0003	0.0036	25.5	0.0020
2021	2021Skid Steer Loaders120	Skid Steer Loaders	120	0.0207	0.2671	0.1538	0.0005	0.0053	42.8	0.0019
2021	2021Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0212	0.2119	0.1544	0.0004	0.0042	30.3	0.0019
2021	2021Surfacing Equipment50	Surfacing Equipment	50	0.0242	0.1170	0.1037	0.0002	0.0057	14.1	0.0022
2021	2021Surfacing Equipment120	Surfacing Equipment	120	0.0525	0.4008	0.3760	0.0007	0.0242	63.8	0.0047
2021	2021Surfacing Equipment175	Surfacing Equipment	175	0.0511	0.4658	0.3757	0.0010	0.0189	85.8	0.0046
2021	2021Surfacing Equipment250	Surfacing Equipment	250	0.0617	0.2715	0.5141	0.0015	0.0170	135	0.0056

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2021	2021Surfacing Equipment500	Surfacing Equipment	500	0.0959	0.4602	0.7556	0.0022	0.0261	221	0.0087
2021	2021Surfacing Equipment750	Surfacing Equipment	750	0.1520	0.7215	1.2216	0.0035	0.0416	347	0.0137
2021	2021Surfacing Equipment Composite	Surfacing Equipment Composite		0.0779	0.3860	0.5953	0.0017	0.0216	166	0.0070
2021	2021Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2021	2021Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2021	2021Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0391	0.2844	0.2261	0.0004	0.0081	31.6	0.0035
2021	2021Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0510	0.4931	0.3380	0.0009	0.0173	75.0	0.0046
2021	2021Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0774	0.8017	0.4205	0.0016	0.0208	139	0.0070
2021	2021Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0744	0.3184	0.3827	0.0018	0.0125	162	0.0067
2021	2021Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0536	0.4882	0.3225	0.0009	0.0151	78.5	0.0048
2021	2021Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2021	2021Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0376	0.2733	0.2108	0.0004	0.0073	30.3	0.0034
2021	2021Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0340	0.3394	0.2275	0.0006	0.0108	51.7	0.0031
2021	2021Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0533	0.5841	0.2798	0.0011	0.0135	101	0.0048
2021	2021Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0769	0.3430	0.3814	0.0019	0.0131	172	0.0069
2021	2021Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1523	0.6596	0.7068	0.0039	0.0255	345	0.0137
2021	2021Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.2284	0.9891	1.0736	0.0058	0.0385	517	0.0206
2021	2021Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0407	0.3606	0.2506	0.0008	0.0113	66.8	0.0037
2021	2021Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2021	2021Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2021	2021Trenchers50	Trenchers	50	0.0921	0.3425	0.2729	0.0004	0.0201	32.9	0.0083
2021	2021Trenchers120	Trenchers	120	0.0799	0.4419	0.4914	0.0008	0.0375	64.9	0.0072
2021	2021Trenchers175	Trenchers	175	0.1272	0.8376	0.8675	0.0016	0.0481	144	0.0115
2021	2021Trenchers250	Trenchers	250	0.1517	0.5327	1.2061	0.0025	0.0445	223	0.0137
2021	2021Trenchers500	Trenchers	500	0.1992	0.8364	1.5150	0.0031	0.0571	311	0.0180
2021	2021Trenchers750	Trenchers	750	0.3775	1.5747	2.9328	0.0059	0.1091	587	0.0341
2021	2021Trenchers Composite	Trenchers Composite		0.0874	0.4226	0.4327	0.0007	0.0309	58.7	0.0079
2021	2021Welders15	Welders	15	0.0079	0.0386	0.0489	0.0001	0.0024	6.2	0.0007
2021	2021Welders25	Welders	25	0.0150	0.0487	0.0894	0.0001	0.0040	11.3	0.0014
2021	2021Welders50	Welders	50	0.0387	0.2163	0.1893	0.0003	0.0094	26.0	0.0035
2021	2021Welders120	Welders	120	0.0291	0.2492	0.2134	0.0005	0.0131	39.5	0.0026
2021	2021Welders175	Welders	175	0.0552	0.5383	0.3833	0.0011	0.0194	98.2	0.0050
2021	2021Welders250	Welders	250	0.0515	0.2269	0.3907	0.0013	0.0123	119	0.0046
2021	2021Welders500	Welders	500	0.0703	0.3086	0.4915	0.0016	0.0167	168	0.0063
2021	2021Welders Composite	Welders Composite		0.0280	0.1788	0.1635	0.0003	0.0088	25.6	0.0025
2022	2022Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2022	2022Aerial Lifts25	Aerial Lifts	25	0.0134	0.0454	0.0845	0.0001	0.0033	11.0	0.0012
2022	2022Aerial Lifts50	Aerial Lifts	50	0.0213	0.1388	0.1328	0.0003	0.0053	19.6	0.0019
2022	2022Aerial Lifts120	Aerial Lifts	120	0.0216	0.2275	0.1829	0.0004	0.0096	38.1	0.0020
2022	2022Aerial Lifts500	Aerial Lifts	500	0.0668	0.3746	0.5339	0.0021	0.0167	213	0.0060
2022	2022Aerial Lifts750	Aerial Lifts	750	0.1217	0.6772	0.9849	0.0039	0.0305	385	0.0110
2022	2022Aerial Lifts Composite	Aerial Lifts Composite		0.0222	0.1667	0.1619	0.0004	0.0071	34.7	0.0020
2022	2022Air Compressors15	Air Compressors	15	0.0090	0.0448	0.0562	0.0001	0.0026	7.2	0.0008
2022	2022Air Compressors25	Air Compressors	25	0.0189	0.0618	0.1138	0.0002	0.0049	14.4	0.0017
2022	2022Air Compressors50	Air Compressors	50	0.0326	0.1954	0.1609	0.0003	0.0073	22.3	0.0029
2022	2022Air Compressors120	Air Compressors	120	0.0346	0.3031	0.2371	0.0006	0.0139	47.0	0.0031
2022	2022Air Compressors175	Air Compressors	175	0.0508	0.4979	0.3093	0.0010	0.0161	88.5	0.0046
2022	2022Air Compressors250	Air Compressors	250	0.0595	0.2550	0.3794	0.0015	0.0124	131	0.0054
2022	2022Air Compressors500	Air Compressors	500	0.1026	0.4326	0.6095	0.0023	0.0211	232	0.0093
2022	2022Air Compressors750	Air Compressors	750	0.1590	0.6685	0.9614	0.0036	0.0330	358	0.0143
2022	2022Air Compressors1000	Air Compressors	1000	0.2330	0.9602	2.9122	0.0049	0.0651	486	0.0210
2022	2022Air Compressors Composite	Air Compressors Composite		0.0414	0.3041	0.2677	0.0007	0.0138	63.6	0.0037
2022	2022Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2022	2022Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2022	2022Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0192	0.2200	0.1680	0.0004	0.0011	31.0	0.0017
2022	2022Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0262	0.4660	0.2091	0.0009	0.0025	77.1	0.0024

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2022	2022Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0353	0.7541	0.1179	0.0016	0.0035	141	0.0032
2022	2022Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0442	0.3426	0.1180	0.0021	0.0039	188	0.0040
2022	2022Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0731	0.5511	0.1932	0.0031	0.0065	311	0.0066
2022	2022Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1444	1.0889	0.3821	0.0062	0.0128	615	0.0130
2022	2022Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2241	1.6434	3.9312	0.0093	0.0428	928	0.0202
2022	2022Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0446	0.5007	0.3059	0.0017	0.0048	165	0.0040
2022	2022Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2022	2022Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0218	0.0731	0.1359	0.0002	0.0054	17.6	0.0020
2022	2022Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0535	0.0001	0.0021	7.2	0.0008
2022	2022Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2022	2022Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0351	0.2351	0.2093	0.0004	0.0084	30.2	0.0032
2022	2022Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0448	0.4586	0.3505	0.0009	0.0188	74.1	0.0040
2022	2022Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0755	0.8662	0.5091	0.0018	0.0251	160	0.0068
2022	2022Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0411	0.3743	0.2962	0.0007	0.0148	58.5	0.0037
2022	2022Cranes50	Cranes	50	0.0439	0.2338	0.1783	0.0003	0.0094	23.2	0.0040
2022	2022Cranes120	Cranes	120	0.0459	0.3413	0.2846	0.0006	0.0182	50.1	0.0041
2022	2022Cranes175	Cranes	175	0.0559	0.4747	0.3248	0.0009	0.0174	80.3	0.0050
2022	2022Cranes250	Cranes	250	0.0632	0.2378	0.3906	0.0013	0.0135	112	0.0057
2022	2022Cranes500	Cranes	500	0.0985	0.3670	0.5626	0.0018	0.0207	180	0.0089
2022	2022Cranes750	Cranes	750	0.1661	0.6173	0.9687	0.0030	0.0352	303	0.0150
2022	2022Cranes9999	Cranes	9999	0.6059	2.0738	6.3749	0.0098	0.1504	971	0.0547
2022	2022Cranes Composite	Cranes Composite		0.0798	0.3822	0.5505	0.0014	0.0203	129	0.0072
2022	2022Crawler Tractors50	Crawler Tractors	50	0.0603	0.2677	0.1989	0.0003	0.0123	24.9	0.0054
2022	2022Crawler Tractors120	Crawler Tractors	120	0.0731	0.4586	0.4297	0.0008	0.0304	65.8	0.0066
2022	2022Crawler Tractors175	Crawler Tractors	175	0.0989	0.7284	0.5941	0.0014	0.0328	121	0.0089
2022	2022Crawler Tractors250	Crawler Tractors	250	0.1065	0.3809	0.7177	0.0019	0.0258	166	0.0096
2022	2022Crawler Tractors500	Crawler Tractors	500	0.1588	0.6271	1.0067	0.0025	0.0374	259	0.0143
2022	2022Crawler Tractors750	Crawler Tractors	750	0.2860	1.1231	1.8570	0.0047	0.0680	465	0.0258
2022	2022Crawler Tractors1000	Crawler Tractors	1000	0.4347	1.7108	4.7678	0.0066	0.1216	658	0.0392
2022	2022Crawler Tractors Composite	Crawler Tractors Composite		0.0931	0.5163	0.5746	0.0013	0.0310	114	0.0084
2022	2022Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0616	0.3936	0.3162	0.0006	0.0134	44.0	0.0056
2022	2022Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0600	0.5420	0.4035	0.0010	0.0225	83.1	0.0054
2022	2022Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0952	0.9528	0.5479	0.0019	0.0282	167	0.0086
2022	2022Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1123	0.4795	0.6546	0.0028	0.0216	245	0.0101
2022	2022Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1682	0.7020	0.9136	0.0037	0.0319	374	0.0152
2022	2022Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2652	1.1064	1.4690	0.0059	0.0505	589	0.0239
2022	2022Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6919	2.5793	7.6191	0.0131	0.1680	1,308	0.0624
2022	2022Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0820	0.6208	0.4911	0.0015	0.0234	132	0.0074
2022	2022Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2022	2022Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2022	2022Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2022	2022Excavators50	Excavators	50	0.0336	0.2402	0.1748	0.0003	0.0058	25.0	0.0030
2022	2022Excavators120	Excavators	120	0.0512	0.4958	0.3181	0.0009	0.0148	73.6	0.0046
2022	2022Excavators175	Excavators	175	0.0614	0.6636	0.2947	0.0013	0.0145	112	0.0055
2022	2022Excavators250	Excavators	250	0.0743	0.3243	0.3366	0.0018	0.0116	159	0.0067
2022	2022Excavators500	Excavators	500	0.1081	0.4540	0.4583	0.0023	0.0166	234	0.0098
2022	2022Excavators750	Excavators	750	0.1793	0.7525	0.7705	0.0039	0.0277	387	0.0162
2022	2022Excavators Composite	Excavators Composite		0.0648	0.5104	0.3171	0.0013	0.0136	120	0.0059
2022	2022Forklifts50	Forklifts	50	0.0166	0.1368	0.0992	0.0002	0.0026	14.7	0.0015
2022	2022Forklifts120	Forklifts	120	0.0194	0.2087	0.1222	0.0004	0.0046	31.2	0.0018
2022	2022Forklifts175	Forklifts	175	0.0281	0.3303	0.1276	0.0006	0.0054	56.1	0.0025
2022	2022Forklifts250	Forklifts	250	0.0331	0.1548	0.1276	0.0009	0.0039	77.1	0.0030
2022	2022Forklifts500	Forklifts	500	0.0474	0.2120	0.1726	0.0011	0.0055	111	0.0043
2022	2022Forklifts Composite	Forklifts Composite		0.0274	0.2146	0.1265	0.0006	0.0044	54.4	0.0025
2022	2022Generator Sets15	Generator Sets	15	0.0113	0.0633	0.0791	0.0002	0.0035	10.2	0.0010
2022	2022Generator Sets25	Generator Sets	25	0.0220	0.0754	0.1389	0.0002	0.0059	17.6	0.0020

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2022	2022Generator Sets50	Generator Sets	50	0.0309	0.2089	0.2052	0.0004	0.0079	30.6	0.0028
2022	2022Generator Sets120	Generator Sets	120	0.0421	0.4606	0.3697	0.0009	0.0188	77.9	0.0038
2022	2022Generator Sets175	Generator Sets	175	0.0574	0.7315	0.4635	0.0016	0.0206	142	0.0052
2022	2022Generator Sets250	Generator Sets	250	0.0654	0.3784	0.5732	0.0024	0.0167	213	0.0059
2022	2022Generator Sets500	Generator Sets	500	0.0998	0.5878	0.8334	0.0033	0.0256	337	0.0090
2022	2022Generator Sets750	Generator Sets	750	0.1627	0.9489	1.3725	0.0055	0.0419	544	0.0147
2022	2022Generator Sets9999	Generator Sets	9999	0.3853	1.9364	5.9490	0.0105	0.1195	1,049	0.0348
2022	2022Generator Sets Composite	Generator Sets Composite		0.0340	0.2694	0.2783	0.0007	0.0117	61.0	0.0031
2022	2022Graders50	Graders	50	0.0474	0.2681	0.2028	0.0004	0.0096	27.5	0.0043
2022	2022Graders120	Graders	120	0.0635	0.5051	0.3943	0.0009	0.0237	75.0	0.0057
2022	2022Graders175	Graders	175	0.0794	0.7272	0.4462	0.0014	0.0234	124	0.0072
2022	2022Graders250	Graders	250	0.0899	0.3617	0.5278	0.0019	0.0183	172	0.0081
2022	2022Graders500	Graders	500	0.1165	0.4796	0.6329	0.0023	0.0231	229	0.0105
2022	2022Graders750	Graders	750	0.2474	1.0147	1.3769	0.0049	0.0496	486	0.0223
2022	2022Graders Composite	Graders Composite		0.0807	0.5732	0.4657	0.0015	0.0218	133	0.0073
2022	2022Off-Highway Tractors120	Off-Highway Tractors	120	0.1304	0.6712	0.7522	0.0011	0.0580	93.7	0.0118
2022	2022Off-Highway Tractors175	Off-Highway Tractors	175	0.1306	0.7979	0.8376	0.0015	0.0470	130	0.0118
2022	2022Off-Highway Tractors250	Off-Highway Tractors	250	0.1032	0.3410	0.7591	0.0015	0.0294	130	0.0093
2022	2022Off-Highway Tractors750	Off-Highway Tractors	750	0.4240	1.7168	3.0614	0.0057	0.1180	568	0.0383
2022	2022Off-Highway Tractors1000	Off-Highway Tractors	1000	0.6473	2.6737	6.8441	0.0082	0.1935	814	0.0584
2022	2022Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1322	0.6320	0.9188	0.0017	0.0424	151	0.0119
2022	2022Off-Highway Trucks175	Off-Highway Trucks	175	0.0734	0.7537	0.3503	0.0014	0.0176	125	0.0066
2022	2022Off-Highway Trucks250	Off-Highway Trucks	250	0.0836	0.3474	0.3804	0.0019	0.0132	167	0.0075
2022	2022Off-Highway Trucks500	Off-Highway Trucks	500	0.1348	0.5379	0.5724	0.0027	0.0209	272	0.0122
2022	2022Off-Highway Trucks750	Off-Highway Trucks	750	0.2189	0.8725	0.9428	0.0044	0.0342	442	0.0198
2022	2022Off-Highway Trucks1000	Off-Highway Trucks	1000	0.3246	1.2658	3.5349	0.0063	0.0734	625	0.0293
2022	2022Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1303	0.5447	0.6574	0.0027	0.0216	260	0.0118
2022	2022Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2022	2022Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2022	2022Other Construction Equipment50	Other Construction Equipment	50	0.0284	0.2225	0.1835	0.0004	0.0056	28.0	0.0026
2022	2022Other Construction Equipment120	Other Construction Equipment	120	0.0440	0.5061	0.3277	0.0009	0.0144	80.9	0.0040
2022	2022Other Construction Equipment175	Other Construction Equipment	175	0.0460	0.5858	0.2580	0.0012	0.0122	107	0.0041
2022	2022Other Construction Equipment500	Other Construction Equipment	500	0.0913	0.4635	0.4587	0.0025	0.0159	254	0.0082
2022	2022Other Construction Equipment Composite	Other Construction Equipment Composite		0.0507	0.3488	0.2785	0.0013	0.0106	123	0.0046
2022	2022Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2022	2022Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2022	2022Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0360	0.2140	0.1625	0.0003	0.0074	21.7	0.0032
2022	2022Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0516	0.4198	0.3199	0.0007	0.0189	62.0	0.0047
2022	2022Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0623	0.5661	0.3419	0.0011	0.0179	95.9	0.0056
2022	2022Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0701	0.2762	0.3977	0.0015	0.0130	136	0.0063
2022	2022Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1344	0.5141	0.7082	0.0026	0.0247	265	0.0121
2022	2022Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.2221	0.8474	1.1914	0.0044	0.0411	437	0.0200
2022	2022Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.3060	1.1450	3.4169	0.0056	0.0781	560	0.0276
2022	2022Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0867	0.4464	0.5301	0.0016	0.0199	152	0.0078
2022	2022Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0496	0.2950	0.2260	0.0004	0.0103	30.3	0.0045
2022	2022Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0499	0.4085	0.3124	0.0007	0.0185	60.7	0.0045
2022	2022Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0785	0.7167	0.4349	0.0014	0.0228	122	0.0071
2022	2022Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0741	0.2939	0.4252	0.0016	0.0139	145	0.0067
2022	2022Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0959	0.3697	0.5110	0.0019	0.0178	192	0.0087
2022	2022Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.4384	1.5111	4.5177	0.0073	0.1032	741	0.0396
2022	2022Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0813	0.4378	0.5158	0.0015	0.0191	141	0.0073
2022	2022Pavers25	Pavers	25	0.0225	0.0768	0.1424	0.0002	0.0054	18.7	0.0020
2022	2022Pavers50	Pavers	50	0.0718	0.2941	0.2269	0.0004	0.0154	28.0	0.0065
2022	2022Pavers120	Pavers	120	0.0802	0.4756	0.4824	0.0008	0.0357	69.2	0.0072
2022	2022Pavers175	Pavers	175	0.1081	0.7573	0.6894	0.0014	0.0385	128	0.0098
2022	2022Pavers250	Pavers	250	0.1271	0.4502	0.9303	0.0022	0.0337	194	0.0115

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2022	2022Pavers500	Pavers	500	0.1447	0.5863	1.0011	0.0023	0.0374	233	0.0131
2022	2022Pavers Composite	Pavers Composite		0.0870	0.4840	0.4750	0.0009	0.0296	77.9	0.0078
2022	2022Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2022	2022Paving Equipment50	Paving Equipment	50	0.0598	0.2475	0.1933	0.0003	0.0130	23.9	0.0054
2022	2022Paving Equipment120	Paving Equipment	120	0.0619	0.3722	0.3757	0.0006	0.0279	54.5	0.0056
2022	2022Paving Equipment175	Paving Equipment	175	0.0834	0.5924	0.5361	0.0011	0.0299	101	0.0075
2022	2022Paving Equipment250	Paving Equipment	250	0.0779	0.2771	0.5769	0.0014	0.0206	122	0.0070
2022	2022Paving Equipment Composite	Paving Equipment Composite		0.0666	0.4042	0.4137	0.0008	0.0261	68.9	0.0060
2022	2022Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2022	2022Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2022	2022Pressure Washers15	Pressure Washers	15	0.0054	0.0303	0.0379	0.0001	0.0017	4.9	0.0005
2022	2022Pressure Washers25	Pressure Washers	25	0.0089	0.0306	0.0563	0.0001	0.0024	7.1	0.0008
2022	2022Pressure Washers50	Pressure Washers	50	0.0103	0.0831	0.0920	0.0002	0.0030	14.3	0.0009
2022	2022Pressure Washers120	Pressure Washers	120	0.0104	0.1358	0.1094	0.0003	0.0049	24.1	0.0009
2022	2022Pressure Washers Composite	Pressure Washers Composite		0.0075	0.0539	0.0606	0.0001	0.0024	9.4	0.0007
2022	2022Pumps15	Pumps	15	0.0093	0.0460	0.0577	0.0001	0.0027	7.4	0.0008
2022	2022Pumps25	Pumps	25	0.0255	0.0834	0.1535	0.0002	0.0067	19.5	0.0023
2022	2022Pumps50	Pumps	50	0.0380	0.2459	0.2331	0.0004	0.0094	34.3	0.0034
2022	2022Pumps120	Pumps	120	0.0449	0.4676	0.3749	0.0009	0.0199	77.9	0.0040
2022	2022Pumps175	Pumps	175	0.0608	0.7328	0.4650	0.0016	0.0214	140	0.0055
2022	2022Pumps250	Pumps	250	0.0668	0.3640	0.5526	0.0023	0.0165	201	0.0060
2022	2022Pumps500	Pumps	500	0.1105	0.6094	0.8662	0.0034	0.0274	345	0.0100
2022	2022Pumps750	Pumps	750	0.1841	1.0074	1.4611	0.0057	0.0458	571	0.0166
2022	2022Pumps9999	Pumps	9999	0.5293	2.5333	7.7698	0.0136	0.1590	1,355	0.0478
2022	2022Pumps Composite	Pumps Composite		0.0322	0.2640	0.2467	0.0006	0.0114	49.6	0.0029
2022	2022Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2022	2022Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2022	2022Rollers50	Rollers	50	0.0444	0.2347	0.1923	0.0003	0.0101	26.0	0.0040
2022	2022Rollers120	Rollers	120	0.0486	0.3836	0.3270	0.0007	0.0207	59.0	0.0044
2022	2022Rollers175	Rollers	175	0.0669	0.6103	0.4265	0.0012	0.0225	108	0.0060
2022	2022Rollers250	Rollers	250	0.0760	0.3121	0.5217	0.0017	0.0180	153	0.0069
2022	2022Rollers500	Rollers	500	0.1052	0.4391	0.6689	0.0022	0.0243	219	0.0095
2022	2022Rollers Composite	Rollers Composite		0.0500	0.3799	0.3198	0.0008	0.0181	67.0	0.0045
2022	2022Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0447	0.3102	0.2394	0.0004	0.0088	33.9	0.0040
2022	2022Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0433	0.4122	0.2827	0.0007	0.0144	62.4	0.0039
2022	2022Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0689	0.7228	0.3608	0.0014	0.0184	125	0.0062
2022	2022Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0786	0.3401	0.4010	0.0019	0.0137	171	0.0071
2022	2022Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1164	0.4879	0.5561	0.0025	0.0200	257	0.0105
2022	2022Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0467	0.4445	0.2924	0.0008	0.0148	70.3	0.0042
2022	2022Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1359	0.8073	0.8630	0.0015	0.0485	129	0.0123
2022	2022Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1536	0.4976	1.1128	0.0021	0.0437	183	0.0139
2022	2022Rubber Tired Dozers500	Rubber Tired Dozers	500	0.2081	0.8431	1.4541	0.0026	0.0573	265	0.0188
2022	2022Rubber Tired Dozers750	Rubber Tired Dozers	750	0.3144	1.2669	2.2402	0.0040	0.0873	399	0.0284
2022	2022Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4949	2.0395	5.1053	0.0060	0.1466	592	0.0447
2022	2022Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1919	0.7353	1.3612	0.0025	0.0536	239	0.0173
2022	2022Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2022	2022Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0515	0.2990	0.2280	0.0004	0.0105	31.1	0.0046
2022	2022Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0482	0.3946	0.3036	0.0007	0.0178	58.9	0.0043
2022	2022Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0662	0.6207	0.3719	0.0012	0.0194	106	0.0060
2022	2022Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0763	0.3102	0.4423	0.0017	0.0154	149	0.0069
2022	2022Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1181	0.4837	0.6348	0.0023	0.0232	237	0.0107
2022	2022Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2426	0.9905	1.3313	0.0049	0.0481	486	0.0219
2022	2022Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.3127	1.2515	3.6383	0.0060	0.0813	594	0.0282
2022	2022Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0661	0.4359	0.3849	0.0012	0.0181	109	0.0060
2022	2022Scrapers120	Scrapers	120	0.1071	0.6549	0.6300	0.0011	0.0454	93.9	0.0097
2022	2022Scrapers175	Scrapers	175	0.1235	0.8895	0.7529	0.0017	0.0417	148	0.0111

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2022	2022Scrapers250	Scrapers	250	0.1369	0.4844	0.9425	0.0024	0.0340	209	0.0123
2022	2022Scrapers500	Scrapers	500	0.2003	0.7920	1.2973	0.0032	0.0483	321	0.0181
2022	2022Scrapers750	Scrapers	750	0.3476	1.3669	2.3064	0.0056	0.0848	555	0.0314
2022	2022Scrapers Composite	Scrapers Composite		0.1724	0.7579	1.1177	0.0027	0.0447	262	0.0156
2022	2022Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2022	2022Signal Boards50	Signal Boards	50	0.0417	0.2755	0.2471	0.0005	0.0098	36.2	0.0038
2022	2022Signal Boards120	Signal Boards	120	0.0477	0.4918	0.3767	0.0009	0.0200	80.2	0.0043
2022	2022Signal Boards175	Signal Boards	175	0.0707	0.8279	0.4898	0.0017	0.0235	155	0.0064
2022	2022Signal Boards250	Signal Boards	250	0.0919	0.4710	0.6627	0.0029	0.0206	255	0.0083
2022	2022Signal Boards Composite	Signal Boards Composite		0.0121	0.0910	0.0818	0.0002	0.0036	16.7	0.0011
2022	2022Skid Steer Loaders25	Skid Steer Loaders	25	0.0168	0.0570	0.1062	0.0002	0.0042	13.8	0.0015
2022	2022Skid Steer Loaders50	Skid Steer Loaders	50	0.0211	0.1991	0.1551	0.0003	0.0029	25.5	0.0019
2022	2022Skid Steer Loaders120	Skid Steer Loaders	120	0.0197	0.2669	0.1446	0.0005	0.0043	42.8	0.0018
2022	2022Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0204	0.2114	0.1485	0.0004	0.0034	30.3	0.0018
2022	2022Surfacing Equipment50	Surfacing Equipment	50	0.0221	0.1150	0.1008	0.0002	0.0051	14.1	0.0020
2022	2022Surfacing Equipment120	Surfacing Equipment	120	0.0484	0.3991	0.3507	0.0007	0.0215	63.8	0.0044
2022	2022Surfacing Equipment175	Surfacing Equipment	175	0.0474	0.4653	0.3377	0.0010	0.0169	85.8	0.0043
2022	2022Surfacing Equipment250	Surfacing Equipment	250	0.0585	0.2682	0.4607	0.0015	0.0154	135	0.0053
2022	2022Surfacing Equipment500	Surfacing Equipment	500	0.0915	0.4491	0.6786	0.0022	0.0236	221	0.0083
2022	2022Surfacing Equipment750	Surfacing Equipment	750	0.1447	0.7042	1.0950	0.0035	0.0376	347	0.0131
2022	2022Surfacing Equipment Composite	Surfacing Equipment Composite		0.0739	0.3778	0.5368	0.0017	0.0195	166	0.0067
2022	2022Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2022	2022Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2022	2022Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0362	0.2815	0.2173	0.0004	0.0067	31.6	0.0033
2022	2022Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0475	0.4919	0.3133	0.0009	0.0141	75.0	0.0043
2022	2022Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0716	0.8013	0.3643	0.0016	0.0169	139	0.0065
2022	2022Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0696	0.3182	0.3224	0.0018	0.0101	162	0.0063
2022	2022Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0498	0.4867	0.2947	0.0009	0.0124	78.5	0.0045
2022	2022Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2022	2022Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0354	0.2713	0.2045	0.0004	0.0062	30.3	0.0032
2022	2022Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0320	0.3388	0.2113	0.0006	0.0090	51.7	0.0029
2022	2022Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0499	0.5840	0.2431	0.0011	0.0116	101	0.0045
2022	2022Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0728	0.3417	0.3287	0.0019	0.0113	172	0.0066
2022	2022Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1447	0.6562	0.6144	0.0039	0.0221	345	0.0131
2022	2022Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.2170	0.9841	0.9320	0.0058	0.0334	517	0.0196
2022	2022Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0384	0.3599	0.2302	0.0008	0.0095	66.8	0.0035
2022	2022Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2022	2022Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2022	2022Trenchers50	Trenchers	50	0.0856	0.3361	0.2658	0.0004	0.0185	32.9	0.0077
2022	2022Trenchers120	Trenchers	120	0.0751	0.4397	0.4624	0.0008	0.0344	64.9	0.0068
2022	2022Trenchers175	Trenchers	175	0.1201	0.8361	0.7981	0.0016	0.0442	144	0.0108
2022	2022Trenchers250	Trenchers	250	0.1441	0.5202	1.1070	0.0025	0.0407	223	0.0130
2022	2022Trenchers500	Trenchers	500	0.1899	0.8063	1.3903	0.0031	0.0523	311	0.0171
2022	2022Trenchers750	Trenchers	750	0.3599	1.5183	2.6930	0.0059	0.0999	587	0.0325
2022	2022Trenchers Composite	Trenchers Composite		0.0819	0.4186	0.4094	0.0007	0.0284	58.7	0.0074
2022	2022Welders15	Welders	15	0.0078	0.0385	0.0483	0.0001	0.0022	6.2	0.0007
2022	2022Welders25	Welders	25	0.0147	0.0483	0.0889	0.0001	0.0039	11.3	0.0013
2022	2022Welders50	Welders	50	0.0354	0.2134	0.1836	0.0003	0.0082	26.0	0.0032
2022	2022Welders120	Welders	120	0.0270	0.2486	0.1970	0.0005	0.0114	39.5	0.0024
2022	2022Welders175	Welders	175	0.0517	0.5385	0.3390	0.0011	0.0171	98.2	0.0047
2022	2022Welders250	Welders	250	0.0489	0.2256	0.3404	0.0013	0.0108	119	0.0044
2022	2022Welders500	Welders	500	0.0671	0.3068	0.4355	0.0016	0.0147	168	0.0061
2022	2022Welders Composite	Welders Composite		0.0260	0.1773	0.1557	0.0003	0.0078	25.6	0.0023
2023	2023Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2023	2023Aerial Lifts25	Aerial Lifts	25	0.0133	0.0452	0.0842	0.0001	0.0033	11.0	0.0012
2023	2023Aerial Lifts50	Aerial Lifts	50	0.0196	0.1373	0.1289	0.0003	0.0046	19.6	0.0018

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2023	2023Aerial Lifts120	Aerial Lifts	120	0.0201	0.2271	0.1697	0.0004	0.0084	38.1	0.0018
2023	2023Aerial Lifts500	Aerial Lifts	500	0.0637	0.3732	0.4746	0.0021	0.0146	213	0.0058
2023	2023Aerial Lifts750	Aerial Lifts	750	0.1160	0.6746	0.8754	0.0039	0.0268	385	0.0105
2023	2023Aerial Lifts Composite	Aerial Lifts Composite		0.0208	0.1658	0.1525	0.0004	0.0062	34.7	0.0019
2023	2023Air Compressors15	Air Compressors	15	0.0089	0.0446	0.0555	0.0001	0.0025	7.2	0.0008
2023	2023Air Compressors25	Air Compressors	25	0.0186	0.0613	0.1132	0.0002	0.0048	14.4	0.0017
2023	2023Air Compressors50	Air Compressors	50	0.0301	0.1936	0.1563	0.0003	0.0063	22.3	0.0027
2023	2023Air Compressors120	Air Compressors	120	0.0325	0.3027	0.2194	0.0006	0.0121	47.0	0.0029
2023	2023Air Compressors175	Air Compressors	175	0.0478	0.4985	0.2761	0.0010	0.0141	88.5	0.0043
2023	2023Air Compressors250	Air Compressors	250	0.0567	0.2542	0.3336	0.0015	0.0108	131	0.0051
2023	2023Air Compressors500	Air Compressors	500	0.0981	0.4312	0.5407	0.0023	0.0184	232	0.0089
2023	2023Air Compressors750	Air Compressors	750	0.1520	0.6663	0.8527	0.0036	0.0288	358	0.0137
2023	2023Air Compressors1000	Air Compressors	1000	0.2215	0.9472	2.7762	0.0049	0.0592	486	0.0200
2023	2023Air Compressors Composite	Air Compressors Composite		0.0390	0.3035	0.2459	0.0007	0.0119	63.6	0.0035
2023	2023Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2023	2023Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2023	2023Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0191	0.2200	0.1672	0.0004	0.0010	31.0	0.0017
2023	2023Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0256	0.4660	0.2018	0.0009	0.0023	77.1	0.0023
2023	2023Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0337	0.7541	0.0966	0.0016	0.0033	141	0.0030
2023	2023Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0432	0.3426	0.1058	0.0021	0.0038	188	0.0039
2023	2023Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0716	0.5512	0.1739	0.0031	0.0062	311	0.0065
2023	2023Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1414	1.0890	0.3438	0.0062	0.0123	615	0.0128
2023	2023Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2174	1.6434	3.9139	0.0093	0.0395	928	0.0196
2023	2023Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0436	0.5007	0.2949	0.0017	0.0045	165	0.0039
2023	2023Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2023	2023Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0216	0.0728	0.1354	0.0002	0.0053	17.6	0.0019
2023	2023Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2023	2023Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2023	2023Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0322	0.2324	0.2028	0.0004	0.0072	30.2	0.0029
2023	2023Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0418	0.4576	0.3234	0.0009	0.0162	74.1	0.0038
2023	2023Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0707	0.8662	0.4509	0.0018	0.0219	160	0.0064
2023	2023Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0382	0.3728	0.2767	0.0007	0.0127	58.5	0.0034
2023	2023Cranes50	Cranes	50	0.0402	0.2305	0.1733	0.0003	0.0082	23.2	0.0036
2023	2023Cranes120	Cranes	120	0.0426	0.3401	0.2642	0.0006	0.0158	50.1	0.0038
2023	2023Cranes175	Cranes	175	0.0522	0.4746	0.2894	0.0009	0.0153	80.3	0.0047
2023	2023Cranes250	Cranes	250	0.0600	0.2354	0.3458	0.0013	0.0120	112	0.0054
2023	2023Cranes500	Cranes	500	0.0940	0.3610	0.5013	0.0018	0.0185	180	0.0085
2023	2023Cranes750	Cranes	750	0.1583	0.6073	0.8613	0.0030	0.0314	303	0.0143
2023	2023Cranes9999	Cranes	9999	0.5757	2.0307	6.0792	0.0098	0.1373	971	0.0519
2023	2023Cranes Composite	Cranes Composite		0.0754	0.3786	0.5028	0.0014	0.0181	129	0.0068
2023	2023Crawler Tractors50	Crawler Tractors	50	0.0560	0.2636	0.1936	0.0003	0.0111	24.9	0.0051
2023	2023Crawler Tractors120	Crawler Tractors	120	0.0687	0.4568	0.4030	0.0008	0.0274	65.8	0.0062
2023	2023Crawler Tractors175	Crawler Tractors	175	0.0929	0.7277	0.5402	0.0014	0.0297	121	0.0084
2023	2023Crawler Tractors250	Crawler Tractors	250	0.1013	0.3749	0.6513	0.0019	0.0233	166	0.0091
2023	2023Crawler Tractors500	Crawler Tractors	500	0.1515	0.6117	0.9142	0.0025	0.0339	259	0.0137
2023	2023Crawler Tractors750	Crawler Tractors	750	0.2728	1.0957	1.6867	0.0047	0.0617	465	0.0246
2023	2023Crawler Tractors1000	Crawler Tractors	1000	0.4130	1.6547	4.5686	0.0066	0.1123	658	0.0373
2023	2023Crawler Tractors Composite	Crawler Tractors Composite		0.0879	0.5125	0.5291	0.0013	0.0280	114	0.0079
2023	2023Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0573	0.3903	0.3069	0.0006	0.0114	44.0	0.0052
2023	2023Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0564	0.5413	0.3734	0.0010	0.0193	83.1	0.0051
2023	2023Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0897	0.9538	0.4869	0.0019	0.0245	167	0.0081
2023	2023Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1068	0.4783	0.5727	0.0028	0.0186	245	0.0096
2023	2023Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1605	0.7002	0.8070	0.0037	0.0276	374	0.0145
2023	2023Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2534	1.1039	1.2978	0.0059	0.0437	589	0.0229
2023	2023Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6617	2.5491	7.2745	0.0131	0.1522	1,308	0.0597
2023	2023Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0773	0.6199	0.4479	0.0015	0.0201	132	0.0070

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2023	2023Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2023	2023Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2023	2023Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2023	2023Excavators50	Excavators	50	0.0320	0.2387	0.1699	0.0003	0.0049	25.0	0.0029
2023	2023Excavators120	Excavators	120	0.0487	0.4952	0.2967	0.0009	0.0126	73.6	0.0044
2023	2023Excavators175	Excavators	175	0.0578	0.6636	0.2573	0.0013	0.0125	112	0.0052
2023	2023Excavators250	Excavators	250	0.0707	0.3230	0.2915	0.0018	0.0100	159	0.0064
2023	2023Excavators500	Excavators	500	0.1031	0.4522	0.4014	0.0023	0.0144	234	0.0093
2023	2023Excavators750	Excavators	750	0.1710	0.7495	0.6744	0.0039	0.0240	387	0.0154
2023	2023Excavators Composite	Excavators Composite		0.0615	0.5097	0.2821	0.0013	0.0117	120	0.0055
2023	2023Forklifts50	Forklifts	50	0.0159	0.1363	0.0954	0.0002	0.0020	14.7	0.0014
2023	2023Forklifts120	Forklifts	120	0.0183	0.2086	0.1134	0.0004	0.0035	31.2	0.0017
2023	2023Forklifts175	Forklifts	175	0.0260	0.3305	0.1074	0.0006	0.0040	56.1	0.0023
2023	2023Forklifts250	Forklifts	250	0.0315	0.1549	0.1069	0.0009	0.0033	77.1	0.0028
2023	2023Forklifts500	Forklifts	500	0.0451	0.2120	0.1455	0.0011	0.0047	111	0.0041
2023	2023Forklifts Composite	Forklifts Composite		0.0259	0.2146	0.1108	0.0006	0.0035	54.4	0.0023
2023	2023Generator Sets15	Generator Sets	15	0.0111	0.0631	0.0782	0.0002	0.0034	10.2	0.0010
2023	2023Generator Sets25	Generator Sets	25	0.0218	0.0748	0.1381	0.0002	0.0057	17.6	0.0020
2023	2023Generator Sets50	Generator Sets	50	0.0284	0.2068	0.1992	0.0004	0.0068	30.6	0.0026
2023	2023Generator Sets120	Generator Sets	120	0.0390	0.4597	0.3429	0.0009	0.0164	77.9	0.0035
2023	2023Generator Sets175	Generator Sets	175	0.0536	0.7319	0.4144	0.0016	0.0181	142	0.0048
2023	2023Generator Sets250	Generator Sets	250	0.0620	0.3769	0.5050	0.0024	0.0146	213	0.0056
2023	2023Generator Sets500	Generator Sets	500	0.0951	0.5855	0.7401	0.0033	0.0225	337	0.0086
2023	2023Generator Sets750	Generator Sets	750	0.1548	0.9452	1.2186	0.0055	0.0367	544	0.0140
2023	2023Generator Sets9999	Generator Sets	9999	0.3628	1.9093	5.6803	0.0105	0.1086	1,049	0.0327
2023	2023Generator Sets Composite	Generator Sets Composite		0.0321	0.2683	0.2612	0.0007	0.0103	61.0	0.0029
2023	2023Graders50	Graders	50	0.0438	0.2649	0.1973	0.0004	0.0083	27.5	0.0040
2023	2023Graders120	Graders	120	0.0592	0.5035	0.3674	0.0009	0.0205	75.0	0.0053
2023	2023Graders175	Graders	175	0.0740	0.7268	0.3960	0.0014	0.0205	124	0.0067
2023	2023Graders250	Graders	250	0.0856	0.3591	0.4670	0.0019	0.0163	172	0.0077
2023	2023Graders500	Graders	500	0.1113	0.4726	0.5631	0.0023	0.0207	229	0.0100
2023	2023Graders750	Graders	750	0.2361	0.9999	1.2212	0.0049	0.0443	486	0.0213
2023	2023Graders Composite	Graders Composite		0.0758	0.5718	0.4156	0.0015	0.0191	133	0.0068
2023	2023Off-Highway Tractors120	Off-Highway Tractors	120	0.1235	0.6678	0.7110	0.0011	0.0536	93.7	0.0111
2023	2023Off-Highway Tractors175	Off-Highway Tractors	175	0.1237	0.7961	0.7762	0.0015	0.0435	130	0.0112
2023	2023Off-Highway Tractors250	Off-Highway Tractors	250	0.0980	0.3323	0.7020	0.0015	0.0269	130	0.0088
2023	2023Off-Highway Tractors750	Off-Highway Tractors	750	0.4042	1.6484	2.8322	0.0057	0.1085	568	0.0365
2023	2023Off-Highway Tractors1000	Off-Highway Tractors	1000	0.6171	2.5586	6.5771	0.0082	0.1808	814	0.0557
2023	2023Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1255	0.6238	0.8516	0.0017	0.0391	151	0.0113
2023	2023Off-Highway Trucks175	Off-Highway Trucks	175	0.0692	0.7536	0.3068	0.0014	0.0152	125	0.0062
2023	2023Off-Highway Trucks250	Off-Highway Trucks	250	0.0796	0.3458	0.3302	0.0019	0.0114	167	0.0072
2023	2023Off-Highway Trucks500	Off-Highway Trucks	500	0.1287	0.5355	0.5023	0.0027	0.0182	272	0.0116
2023	2023Off-Highway Trucks750	Off-Highway Trucks	750	0.2090	0.8685	0.8270	0.0044	0.0297	442	0.0189
2023	2023Off-Highway Trucks1000	Off-Highway Trucks	1000	0.3089	1.2561	3.3947	0.0063	0.0663	625	0.0279
2023	2023Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1243	0.5422	0.5881	0.0027	0.0188	260	0.0112
2023	2023Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2023	2023Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2023	2023Other Construction Equipment50	Other Construction Equipment	50	0.0267	0.2209	0.1783	0.0004	0.0047	28.0	0.0024
2023	2023Other Construction Equipment120	Other Construction Equipment	120	0.0416	0.5054	0.3051	0.0009	0.0122	80.9	0.0038
2023	2023Other Construction Equipment175	Other Construction Equipment	175	0.0432	0.5857	0.2259	0.0012	0.0105	107	0.0039
2023	2023Other Construction Equipment500	Other Construction Equipment	500	0.0869	0.4622	0.4007	0.0025	0.0137	254	0.0078
2023	2023Other Construction Equipment Composite	Other Construction Equipment Composite		0.0483	0.3482	0.2497	0.0013	0.0092	123	0.0044
2023	2023Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2023	2023Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2023	2023Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0336	0.2124	0.1578	0.0003	0.0063	21.7	0.0030
2023	2023Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0486	0.4194	0.2962	0.0007	0.0164	62.0	0.0044

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2023	2023Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0585	0.5669	0.3049	0.0011	0.0156	95.9	0.0053
2023	2023Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0668	0.2755	0.3496	0.0015	0.0113	136	0.0060
2023	2023Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1284	0.5127	0.6281	0.0026	0.0215	265	0.0116
2023	2023Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.2122	0.8450	1.0564	0.0044	0.0358	437	0.0191
2023	2023Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2905	1.1303	3.2598	0.0056	0.0709	560	0.0262
2023	2023Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0824	0.4454	0.4807	0.0016	0.0174	152	0.0074
2023	2023Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0463	0.2927	0.2194	0.0004	0.0088	30.3	0.0042
2023	2023Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0470	0.4081	0.2892	0.0007	0.0160	60.7	0.0042
2023	2023Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0738	0.7178	0.3878	0.0014	0.0199	122	0.0067
2023	2023Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0706	0.2931	0.3737	0.0016	0.0121	145	0.0064
2023	2023Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0916	0.3687	0.4532	0.0019	0.0155	192	0.0083
2023	2023Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.4172	1.4917	4.3096	0.0073	0.0937	741	0.0376
2023	2023Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0771	0.4369	0.4671	0.0015	0.0167	141	0.0070
2023	2023Pavers25	Pavers	25	0.0225	0.0768	0.1423	0.0002	0.0054	18.7	0.0020
2023	2023Pavers50	Pavers	50	0.0666	0.2890	0.2210	0.0004	0.0140	28.0	0.0060
2023	2023Pavers120	Pavers	120	0.0753	0.4735	0.4531	0.0008	0.0323	69.2	0.0068
2023	2023Pavers175	Pavers	175	0.1017	0.7562	0.6305	0.0014	0.0350	128	0.0092
2023	2023Pavers250	Pavers	250	0.1208	0.4419	0.8488	0.0022	0.0307	194	0.0109
2023	2023Pavers500	Pavers	500	0.1380	0.5680	0.9135	0.0023	0.0341	233	0.0125
2023	2023Pavers Composite	Pavers Composite		0.0815	0.4805	0.4432	0.0009	0.0269	77.9	0.0074
2023	2023Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2023	2023Paving Equipment50	Paving Equipment	50	0.0551	0.2431	0.1882	0.0003	0.0118	23.9	0.0050
2023	2023Paving Equipment120	Paving Equipment	120	0.0578	0.3703	0.3520	0.0006	0.0251	54.5	0.0052
2023	2023Paving Equipment175	Paving Equipment	175	0.0782	0.5915	0.4884	0.0011	0.0271	101	0.0071
2023	2023Paving Equipment250	Paving Equipment	250	0.0741	0.2724	0.5241	0.0014	0.0187	122	0.0067
2023	2023Paving Equipment Composite	Paving Equipment Composite		0.0624	0.4024	0.3832	0.0008	0.0236	68.9	0.0056
2023	2023Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2023	2023Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2023	2023Pressure Washers15	Pressure Washers	15	0.0053	0.0302	0.0375	0.0001	0.0016	4.9	0.0005
2023	2023Pressure Washers25	Pressure Washers	25	0.0088	0.0303	0.0560	0.0001	0.0023	7.1	0.0008
2023	2023Pressure Washers50	Pressure Washers	50	0.0093	0.0823	0.0893	0.0002	0.0026	14.3	0.0008
2023	2023Pressure Washers120	Pressure Washers	120	0.0096	0.1355	0.1015	0.0003	0.0042	24.1	0.0009
2023	2023Pressure Washers Composite	Pressure Washers Composite		0.0072	0.0536	0.0589	0.0001	0.0022	9.4	0.0006
2023	2023Pumps15	Pumps	15	0.0091	0.0459	0.0571	0.0001	0.0026	7.4	0.0008
2023	2023Pumps25	Pumps	25	0.0251	0.0827	0.1527	0.0002	0.0064	19.5	0.0023
2023	2023Pumps50	Pumps	50	0.0350	0.2434	0.2263	0.0004	0.0081	34.3	0.0032
2023	2023Pumps120	Pumps	120	0.0417	0.4668	0.3476	0.0009	0.0174	77.9	0.0038
2023	2023Pumps175	Pumps	175	0.0569	0.7333	0.4157	0.0016	0.0189	140	0.0051
2023	2023Pumps250	Pumps	250	0.0635	0.3626	0.4870	0.0023	0.0145	201	0.0057
2023	2023Pumps500	Pumps	500	0.1054	0.6070	0.7693	0.0034	0.0240	345	0.0095
2023	2023Pumps750	Pumps	750	0.1755	1.0035	1.2976	0.0057	0.0401	571	0.0158
2023	2023Pumps9999	Pumps	9999	0.5003	2.4976	7.4174	0.0136	0.1447	1,355	0.0451
2023	2023Pumps Composite	Pumps Composite		0.0302	0.2631	0.2319	0.0006	0.0101	49.6	0.0027
2023	2023Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2023	2023Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2023	2023Rollers50	Rollers	50	0.0404	0.2311	0.1870	0.0003	0.0088	26.0	0.0036
2023	2023Rollers120	Rollers	120	0.0449	0.3822	0.3039	0.0007	0.0180	59.0	0.0041
2023	2023Rollers175	Rollers	175	0.0625	0.6100	0.3806	0.0012	0.0199	108	0.0056
2023	2023Rollers250	Rollers	250	0.0723	0.3089	0.4627	0.0017	0.0161	153	0.0065
2023	2023Rollers500	Rollers	500	0.1005	0.4310	0.5973	0.0022	0.0219	219	0.0091
2023	2023Rollers Composite	Rollers Composite		0.0465	0.3784	0.2939	0.0008	0.0159	67.0	0.0042
2023	2023Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0420	0.3076	0.2321	0.0004	0.0074	33.9	0.0038
2023	2023Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0408	0.4115	0.2618	0.0007	0.0122	62.4	0.0037
2023	2023Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0645	0.7228	0.3175	0.0014	0.0158	125	0.0058
2023	2023Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0744	0.3388	0.3483	0.0019	0.0117	171	0.0067
2023	2023Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1103	0.4861	0.4872	0.0025	0.0172	257	0.0100

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2023	2023Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0439	0.4439	0.2688	0.0008	0.0125	70.3	0.0040
2023	2023Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1290	0.8053	0.8018	0.0015	0.0450	129	0.0116
2023	2023Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1461	0.4845	1.0318	0.0021	0.0402	183	0.0132
2023	2023Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1986	0.8077	1.3478	0.0026	0.0528	265	0.0179
2023	2023Rubber Tired Dozers750	Rubber Tired Dozers	750	0.3001	1.2140	2.0778	0.0040	0.0805	399	0.0271
2023	2023Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4726	1.9494	4.9100	0.0060	0.1372	592	0.0426
2023	2023Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1830	0.7078	1.2624	0.0025	0.0494	239	0.0165
2023	2023Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2023	2023Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0475	0.2955	0.2217	0.0004	0.0091	31.1	0.0043
2023	2023Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0449	0.3934	0.2826	0.0007	0.0154	58.9	0.0040
2023	2023Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0618	0.6203	0.3296	0.0012	0.0169	106	0.0056
2023	2023Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0725	0.3079	0.3901	0.0017	0.0136	149	0.0065
2023	2023Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1127	0.4766	0.5638	0.0023	0.0207	237	0.0102
2023	2023Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2313	0.9758	1.1789	0.0049	0.0428	486	0.0209
2023	2023Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2970	1.2278	3.4839	0.0060	0.0740	594	0.0268
2023	2023Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0622	0.4340	0.3467	0.0012	0.0158	109	0.0056
2023	2023Scrapers120	Scrapers	120	0.1005	0.6522	0.5911	0.0011	0.0410	93.9	0.0091
2023	2023Scrapers175	Scrapers	175	0.1160	0.8884	0.6857	0.0017	0.0378	148	0.0105
2023	2023Scrapers250	Scrapers	250	0.1302	0.4766	0.8568	0.0024	0.0308	209	0.0117
2023	2023Scrapers500	Scrapers	500	0.1912	0.7700	1.1799	0.0032	0.0440	321	0.0173
2023	2023Scrapers750	Scrapers	750	0.3318	1.3291	2.0977	0.0056	0.0772	555	0.0299
2023	2023Scrapers Composite	Scrapers Composite		0.1641	0.7432	1.0171	0.0027	0.0406	262	0.0148
2023	2023Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2023	2023Signal Boards50	Signal Boards	50	0.0384	0.2727	0.2399	0.0005	0.0084	36.2	0.0035
2023	2023Signal Boards120	Signal Boards	120	0.0445	0.4910	0.3489	0.0009	0.0173	80.2	0.0040
2023	2023Signal Boards175	Signal Boards	175	0.0664	0.8282	0.4356	0.0017	0.0205	155	0.0060
2023	2023Signal Boards250	Signal Boards	250	0.0875	0.4696	0.5809	0.0029	0.0179	255	0.0079
2023	2023Signal Boards Composite	Signal Boards Composite		0.0117	0.0909	0.0780	0.0002	0.0033	16.7	0.0011
2023	2023Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0569	0.1059	0.0002	0.0041	13.8	0.0015
2023	2023Skid Steer Loaders50	Skid Steer Loaders	50	0.0204	0.1985	0.1509	0.0003	0.0024	25.5	0.0018
2023	2023Skid Steer Loaders120	Skid Steer Loaders	120	0.0188	0.2667	0.1364	0.0005	0.0034	42.8	0.0017
2023	2023Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0196	0.2110	0.1433	0.0004	0.0028	30.3	0.0018
2023	2023Surfacing Equipment50	Surfacing Equipment	50	0.0202	0.1133	0.0981	0.0002	0.0045	14.1	0.0018
2023	2023Surfacing Equipment120	Surfacing Equipment	120	0.0447	0.3975	0.3274	0.0007	0.0190	63.8	0.0040
2023	2023Surfacing Equipment175	Surfacing Equipment	175	0.0441	0.4649	0.3028	0.0010	0.0150	85.8	0.0040
2023	2023Surfacing Equipment250	Surfacing Equipment	250	0.0556	0.2653	0.4118	0.0015	0.0138	135	0.0050
2023	2023Surfacing Equipment500	Surfacing Equipment	500	0.0874	0.4395	0.6089	0.0022	0.0214	221	0.0079
2023	2023Surfacing Equipment750	Surfacing Equipment	750	0.1379	0.6891	0.9797	0.0035	0.0339	347	0.0124
2023	2023Surfacing Equipment Composite	Surfacing Equipment Composite		0.0703	0.3707	0.4836	0.0017	0.0176	166	0.0063
2023	2023Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2023	2023Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2023	2023Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0340	0.2791	0.2089	0.0004	0.0055	31.6	0.0031
2023	2023Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0444	0.4909	0.2906	0.0009	0.0112	75.0	0.0040
2023	2023Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0660	0.8008	0.3115	0.0016	0.0134	139	0.0060
2023	2023Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0650	0.3180	0.2671	0.0018	0.0080	162	0.0059
2023	2023Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0464	0.4855	0.2689	0.0009	0.0099	78.5	0.0042
2023	2023Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2023	2023Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0338	0.2698	0.1988	0.0004	0.0052	30.3	0.0030
2023	2023Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0304	0.3384	0.1974	0.0006	0.0076	51.7	0.0027
2023	2023Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0469	0.5840	0.2114	0.0011	0.0099	101	0.0042
2023	2023Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0693	0.3406	0.2840	0.0019	0.0098	172	0.0062
2023	2023Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1378	0.6538	0.5358	0.0039	0.0192	345	0.0124
2023	2023Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.2067	0.9806	0.8121	0.0058	0.0289	517	0.0186
2023	2023Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0365	0.3593	0.2127	0.0008	0.0081	66.8	0.0033
2023	2023Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2023	2023Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2023	2023Trenchers50	Trenchers	50	0.0795	0.3301	0.2590	0.0004	0.0169	32.9	0.0072
2023	2023Trenchers120	Trenchers	120	0.0706	0.4377	0.4353	0.0008	0.0314	64.9	0.0064
2023	2023Trenchers175	Trenchers	175	0.1133	0.8348	0.7330	0.0016	0.0406	144	0.0102
2023	2023Trenchers250	Trenchers	250	0.1371	0.5094	1.0145	0.0025	0.0371	223	0.0124
2023	2023Trenchers500	Trenchers	500	0.1814	0.7801	1.2742	0.0031	0.0478	311	0.0164
2023	2023Trenchers750	Trenchers	750	0.3437	1.4692	2.4692	0.0059	0.0915	587	0.0310
2023	2023Trenchers Composite	Trenchers Composite		0.0767	0.4150	0.3876	0.0007	0.0260	58.7	0.0069
2023	2023Welders15	Welders	15	0.0076	0.0383	0.0477	0.0001	0.0021	6.2	0.0007
2023	2023Welders25	Welders	25	0.0145	0.0479	0.0884	0.0001	0.0037	11.3	0.0013
2023	2023Welders50	Welders	50	0.0325	0.2111	0.1783	0.0003	0.0070	26.0	0.0029
2023	2023Welders120	Welders	120	0.0253	0.2482	0.1823	0.0005	0.0099	39.5	0.0023
2023	2023Welders175	Welders	175	0.0486	0.5390	0.3026	0.0011	0.0150	98.2	0.0044
2023	2023Welders250	Welders	250	0.0466	0.2248	0.2994	0.0013	0.0095	119	0.0042
2023	2023Welders500	Welders	500	0.0641	0.3056	0.3864	0.0016	0.0129	168	0.0058
2023	2023Welders Composite	Welders Composite		0.0242	0.1762	0.1487	0.0003	0.0068	25.6	0.0022
2024	2024Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2024	2024Aerial Lifts25	Aerial Lifts	25	0.0133	0.0452	0.0840	0.0001	0.0032	11.0	0.0012
2024	2024Aerial Lifts50	Aerial Lifts	50	0.0181	0.1362	0.1253	0.0003	0.0040	19.6	0.0016
2024	2024Aerial Lifts120	Aerial Lifts	120	0.0188	0.2268	0.1590	0.0004	0.0073	38.1	0.0017
2024	2024Aerial Lifts500	Aerial Lifts	500	0.0608	0.3720	0.4189	0.0021	0.0127	213	0.0055
2024	2024Aerial Lifts750	Aerial Lifts	750	0.1106	0.6724	0.7727	0.0039	0.0232	385	0.0100
2024	2024Aerial Lifts Composite	Aerial Lifts Composite		0.0195	0.1652	0.1442	0.0004	0.0055	34.7	0.0018
2024	2024Air Compressors15	Air Compressors	15	0.0088	0.0445	0.0550	0.0001	0.0024	7.2	0.0008
2024	2024Air Compressors25	Air Compressors	25	0.0183	0.0609	0.1126	0.0002	0.0046	14.4	0.0017
2024	2024Air Compressors50	Air Compressors	50	0.0280	0.1922	0.1519	0.0003	0.0054	22.3	0.0025
2024	2024Air Compressors120	Air Compressors	120	0.0306	0.3025	0.2052	0.0006	0.0104	47.0	0.0028
2024	2024Air Compressors175	Air Compressors	175	0.0451	0.4992	0.2467	0.0010	0.0122	88.5	0.0041
2024	2024Air Compressors250	Air Compressors	250	0.0540	0.2536	0.2931	0.0015	0.0092	131	0.0049
2024	2024Air Compressors500	Air Compressors	500	0.0937	0.4300	0.4761	0.0023	0.0158	232	0.0085
2024	2024Air Compressors750	Air Compressors	750	0.1452	0.6646	0.7508	0.0036	0.0248	358	0.0131
2024	2024Air Compressors1000	Air Compressors	1000	0.2105	0.9360	2.6550	0.0049	0.0536	486	0.0190
2024	2024Air Compressors Composite	Air Compressors Composite		0.0369	0.3031	0.2272	0.0007	0.0103	63.6	0.0033
2024	2024Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2024	2024Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2024	2024Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1666	0.0004	0.0009	31.0	0.0017
2024	2024Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0253	0.4660	0.1970	0.0009	0.0021	77.1	0.0023
2024	2024Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0327	0.7542	0.0827	0.0016	0.0031	141	0.0030
2024	2024Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0429	0.3426	0.1014	0.0021	0.0036	188	0.0039
2024	2024Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0710	0.5512	0.1671	0.0031	0.0060	311	0.0064
2024	2024Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1404	1.0890	0.3303	0.0062	0.0119	615	0.0127
2024	2024Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2130	1.6436	3.9011	0.0093	0.0372	928	0.0192
2024	2024Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0431	0.5007	0.2892	0.0017	0.0043	165	0.0039
2024	2024Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2024	2024Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0214	0.0726	0.1350	0.0002	0.0053	17.6	0.0019
2024	2024Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2024	2024Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2024	2024Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0299	0.2302	0.1967	0.0004	0.0062	30.2	0.0027
2024	2024Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0392	0.4568	0.3021	0.0009	0.0138	74.1	0.0035
2024	2024Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0664	0.8662	0.3998	0.0018	0.0189	160	0.0060
2024	2024Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0358	0.3716	0.2608	0.0007	0.0109	58.5	0.0032
2024	2024Cranes50	Cranes	50	0.0373	0.2278	0.1687	0.0003	0.0072	23.2	0.0034
2024	2024Cranes120	Cranes	120	0.0399	0.3391	0.2459	0.0006	0.0138	50.1	0.0036
2024	2024Cranes175	Cranes	175	0.0490	0.4745	0.2579	0.0009	0.0136	80.3	0.0044
2024	2024Cranes250	Cranes	250	0.0571	0.2333	0.3059	0.0013	0.0107	112	0.0051
2024	2024Cranes500	Cranes	500	0.0897	0.3566	0.4464	0.0018	0.0165	180	0.0081
2024	2024Cranes750	Cranes	750	0.1512	0.5999	0.7661	0.0030	0.0280	303	0.0136

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2024	2024Cranes9999	Cranes	9999	0.5477	1.9971	5.8122	0.0098	0.1254	971	0.0494
2024	2024Cranes Composite	Cranes Composite		0.0715	0.3759	0.4601	0.0014	0.0161	129	0.0065
2024	2024Crawler Tractors50	Crawler Tractors	50	0.0522	0.2599	0.1887	0.0003	0.0100	24.9	0.0047
2024	2024Crawler Tractors120	Crawler Tractors	120	0.0646	0.4552	0.3786	0.0008	0.0246	65.8	0.0058
2024	2024Crawler Tractors175	Crawler Tractors	175	0.0874	0.7271	0.4904	0.0014	0.0268	121	0.0079
2024	2024Crawler Tractors250	Crawler Tractors	250	0.0966	0.3701	0.5904	0.0019	0.0211	166	0.0087
2024	2024Crawler Tractors500	Crawler Tractors	500	0.1450	0.5986	0.8297	0.0025	0.0308	259	0.0131
2024	2024Crawler Tractors750	Crawler Tractors	750	0.2611	1.0724	1.5305	0.0047	0.0561	465	0.0236
2024	2024Crawler Tractors1000	Crawler Tractors	1000	0.3931	1.6052	4.3851	0.0066	0.1037	658	0.0355
2024	2024Crawler Tractors Composite	Crawler Tractors Composite		0.0832	0.5092	0.4874	0.0013	0.0252	114	0.0075
2024	2024Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0538	0.3879	0.2983	0.0006	0.0097	44.0	0.0049
2024	2024Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0533	0.5409	0.3495	0.0010	0.0165	83.1	0.0048
2024	2024Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0845	0.9548	0.4334	0.0019	0.0210	167	0.0076
2024	2024Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.1016	0.4774	0.5013	0.0028	0.0159	245	0.0092
2024	2024Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1531	0.6988	0.7082	0.0037	0.0236	374	0.0138
2024	2024Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2419	1.1018	1.1389	0.0059	0.0374	589	0.0218
2024	2024Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6320	2.5232	6.9713	0.0131	0.1376	1,308	0.0570
2024	2024Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0731	0.6193	0.4104	0.0015	0.0172	132	0.0066
2024	2024Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2024	2024Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2024	2024Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2024	2024Excavators50	Excavators	50	0.0307	0.2374	0.1655	0.0003	0.0041	25.0	0.0028
2024	2024Excavators120	Excavators	120	0.0466	0.4946	0.2785	0.0009	0.0108	73.6	0.0042
2024	2024Excavators175	Excavators	175	0.0546	0.6636	0.2257	0.0013	0.0107	112	0.0049
2024	2024Excavators250	Excavators	250	0.0675	0.3218	0.2539	0.0018	0.0086	159	0.0061
2024	2024Excavators500	Excavators	500	0.0985	0.4507	0.3521	0.0023	0.0124	234	0.0089
2024	2024Excavators750	Excavators	750	0.1635	0.7470	0.5916	0.0039	0.0207	387	0.0148
2024	2024Excavators Composite	Excavators Composite		0.0585	0.5091	0.2524	0.0013	0.0101	120	0.0053
2024	2024Forklifts50	Forklifts	50	0.0154	0.1361	0.0920	0.0002	0.0015	14.7	0.0014
2024	2024Forklifts120	Forklifts	120	0.0175	0.2086	0.1060	0.0004	0.0027	31.2	0.0016
2024	2024Forklifts175	Forklifts	175	0.0243	0.3307	0.0892	0.0006	0.0033	56.1	0.0022
2024	2024Forklifts250	Forklifts	250	0.0301	0.1550	0.0895	0.0009	0.0030	77.1	0.0027
2024	2024Forklifts500	Forklifts	500	0.0432	0.2122	0.1230	0.0011	0.0042	111	0.0039
2024	2024Forklifts Composite	Forklifts Composite		0.0246	0.2146	0.0974	0.0006	0.0029	54.4	0.0022
2024	2024Generator Sets15	Generator Sets	15	0.0110	0.0629	0.0775	0.0002	0.0033	10.2	0.0010
2024	2024Generator Sets25	Generator Sets	25	0.0217	0.0743	0.1375	0.0002	0.0056	17.6	0.0020
2024	2024Generator Sets50	Generator Sets	50	0.0262	0.2050	0.1936	0.0004	0.0059	30.6	0.0024
2024	2024Generator Sets120	Generator Sets	120	0.0364	0.4591	0.3212	0.0009	0.0142	77.9	0.0033
2024	2024Generator Sets175	Generator Sets	175	0.0502	0.7324	0.3708	0.0016	0.0158	142	0.0045
2024	2024Generator Sets250	Generator Sets	250	0.0588	0.3756	0.4449	0.0024	0.0127	213	0.0053
2024	2024Generator Sets500	Generator Sets	500	0.0905	0.5835	0.6525	0.0033	0.0195	337	0.0082
2024	2024Generator Sets750	Generator Sets	750	0.1473	0.9420	1.0745	0.0055	0.0318	544	0.0133
2024	2024Generator Sets9999	Generator Sets	9999	0.3426	1.8853	5.4399	0.0105	0.0985	1,049	0.0309
2024	2024Generator Sets Composite	Generator Sets Composite		0.0303	0.2674	0.2464	0.0007	0.0092	61.0	0.0027
2024	2024Graders50	Graders	50	0.0407	0.2621	0.1922	0.0004	0.0073	27.5	0.0037
2024	2024Graders120	Graders	120	0.0554	0.5021	0.3433	0.0009	0.0177	75.0	0.0050
2024	2024Graders175	Graders	175	0.0693	0.7264	0.3512	0.0014	0.0179	124	0.0063
2024	2024Graders250	Graders	250	0.0816	0.3568	0.4129	0.0019	0.0145	172	0.0074
2024	2024Graders500	Graders	500	0.1065	0.4665	0.5014	0.0023	0.0185	229	0.0096
2024	2024Graders750	Graders	750	0.2259	0.9869	1.0831	0.0049	0.0395	486	0.0204
2024	2024Graders Composite	Graders Composite		0.0714	0.5706	0.3709	0.0015	0.0168	133	0.0064
2024	2024Off-Highway Tractors120	Off-Highway Tractors	120	0.1169	0.6647	0.6724	0.0011	0.0494	93.7	0.0106
2024	2024Off-Highway Tractors175	Off-Highway Tractors	175	0.1172	0.7945	0.7183	0.0015	0.0402	130	0.0106
2024	2024Off-Highway Tractors250	Off-Highway Tractors	250	0.0933	0.3246	0.6484	0.0015	0.0247	130	0.0084
2024	2024Off-Highway Tractors750	Off-Highway Tractors	750	0.3859	1.5884	2.6171	0.0057	0.0998	568	0.0348
2024	2024Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5888	2.4551	6.3258	0.0082	0.1689	814	0.0531

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2024	2024Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1192	0.6165	0.7884	0.0017	0.0360	151	0.0108
2024	2024Off-Highway Trucks175	Off-Highway Trucks	175	0.0655	0.7536	0.2698	0.0014	0.0131	125	0.0059
2024	2024Off-Highway Trucks250	Off-Highway Trucks	250	0.0761	0.3445	0.2879	0.0019	0.0098	167	0.0069
2024	2024Off-Highway Trucks500	Off-Highway Trucks	500	0.1232	0.5334	0.4414	0.0027	0.0157	272	0.0111
2024	2024Off-Highway Trucks750	Off-Highway Trucks	750	0.2001	0.8652	0.7266	0.0044	0.0256	442	0.0181
2024	2024Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2949	1.2476	3.2774	0.0063	0.0601	625	0.0266
2024	2024Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1189	0.5401	0.5286	0.0027	0.0164	260	0.0107
2024	2024Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2024	2024Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2024	2024Other Construction Equipment50	Other Construction Equipment	50	0.0254	0.2197	0.1736	0.0004	0.0040	28.0	0.0023
2024	2024Other Construction Equipment120	Other Construction Equipment	120	0.0397	0.5049	0.2876	0.0009	0.0103	80.9	0.0036
2024	2024Other Construction Equipment175	Other Construction Equipment	175	0.0407	0.5858	0.1980	0.0012	0.0089	107	0.0037
2024	2024Other Construction Equipment500	Other Construction Equipment	500	0.0828	0.4612	0.3489	0.0025	0.0117	254	0.0075
2024	2024Other Construction Equipment Composite	Other Construction Equipment Composite		0.0462	0.3477	0.2244	0.0013	0.0079	123	0.0042
2024	2024Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2024	2024Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2024	2024Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0316	0.2111	0.1534	0.0003	0.0055	21.7	0.0029
2024	2024Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0460	0.4192	0.2770	0.0007	0.0141	62.0	0.0041
2024	2024Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0551	0.5678	0.2723	0.0011	0.0135	95.9	0.0050
2024	2024Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0637	0.2749	0.3073	0.0015	0.0097	136	0.0058
2024	2024Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1228	0.5114	0.5533	0.0026	0.0185	265	0.0111
2024	2024Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.2029	0.8429	0.9305	0.0044	0.0309	437	0.0183
2024	2024Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2763	1.1172	3.1204	0.0056	0.0642	560	0.0249
2024	2024Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0784	0.4446	0.4363	0.0016	0.0151	152	0.0071
2024	2024Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0435	0.2910	0.2133	0.0004	0.0076	30.3	0.0039
2024	2024Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0444	0.4079	0.2705	0.0007	0.0138	60.7	0.0040
2024	2024Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0694	0.7189	0.3463	0.0014	0.0172	122	0.0063
2024	2024Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0673	0.2925	0.3285	0.0016	0.0104	145	0.0061
2024	2024Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0875	0.3678	0.3992	0.0019	0.0133	192	0.0079
2024	2024Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3974	1.4745	4.1250	0.0073	0.0848	741	0.0359
2024	2024Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0733	0.4362	0.4243	0.0015	0.0145	141	0.0066
2024	2024Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2024	2024Pavers50	Pavers	50	0.0618	0.2844	0.2154	0.0004	0.0127	28.0	0.0056
2024	2024Pavers120	Pavers	120	0.0706	0.4714	0.4258	0.0008	0.0292	69.2	0.0064
2024	2024Pavers175	Pavers	175	0.0956	0.7552	0.5753	0.0014	0.0317	128	0.0086
2024	2024Pavers250	Pavers	250	0.1150	0.4348	0.7727	0.0022	0.0279	194	0.0104
2024	2024Pavers500	Pavers	500	0.1319	0.5518	0.8323	0.0023	0.0311	233	0.0119
2024	2024Pavers Composite	Pavers Composite		0.0764	0.4773	0.4135	0.0009	0.0244	77.9	0.0069
2024	2024Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2024	2024Paving Equipment50	Paving Equipment	50	0.0508	0.2391	0.1834	0.0003	0.0106	23.9	0.0046
2024	2024Paving Equipment120	Paving Equipment	120	0.0539	0.3687	0.3298	0.0006	0.0225	54.5	0.0049
2024	2024Paving Equipment175	Paving Equipment	175	0.0733	0.5907	0.4437	0.0011	0.0244	101	0.0066
2024	2024Paving Equipment250	Paving Equipment	250	0.0705	0.2683	0.4748	0.0014	0.0170	122	0.0064
2024	2024Paving Equipment Composite	Paving Equipment Composite		0.0584	0.4007	0.3546	0.0008	0.0212	68.9	0.0053
2024	2024Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2024	2024Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2024	2024Pressure Washers15	Pressure Washers	15	0.0053	0.0301	0.0371	0.0001	0.0016	4.9	0.0005
2024	2024Pressure Washers25	Pressure Washers	25	0.0088	0.0301	0.0557	0.0001	0.0023	7.1	0.0008
2024	2024Pressure Washers50	Pressure Washers	50	0.0086	0.0816	0.0868	0.0002	0.0022	14.3	0.0008
2024	2024Pressure Washers120	Pressure Washers	120	0.0088	0.1353	0.0952	0.0003	0.0037	24.1	0.0008
2024	2024Pressure Washers Composite	Pressure Washers Composite		0.0069	0.0534	0.0575	0.0001	0.0020	9.4	0.0006
2024	2024Pumps15	Pumps	15	0.0090	0.0457	0.0565	0.0001	0.0025	7.4	0.0008
2024	2024Pumps25	Pumps	25	0.0247	0.0821	0.1519	0.0002	0.0062	19.5	0.0022
2024	2024Pumps50	Pumps	50	0.0323	0.2413	0.2200	0.0004	0.0071	34.3	0.0029
2024	2024Pumps120	Pumps	120	0.0390	0.4661	0.3256	0.0009	0.0151	77.9	0.0035
2024	2024Pumps175	Pumps	175	0.0533	0.7338	0.3720	0.0016	0.0165	140	0.0048

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2024	2024Pumps250	Pumps	250	0.0603	0.3614	0.4290	0.0023	0.0125	201	0.0054
2024	2024Pumps500	Pumps	500	0.1006	0.6050	0.6783	0.0034	0.0208	345	0.0091
2024	2024Pumps750	Pumps	750	0.1672	1.0001	1.1442	0.0057	0.0348	571	0.0151
2024	2024Pumps9999	Pumps	9999	0.4739	2.4659	7.1019	0.0136	0.1313	1,355	0.0428
2024	2024Pumps Composite	Pumps Composite		0.0285	0.2624	0.2193	0.0006	0.0089	49.6	0.0026
2024	2024Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2024	2024Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2024	2024Rollers50	Rollers	50	0.0371	0.2282	0.1822	0.0003	0.0077	26.0	0.0033
2024	2024Rollers120	Rollers	120	0.0418	0.3810	0.2832	0.0007	0.0157	59.0	0.0038
2024	2024Rollers175	Rollers	175	0.0587	0.6097	0.3395	0.0012	0.0176	108	0.0053
2024	2024Rollers250	Rollers	250	0.0689	0.3061	0.4099	0.0017	0.0143	153	0.0062
2024	2024Rollers500	Rollers	500	0.0962	0.4242	0.5328	0.0022	0.0195	219	0.0087
2024	2024Rollers Composite	Rollers Composite		0.0435	0.3772	0.2707	0.0008	0.0139	67.0	0.0039
2024	2024Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0398	0.3057	0.2254	0.0004	0.0063	33.9	0.0036
2024	2024Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0387	0.4110	0.2454	0.0007	0.0104	62.4	0.0035
2024	2024Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0605	0.7228	0.2796	0.0014	0.0134	125	0.0055
2024	2024Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0705	0.3379	0.3029	0.0019	0.0099	171	0.0064
2024	2024Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.1048	0.4847	0.4245	0.0025	0.0146	257	0.0095
2024	2024Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0416	0.4433	0.2499	0.0008	0.0106	70.3	0.0038
2024	2024Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1225	0.8035	0.7440	0.0015	0.0417	129	0.0111
2024	2024Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1392	0.4728	0.9557	0.0021	0.0369	183	0.0126
2024	2024Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1898	0.7765	1.2479	0.0026	0.0487	265	0.0171
2024	2024Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2869	1.1673	1.9252	0.0040	0.0742	399	0.0259
2024	2024Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4517	1.8684	4.7258	0.0060	0.1284	592	0.0408
2024	2024Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1748	0.6835	1.1695	0.0025	0.0455	239	0.0158
2024	2024Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2024	2024Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0443	0.2927	0.2161	0.0004	0.0079	31.1	0.0040
2024	2024Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0420	0.3924	0.2639	0.0007	0.0132	58.9	0.0038
2024	2024Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0580	0.6201	0.2922	0.0012	0.0148	106	0.0052
2024	2024Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0691	0.3059	0.3442	0.0017	0.0121	149	0.0062
2024	2024Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1078	0.4705	0.5009	0.0023	0.0184	237	0.0097
2024	2024Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2211	0.9634	1.0446	0.0049	0.0380	486	0.0199
2024	2024Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2828	1.2085	3.3471	0.0060	0.0674	594	0.0255
2024	2024Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0588	0.4324	0.3131	0.0012	0.0138	109	0.0053
2024	2024Scrapers120	Scrapers	120	0.0943	0.6496	0.5551	0.0011	0.0368	93.9	0.0085
2024	2024Scrapers175	Scrapers	175	0.1090	0.8874	0.6232	0.0017	0.0341	148	0.0098
2024	2024Scrapers250	Scrapers	250	0.1242	0.4700	0.7773	0.0024	0.0280	209	0.0112
2024	2024Scrapers500	Scrapers	500	0.1830	0.7505	1.0718	0.0032	0.0400	321	0.0165
2024	2024Scrapers750	Scrapers	750	0.3175	1.2955	1.9046	0.0056	0.0702	555	0.0286
2024	2024Scrapers Composite	Scrapers Composite		0.1565	0.7302	0.9241	0.0027	0.0369	262	0.0141
2024	2024Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2024	2024Signal Boards50	Signal Boards	50	0.0357	0.2705	0.2332	0.0005	0.0073	36.2	0.0032
2024	2024Signal Boards120	Signal Boards	120	0.0418	0.4904	0.3267	0.0009	0.0149	80.2	0.0038
2024	2024Signal Boards175	Signal Boards	175	0.0624	0.8287	0.3881	0.0017	0.0178	155	0.0056
2024	2024Signal Boards250	Signal Boards	250	0.0833	0.4684	0.5094	0.0029	0.0155	255	0.0075
2024	2024Signal Boards Composite	Signal Boards Composite		0.0114	0.0909	0.0747	0.0002	0.0031	16.7	0.0010
2024	2024Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1056	0.0002	0.0041	13.8	0.0015
2024	2024Skid Steer Loaders50	Skid Steer Loaders	50	0.0198	0.1981	0.1474	0.0003	0.0019	25.5	0.0018
2024	2024Skid Steer Loaders120	Skid Steer Loaders	120	0.0181	0.2666	0.1295	0.0005	0.0027	42.8	0.0016
2024	2024Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0190	0.2107	0.1389	0.0004	0.0023	30.3	0.0017
2024	2024Surfacing Equipment50	Surfacing Equipment	50	0.0185	0.1118	0.0956	0.0002	0.0040	14.1	0.0017
2024	2024Surfacing Equipment120	Surfacing Equipment	120	0.0414	0.3961	0.3061	0.0007	0.0167	63.8	0.0037
2024	2024Surfacing Equipment175	Surfacing Equipment	175	0.0412	0.4645	0.2712	0.0010	0.0133	85.8	0.0037
2024	2024Surfacing Equipment250	Surfacing Equipment	250	0.0528	0.2627	0.3674	0.0015	0.0124	135	0.0048
2024	2024Surfacing Equipment500	Surfacing Equipment	500	0.0836	0.4310	0.5459	0.0022	0.0193	221	0.0075
2024	2024Surfacing Equipment750	Surfacing Equipment	750	0.1317	0.6758	0.8761	0.0035	0.0306	347	0.0119

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2024	2024Surfacing Equipment Composite	Surfacing Equipment Composite		0.0669	0.3644	0.4356	0.0017	0.0159	166	0.0060
2024	2024Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2024	2024Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2024	2024Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0322	0.2774	0.2012	0.0004	0.0043	31.6	0.0029
2024	2024Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0417	0.4901	0.2701	0.0009	0.0086	75.0	0.0038
2024	2024Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0608	0.8006	0.2634	0.0016	0.0101	139	0.0055
2024	2024Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0616	0.3179	0.2252	0.0018	0.0069	162	0.0056
2024	2024Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0434	0.4846	0.2457	0.0009	0.0076	78.5	0.0039
2024	2024Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2024	2024Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0326	0.2687	0.1939	0.0004	0.0043	30.3	0.0029
2024	2024Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0291	0.3381	0.1857	0.0006	0.0065	51.7	0.0026
2024	2024Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0442	0.5840	0.1843	0.0011	0.0084	101	0.0040
2024	2024Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0661	0.3397	0.2465	0.0019	0.0084	172	0.0060
2024	2024Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1317	0.6521	0.4696	0.0039	0.0166	345	0.0119
2024	2024Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1976	0.9781	0.7117	0.0058	0.0250	517	0.0178
2024	2024Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0349	0.3589	0.1980	0.0008	0.0069	66.8	0.0031
2024	2024Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2024	2024Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2024	2024Trenchers50	Trenchers	50	0.0739	0.3247	0.2527	0.0004	0.0154	32.9	0.0067
2024	2024Trenchers120	Trenchers	120	0.0664	0.4358	0.4099	0.0008	0.0286	64.9	0.0060
2024	2024Trenchers175	Trenchers	175	0.1069	0.8337	0.6721	0.0016	0.0371	144	0.0096
2024	2024Trenchers250	Trenchers	250	0.1307	0.5004	0.9284	0.0025	0.0339	223	0.0118
2024	2024Trenchers500	Trenchers	500	0.1735	0.7573	1.1664	0.0031	0.0438	311	0.0157
2024	2024Trenchers750	Trenchers	750	0.3287	1.4264	2.2609	0.0059	0.0838	587	0.0297
2024	2024Trenchers Composite	Trenchers Composite		0.0719	0.4116	0.3672	0.0007	0.0237	58.7	0.0065
2024	2024Welders15	Welders	15	0.0076	0.0382	0.0472	0.0001	0.0021	6.2	0.0007
2024	2024Welders25	Welders	25	0.0143	0.0475	0.0880	0.0001	0.0036	11.3	0.0013
2024	2024Welders50	Welders	50	0.0301	0.2093	0.1733	0.0003	0.0061	26.0	0.0027
2024	2024Welders120	Welders	120	0.0237	0.2479	0.1705	0.0005	0.0085	39.5	0.0021
2024	2024Welders175	Welders	175	0.0457	0.5395	0.2704	0.0011	0.0131	98.2	0.0041
2024	2024Welders250	Welders	250	0.0444	0.2241	0.2632	0.0013	0.0082	119	0.0040
2024	2024Welders500	Welders	500	0.0613	0.3047	0.3404	0.0016	0.0111	168	0.0055
2024	2024Welders Composite	Welders Composite		0.0227	0.1753	0.1428	0.0003	0.0059	25.6	0.0021
2025	2025Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2025	2025Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2025	2025Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2025	2025Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2025	2025Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2025	2025Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2025	2025Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2025	2025Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2025	2025Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2025	2025Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2025	2025Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2025	2025Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2025	2025Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2025	2025Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2025	2025Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2025	2025Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2025	2025Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2025	2025Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2025	2025Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2025	2025Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2025	2025Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2025	2025Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2025	2025Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2025	2025Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2025	2025Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2025	2025Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2025	2025Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2025	2025Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2025	2025Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2025	2025Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2025	2025Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2025	2025Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2025	2025Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2025	2025Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2025	2025Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2025	2025Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2025	2025Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2025	2025Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2025	2025Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2025	2025Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2025	2025Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2025	2025Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2025	2025Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2025	2025Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2025	2025Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2025	2025Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2025	2025Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2025	2025Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2025	2025Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2025	2025Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2025	2025Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2025	2025Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2025	2025Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2025	2025Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2025	2025Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2025	2025Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2025	2025Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2025	2025Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2025	2025Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2025	2025Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2025	2025Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2025	2025Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2025	2025Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2025	2025Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2025	2025Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2025	2025Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2025	2025Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2025	2025Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2025	2025Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2025	2025Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2025	2025Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2025	2025Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2025	2025Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2025	2025Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2025	2025Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2025	2025Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2025	2025Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2025	2025Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2025	2025Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2025	2025Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2025	2025Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2025	2025Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2025	2025Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2025	2025Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2025	2025Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2025	2025Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2025	2025Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2025	2025Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2025	2025Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2025	2025Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2025	2025Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2025	2025Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2025	2025Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2025	2025Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2025	2025Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2025	2025Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2025	2025Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2025	2025Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2025	2025Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2025	2025Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2025	2025Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2025	2025Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2025	2025Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2025	2025Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2025	2025Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2025	2025Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2025	2025Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2025	2025Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2025	2025Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2025	2025Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2025	2025Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2025	2025Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2025	2025Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2025	2025Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2025	2025Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2025	2025Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2025	2025Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2025	2025Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2025	2025Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2025	2025Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2025	2025Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2025	2025Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2025	2025Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2025	2025Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2025	2025Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2025	2025Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2025	2025Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2025	2025Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2025	2025Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2025	2025Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2025	2025Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2025	2025Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2025	2025Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2025	2025Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2025	2025Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065

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2025	2025Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2025	2025Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2025	2025Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2025	2025Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2025	2025Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2025	2025Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2025	2025Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2025	2025Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2025	2025Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2025	2025Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2025	2025Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2025	2025Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2025	2025Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2025	2025Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2025	2025Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2025	2025Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2025	2025Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2025	2025Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2025	2025Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2025	2025Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2025	2025Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2025	2025Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2025	2025Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2025	2025Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2025	2025Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2025	2025Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2025	2025Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2025	2025Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2025	2025Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2025	2025Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2025	2025Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2025	2025Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2025	2025Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2025	2025Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2025	2025Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2025	2025Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2025	2025Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2025	2025Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2025	2025Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2025	2025Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2025	2025Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2025	2025Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2025	2025Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2025	2025Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2025	2025Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2025	2025Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2025	2025Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2025	2025Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2025	2025Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2025	2025Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2025	2025Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2025	2025Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2025	2025Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2025	2025Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2025	2025Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2025	2025Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2025	2025Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2025	2025Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2025	2025Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2025	2025Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2025	2025Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2025	2025Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2025	2025Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2025	2025Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2025	2025Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2025	2025Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2025	2025Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2025	2025Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2025	2025Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2025	2025Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2025	2025Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2025	2025Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2025	2025Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2025	2025Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2025	2025Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2025	2025Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2025	2025Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2025	2025Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2025	2025Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2025	2025Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2025	2025Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2025	2025Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2025	2025Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2025	2025Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2025	2025Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2025	2025Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2025	2025Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2025	2025Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2025	2025Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2025	2025Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2025	2025Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2025	2025Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2025	2025Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2025	2025Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2025	2025Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2025	2025Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2025	2025Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2025	2025Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2025	2025Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2025	2025Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2025	2025Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2025	2025Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2025	2025Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2025	2025Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2025	2025Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2025	2025Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2025	2025Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2026	2026Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2026	2026Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2026	2026Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2026	2026Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2026	2026Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2026	2026Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2026	2026Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2026	2026Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2026	2026Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2026	2026Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2026	2026Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2026	2026Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2026	2026Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2026	2026Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2026	2026Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2026	2026Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2026	2026Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2026	2026Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2026	2026Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2026	2026Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2026	2026Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2026	2026Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2026	2026Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2026	2026Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2026	2026Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2026	2026Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2026	2026Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2026	2026Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2026	2026Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2026	2026Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2026	2026Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2026	2026Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2026	2026Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2026	2026Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2026	2026Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2026	2026Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2026	2026Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2026	2026Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2026	2026Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2026	2026Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2026	2026Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2026	2026Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2026	2026Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2026	2026Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2026	2026Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2026	2026Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2026	2026Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2026	2026Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2026	2026Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2026	2026Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2026	2026Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2026	2026Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2026	2026Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2026	2026Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2026	2026Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2026	2026Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2026	2026Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2026	2026Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2026	2026Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2026	2026Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2026	2026Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2026	2026Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2026	2026Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2026	2026Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2026	2026Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2026	2026Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2026	2026Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2026	2026Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2026	2026Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2026	2026Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2026	2026Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2026	2026Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2026	2026Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2026	2026Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2026	2026Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2026	2026Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2026	2026Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2026	2026Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2026	2026Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2026	2026Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2026	2026Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2026	2026Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2026	2026Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2026	2026Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2026	2026Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2026	2026Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2026	2026Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2026	2026Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2026	2026Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2026	2026Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2026	2026Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2026	2026Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2026	2026Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2026	2026Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2026	2026Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2026	2026Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2026	2026Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2026	2026Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2026	2026Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2026	2026Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2026	2026Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2026	2026Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2026	2026Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2026	2026Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2026	2026Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2026	2026Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2026	2026Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2026	2026Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2026	2026Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2026	2026Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2026	2026Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2026	2026Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2026	2026Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2026	2026Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2026	2026Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2026	2026Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2026	2026Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055

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2026	2026Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2026	2026Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2026	2026Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2026	2026Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2026	2026Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2026	2026Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2026	2026Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2026	2026Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2026	2026Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2026	2026Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2026	2026Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2026	2026Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2026	2026Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2026	2026Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2026	2026Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2026	2026Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2026	2026Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2026	2026Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2026	2026Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2026	2026Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2026	2026Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2026	2026Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2026	2026Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2026	2026Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2026	2026Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2026	2026Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2026	2026Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2026	2026Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2026	2026Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2026	2026Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2026	2026Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2026	2026Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2026	2026Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2026	2026Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2026	2026Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2026	2026Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2026	2026Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2026	2026Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2026	2026Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2026	2026Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2026	2026Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2026	2026Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2026	2026Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2026	2026Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2026	2026Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2026	2026Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2026	2026Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2026	2026Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2026	2026Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2026	2026Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2026	2026Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2026	2026Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2026	2026Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2026	2026Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2026	2026Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2026	2026Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105

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2026	2026Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2026	2026Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2026	2026Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2026	2026Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2026	2026Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2026	2026Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2026	2026Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2026	2026Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2026	2026Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2026	2026Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2026	2026Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2026	2026Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2026	2026Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2026	2026Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2026	2026Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2026	2026Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2026	2026Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2026	2026Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2026	2026Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2026	2026Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2026	2026Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2026	2026Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2026	2026Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2026	2026Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2026	2026Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2026	2026Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2026	2026Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2026	2026Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2026	2026Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2026	2026Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2026	2026Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2026	2026Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2026	2026Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2026	2026Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2026	2026Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2026	2026Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2026	2026Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2026	2026Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2026	2026Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2026	2026Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2026	2026Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2026	2026Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2026	2026Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2026	2026Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2026	2026Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2026	2026Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2026	2026Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2026	2026Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2026	2026Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2026	2026Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2026	2026Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2026	2026Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2026	2026Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2026	2026Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2026	2026Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2026	2026Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056

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2026	2026Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2026	2026Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2026	2026Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2026	2026Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2026	2026Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2026	2026Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2026	2026Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2026	2026Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2026	2026Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2026	2026Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2026	2026Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2026	2026Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2026	2026Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2027	2027Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2027	2027Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2027	2027Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2027	2027Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2027	2027Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2027	2027Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2027	2027Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2027	2027Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2027	2027Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2027	2027Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2027	2027Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2027	2027Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2027	2027Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2027	2027Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2027	2027Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2027	2027Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2027	2027Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2027	2027Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2027	2027Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2027	2027Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2027	2027Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2027	2027Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2027	2027Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2027	2027Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2027	2027Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2027	2027Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2027	2027Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2027	2027Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2027	2027Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2027	2027Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2027	2027Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2027	2027Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2027	2027Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2027	2027Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2027	2027Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2027	2027Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2027	2027Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2027	2027Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2027	2027Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2027	2027Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2027	2027Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2027	2027Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2027	2027Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2027	2027Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2027	2027Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2027	2027Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2027	2027Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2027	2027Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2027	2027Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2027	2027Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2027	2027Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2027	2027Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2027	2027Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2027	2027Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2027	2027Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2027	2027Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2027	2027Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2027	2027Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2027	2027Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2027	2027Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2027	2027Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2027	2027Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2027	2027Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2027	2027Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2027	2027Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2027	2027Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2027	2027Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2027	2027Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2027	2027Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2027	2027Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2027	2027Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2027	2027Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2027	2027Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2027	2027Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2027	2027Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2027	2027Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2027	2027Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2027	2027Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2027	2027Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2027	2027Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2027	2027Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2027	2027Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2027	2027Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2027	2027Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2027	2027Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2027	2027Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2027	2027Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2027	2027Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2027	2027Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2027	2027Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2027	2027Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2027	2027Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2027	2027Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2027	2027Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2027	2027Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2027	2027Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2027	2027Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2027	2027Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2027	2027Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2027	2027Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2027	2027Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2027	2027Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2027	2027Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2027	2027Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2027	2027Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2027	2027Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2027	2027Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2027	2027Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2027	2027Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2027	2027Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2027	2027Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2027	2027Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2027	2027Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2027	2027Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2027	2027Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2027	2027Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2027	2027Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2027	2027Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2027	2027Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2027	2027Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2027	2027Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2027	2027Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2027	2027Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2027	2027Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2027	2027Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2027	2027Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2027	2027Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2027	2027Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2027	2027Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2027	2027Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2027	2027Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2027	2027Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2027	2027Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2027	2027Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2027	2027Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2027	2027Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2027	2027Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2027	2027Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2027	2027Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2027	2027Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2027	2027Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2027	2027Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2027	2027Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2027	2027Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2027	2027Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2027	2027Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2027	2027Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2027	2027Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2027	2027Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2027	2027Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2027	2027Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2027	2027Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2027	2027Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2027	2027Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2027	2027Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2027	2027Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2027	2027Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2027	2027Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2027	2027Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2027	2027Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2027	2027Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2027	2027Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2027	2027Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2027	2027Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2027	2027Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2027	2027Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2027	2027Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2027	2027Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2027	2027Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2027	2027Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2027	2027Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2027	2027Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2027	2027Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2027	2027Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2027	2027Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2027	2027Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2027	2027Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2027	2027Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2027	2027Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2027	2027Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2027	2027Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2027	2027Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2027	2027Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2027	2027Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2027	2027Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2027	2027Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2027	2027Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2027	2027Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2027	2027Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2027	2027Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2027	2027Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2027	2027Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2027	2027Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2027	2027Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2027	2027Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2027	2027Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2027	2027Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2027	2027Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2027	2027Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2027	2027Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2027	2027Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2027	2027Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2027	2027Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2027	2027Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2027	2027Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2027	2027Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2027	2027Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2027	2027Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2027	2027Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2027	2027Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2027	2027Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011

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2027	2027Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2027	2027Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2027	2027Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2027	2027Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2027	2027Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2027	2027Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2027	2027Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2027	2027Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2027	2027Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2027	2027Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2027	2027Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2027	2027Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2027	2027Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2027	2027Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2027	2027Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2027	2027Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2027	2027Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2027	2027Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2027	2027Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2027	2027Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2027	2027Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2027	2027Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2027	2027Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2027	2027Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2027	2027Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2027	2027Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2027	2027Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2027	2027Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2027	2027Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2027	2027Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2027	2027Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2028	2028Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2028	2028Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2028	2028Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2028	2028Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2028	2028Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2028	2028Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2028	2028Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2028	2028Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2028	2028Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2028	2028Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2028	2028Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2028	2028Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2028	2028Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2028	2028Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2028	2028Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2028	2028Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2028	2028Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2028	2028Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2028	2028Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2028	2028Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2028	2028Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2028	2028Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2028	2028Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2028	2028Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2028	2028Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126

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2028	2028Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2028	2028Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2028	2028Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2028	2028Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2028	2028Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2028	2028Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2028	2028Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2028	2028Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2028	2028Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2028	2028Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2028	2028Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2028	2028Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2028	2028Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2028	2028Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2028	2028Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2028	2028Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2028	2028Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2028	2028Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2028	2028Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2028	2028Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2028	2028Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2028	2028Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2028	2028Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2028	2028Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2028	2028Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2028	2028Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2028	2028Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2028	2028Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2028	2028Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2028	2028Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2028	2028Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2028	2028Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2028	2028Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2028	2028Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2028	2028Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2028	2028Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2028	2028Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2028	2028Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2028	2028Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2028	2028Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2028	2028Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2028	2028Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2028	2028Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2028	2028Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2028	2028Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2028	2028Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2028	2028Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2028	2028Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2028	2028Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2028	2028Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2028	2028Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2028	2028Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2028	2028Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2028	2028Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2028	2028Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2028	2028Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2028	2028Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2028	2028Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2028	2028Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2028	2028Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2028	2028Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2028	2028Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2028	2028Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2028	2028Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2028	2028Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2028	2028Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2028	2028Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2028	2028Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2028	2028Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2028	2028Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2028	2028Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2028	2028Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2028	2028Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2028	2028Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2028	2028Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2028	2028Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2028	2028Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2028	2028Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2028	2028Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2028	2028Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2028	2028Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2028	2028Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2028	2028Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2028	2028Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2028	2028Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2028	2028Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2028	2028Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2028	2028Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2028	2028Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2028	2028Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2028	2028Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2028	2028Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2028	2028Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2028	2028Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2028	2028Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2028	2028Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2028	2028Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2028	2028Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2028	2028Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2028	2028Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2028	2028Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2028	2028Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2028	2028Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2028	2028Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2028	2028Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2028	2028Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2028	2028Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2028	2028Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2028	2028Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2028	2028Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2028	2028Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2028	2028Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2028	2028Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2028	2028Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2028	2028Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2028	2028Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2028	2028Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2028	2028Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2028	2028Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2028	2028Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2028	2028Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2028	2028Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2028	2028Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2028	2028Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2028	2028Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2028	2028Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2028	2028Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2028	2028Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2028	2028Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2028	2028Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2028	2028Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2028	2028Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2028	2028Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2028	2028Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2028	2028Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2028	2028Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2028	2028Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2028	2028Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2028	2028Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2028	2028Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2028	2028Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2028	2028Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2028	2028Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2028	2028Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2028	2028Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2028	2028Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2028	2028Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2028	2028Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2028	2028Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2028	2028Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2028	2028Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2028	2028Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2028	2028Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2028	2028Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2028	2028Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2028	2028Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2028	2028Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2028	2028Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2028	2028Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2028	2028Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2028	2028Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2028	2028Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2028	2028Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2028	2028Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2028	2028Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2028	2028Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2028	2028Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2028	2028Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2028	2028Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2028	2028Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2028	2028Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2028	2028Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2028	2028Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2028	2028Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2028	2028Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2028	2028Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2028	2028Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2028	2028Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2028	2028Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2028	2028Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2028	2028Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2028	2028Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2028	2028Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2028	2028Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2028	2028Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2028	2028Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2028	2028Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2028	2028Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2028	2028Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2028	2028Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2028	2028Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2028	2028Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2028	2028Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2028	2028Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2028	2028Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2028	2028Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2028	2028Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2028	2028Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2028	2028Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2028	2028Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2028	2028Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2028	2028Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2028	2028Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2028	2028Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2028	2028Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2028	2028Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2028	2028Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2028	2028Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2028	2028Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2028	2028Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2028	2028Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2028	2028Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2028	2028Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2028	2028Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2028	2028Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2028	2028Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2028	2028Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2029	2029Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2029	2029Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2029	2029Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2029	2029Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2029	2029Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2029	2029Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2029	2029Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2029	2029Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2029	2029Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2029	2029Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2029	2029Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2029	2029Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2029	2029Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2029	2029Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2029	2029Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2029	2029Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2029	2029Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2029	2029Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2029	2029Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2029	2029Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2029	2029Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2029	2029Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2029	2029Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2029	2029Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2029	2029Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2029	2029Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2029	2029Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2029	2029Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2029	2029Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2029	2029Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2029	2029Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2029	2029Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2029	2029Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2029	2029Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2029	2029Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2029	2029Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2029	2029Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2029	2029Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2029	2029Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2029	2029Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2029	2029Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2029	2029Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2029	2029Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2029	2029Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2029	2029Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2029	2029Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2029	2029Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2029	2029Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2029	2029Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2029	2029Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2029	2029Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2029	2029Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2029	2029Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2029	2029Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2029	2029Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2029	2029Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2029	2029Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2029	2029Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2029	2029Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2029	2029Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2029	2029Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2029	2029Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2029	2029Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2029	2029Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2029	2029Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2029	2029Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2029	2029Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2029	2029Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2029	2029Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2029	2029Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2029	2029Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2029	2029Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2029	2029Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2029	2029Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2029	2029Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2029	2029Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2029	2029Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2029	2029Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2029	2029Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2029	2029Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2029	2029Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2029	2029Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2029	2029Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2029	2029Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2029	2029Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2029	2029Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2029	2029Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2029	2029Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2029	2029Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2029	2029Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2029	2029Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2029	2029Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2029	2029Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2029	2029Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2029	2029Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2029	2029Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2029	2029Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2029	2029Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2029	2029Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2029	2029Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2029	2029Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2029	2029Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2029	2029Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2029	2029Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2029	2029Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2029	2029Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2029	2029Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2029	2029Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2029	2029Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2029	2029Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2029	2029Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2029	2029Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2029	2029Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2029	2029Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2029	2029Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2029	2029Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2029	2029Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2029	2029Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2029	2029Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2029	2029Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2029	2029Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2029	2029Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2029	2029Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2029	2029Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2029	2029Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2029	2029Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2029	2029Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2029	2029Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2029	2029Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2029	2029Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2029	2029Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2029	2029Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2029	2029Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2029	2029Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2029	2029Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2029	2029Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2029	2029Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2029	2029Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2029	2029Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2029	2029Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2029	2029Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2029	2029Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2029	2029Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2029	2029Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2029	2029Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2029	2029Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2029	2029Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2029	2029Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2029	2029Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2029	2029Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2029	2029Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2029	2029Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2029	2029Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2029	2029Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2029	2029Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2029	2029Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2029	2029Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2029	2029Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2029	2029Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2029	2029Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2029	2029Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2029	2029Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2029	2029Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2029	2029Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2029	2029Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2029	2029Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2029	2029Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2029	2029Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2029	2029Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2029	2029Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2029	2029Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2029	2029Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2029	2029Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2029	2029Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2029	2029Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2029	2029Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2029	2029Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2029	2029Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2029	2029Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2029	2029Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2029	2029Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2029	2029Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2029	2029Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2029	2029Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2029	2029Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2029	2029Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2029	2029Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2029	2029Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2029	2029Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2029	2029Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2029	2029Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2029	2029Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2029	2029Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2029	2029Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2029	2029Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2029	2029Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2029	2029Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2029	2029Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2029	2029Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2029	2029Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2029	2029Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2029	2029Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2029	2029Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2029	2029Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2029	2029Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2029	2029Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2029	2029Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2029	2029Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2029	2029Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2029	2029Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2029	2029Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2029	2029Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2029	2029Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2029	2029Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2029	2029Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2029	2029Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2029	2029Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2029	2029Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2029	2029Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2029	2029Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2029	2029Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2029	2029Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2029	2029Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2029	2029Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2029	2029Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2029	2029Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2029	2029Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2029	2029Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2029	2029Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2029	2029Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2029	2029Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112

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2029	2029Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2029	2029Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2029	2029Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2029	2029Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2029	2029Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2029	2029Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2029	2029Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2029	2029Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2029	2029Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2029	2029Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2029	2029Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2030	2030Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2030	2030Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2030	2030Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2030	2030Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2030	2030Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2030	2030Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2030	2030Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2030	2030Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2030	2030Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2030	2030Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2030	2030Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2030	2030Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2030	2030Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2030	2030Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2030	2030Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2030	2030Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2030	2030Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2030	2030Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2030	2030Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2030	2030Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2030	2030Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2030	2030Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2030	2030Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2030	2030Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2030	2030Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2030	2030Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2030	2030Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2030	2030Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2030	2030Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2030	2030Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2030	2030Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2030	2030Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2030	2030Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2030	2030Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2030	2030Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2030	2030Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2030	2030Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2030	2030Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2030	2030Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2030	2030Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2030	2030Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2030	2030Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2030	2030Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2030	2030Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2030	2030Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2030	2030Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2030	2030Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2030	2030Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2030	2030Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2030	2030Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2030	2030Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2030	2030Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2030	2030Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2030	2030Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2030	2030Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2030	2030Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2030	2030Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2030	2030Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2030	2030Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2030	2030Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2030	2030Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2030	2030Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2030	2030Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2030	2030Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2030	2030Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2030	2030Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2030	2030Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2030	2030Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2030	2030Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2030	2030Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2030	2030Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2030	2030Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2030	2030Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2030	2030Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2030	2030Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2030	2030Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2030	2030Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2030	2030Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2030	2030Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2030	2030Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2030	2030Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2030	2030Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2030	2030Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2030	2030Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2030	2030Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2030	2030Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2030	2030Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2030	2030Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2030	2030Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2030	2030Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2030	2030Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2030	2030Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2030	2030Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2030	2030Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2030	2030Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2030	2030Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2030	2030Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2030	2030Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2030	2030Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2030	2030Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2030	2030Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2030	2030Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2030	2030Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2030	2030Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2030	2030Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2030	2030Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2030	2030Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2030	2030Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2030	2030Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2030	2030Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2030	2030Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2030	2030Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2030	2030Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2030	2030Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2030	2030Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2030	2030Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2030	2030Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2030	2030Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2030	2030Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2030	2030Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2030	2030Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2030	2030Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2030	2030Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2030	2030Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2030	2030Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2030	2030Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2030	2030Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2030	2030Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2030	2030Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2030	2030Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2030	2030Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2030	2030Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2030	2030Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2030	2030Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2030	2030Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2030	2030Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2030	2030Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2030	2030Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2030	2030Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2030	2030Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2030	2030Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2030	2030Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2030	2030Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2030	2030Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2030	2030Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2030	2030Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2030	2030Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2030	2030Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2030	2030Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2030	2030Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2030	2030Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2030	2030Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2030	2030Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2030	2030Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2030	2030Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2030	2030Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2030	2030Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2030	2030Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2030	2030Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2030	2030Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2030	2030Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2030	2030Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2030	2030Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2030	2030Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2030	2030Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2030	2030Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2030	2030Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2030	2030Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2030	2030Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2030	2030Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2030	2030Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2030	2030Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2030	2030Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2030	2030Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2030	2030Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2030	2030Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2030	2030Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2030	2030Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2030	2030Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2030	2030Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2030	2030Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2030	2030Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2030	2030Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2030	2030Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2030	2030Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2030	2030Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2030	2030Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2030	2030Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2030	2030Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2030	2030Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2030	2030Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2030	2030Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2030	2030Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2030	2030Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2030	2030Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2030	2030Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2030	2030Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2030	2030Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2030	2030Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2030	2030Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2030	2030Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2030	2030Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2030	2030Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2030	2030Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2030	2030Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2030	2030Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2030	2030Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2030	2030Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2030	2030Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2030	2030Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2030	2030Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2030	2030Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2030	2030Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2030	2030Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2030	2030Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2030	2030Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2030	2030Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2030	2030Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2030	2030Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2030	2030Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2030	2030Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2030	2030Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2030	2030Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2030	2030Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2030	2030Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2030	2030Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2030	2030Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2030	2030Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2030	2030Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2030	2030Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2030	2030Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2030	2030Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2030	2030Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2030	2030Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2030	2030Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2030	2030Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2030	2030Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2030	2030Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2030	2030Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2030	2030Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2030	2030Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2030	2030Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2031	2031Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2031	2031Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2031	2031Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2031	2031Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2031	2031Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2031	2031Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2031	2031Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2031	2031Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2031	2031Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2031	2031Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2031	2031Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2031	2031Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2031	2031Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2031	2031Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2031	2031Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2031	2031Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2031	2031Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2031	2031Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2031	2031Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2031	2031Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2031	2031Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2031	2031Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2031	2031Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2031	2031Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2031	2031Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2031	2031Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2031	2031Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2031	2031Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2031	2031Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2031	2031Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2031	2031Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2031	2031Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2031	2031Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2031	2031Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2031	2031Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2031	2031Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2031	2031Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2031	2031Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2031	2031Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2031	2031Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2031	2031Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2031	2031Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2031	2031Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2031	2031Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2031	2031Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2031	2031Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2031	2031Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2031	2031Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2031	2031Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2031	2031Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2031	2031Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2031	2031Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2031	2031Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2031	2031Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2031	2031Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2031	2031Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2031	2031Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2031	2031Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2031	2031Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2031	2031Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2031	2031Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2031	2031Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2031	2031Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2031	2031Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2031	2031Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2031	2031Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2031	2031Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2031	2031Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2031	2031Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2031	2031Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2031	2031Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2031	2031Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2031	2031Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2031	2031Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2031	2031Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2031	2031Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2031	2031Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2031	2031Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2031	2031Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2031	2031Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2031	2031Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2031	2031Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2031	2031Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2031	2031Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2031	2031Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2031	2031Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2031	2031Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2031	2031Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2031	2031Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2031	2031Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2031	2031Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2031	2031Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2031	2031Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2031	2031Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2031	2031Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2031	2031Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2031	2031Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2031	2031Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2031	2031Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2031	2031Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2031	2031Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2031	2031Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2031	2031Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2031	2031Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2031	2031Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2031	2031Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2031	2031Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2031	2031Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2031	2031Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2031	2031Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2031	2031Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2031	2031Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2031	2031Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2031	2031Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2031	2031Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2031	2031Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2031	2031Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2031	2031Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2031	2031Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2031	2031Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2031	2031Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2031	2031Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2031	2031Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2031	2031Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2031	2031Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2031	2031Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2031	2031Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2031	2031Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2031	2031Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2031	2031Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2031	2031Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2031	2031Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2031	2031Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2031	2031Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2031	2031Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2031	2031Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2031	2031Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2031	2031Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2031	2031Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2031	2031Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2031	2031Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2031	2031Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2031	2031Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2031	2031Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2031	2031Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2031	2031Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2031	2031Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2031	2031Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2031	2031Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2031	2031Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2031	2031Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2031	2031Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2031	2031Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2031	2031Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2031	2031Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2031	2031Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2031	2031Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2031	2031Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2031	2031Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2031	2031Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2031	2031Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2031	2031Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2031	2031Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2031	2031Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2031	2031Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2031	2031Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2031	2031Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2031	2031Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2031	2031Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2031	2031Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2031	2031Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2031	2031Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2031	2031Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2031	2031Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2031	2031Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2031	2031Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2031	2031Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2031	2031Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2031	2031Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2031	2031Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2031	2031Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2031	2031Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2031	2031Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2031	2031Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2031	2031Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2031	2031Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2031	2031Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2031	2031Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2031	2031Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2031	2031Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2031	2031Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2031	2031Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2031	2031Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2031	2031Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2031	2031Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2031	2031Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2031	2031Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2031	2031Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2031	2031Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2031	2031Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2031	2031Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2031	2031Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2031	2031Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2031	2031Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2031	2031Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2031	2031Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2031	2031Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2031	2031Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2031	2031Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2031	2031Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2031	2031Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2031	2031Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2031	2031Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2031	2031Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2031	2031Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2031	2031Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2031	2031Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2031	2031Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2031	2031Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2031	2031Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2031	2031Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2031	2031Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2031	2031Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2031	2031Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2031	2031Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2031	2031Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2031	2031Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2031	2031Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2031	2031Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2031	2031Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2031	2031Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2031	2031Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2031	2031Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2031	2031Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2031	2031Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2031	2031Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2031	2031Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2031	2031Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2031	2031Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2031	2031Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2031	2031Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2031	2031Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2033	2033Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2033	2033Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2033	2033Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2033	2033Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2033	2033Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2033	2033Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2033	2033Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2033	2033Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2033	2033Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016

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2033	2033Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2033	2033Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2033	2033Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2033	2033Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2033	2033Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2033	2033Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2033	2033Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2033	2033Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2033	2033Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2033	2033Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2033	2033Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2033	2033Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2033	2033Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2033	2033Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2033	2033Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2033	2033Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2033	2033Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2033	2033Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2033	2033Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2033	2033Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2033	2033Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2033	2033Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2033	2033Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2033	2033Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2033	2033Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2033	2033Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2033	2033Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2033	2033Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2033	2033Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2033	2033Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2033	2033Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2033	2033Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2033	2033Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2033	2033Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2033	2033Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2033	2033Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2033	2033Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2033	2033Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2033	2033Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2033	2033Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2033	2033Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2033	2033Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2033	2033Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2033	2033Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2033	2033Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2033	2033Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2033	2033Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2033	2033Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2033	2033Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2033	2033Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2033	2033Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2033	2033Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2033	2033Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2033	2033Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2033	2033Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2033	2033Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2033	2033Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2033	2033Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2033	2033Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2033	2033Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2033	2033Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2033	2033Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2033	2033Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2033	2033Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2033	2033Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2033	2033Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2033	2033Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2033	2033Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2033	2033Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2033	2033Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2033	2033Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2033	2033Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2033	2033Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2033	2033Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2033	2033Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2033	2033Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2033	2033Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2033	2033Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2033	2033Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2033	2033Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2033	2033Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2033	2033Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2033	2033Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2033	2033Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2033	2033Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2033	2033Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2033	2033Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2033	2033Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2033	2033Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2033	2033Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2033	2033Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2033	2033Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2033	2033Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2033	2033Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2033	2033Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2033	2033Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2033	2033Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2033	2033Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2033	2033Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2033	2033Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2033	2033Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2033	2033Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2033	2033Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2033	2033Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2033	2033Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2033	2033Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2033	2033Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2033	2033Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2033	2033Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2033	2033Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2033	2033Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2033	2033Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067

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2033	2033Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2033	2033Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2033	2033Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2033	2033Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2033	2033Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2033	2033Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2033	2033Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2033	2033Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2033	2033Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2033	2033Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2033	2033Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2033	2033Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2033	2033Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2033	2033Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2033	2033Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2033	2033Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2033	2033Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2033	2033Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2033	2033Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2033	2033Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2033	2033Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2033	2033Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2033	2033Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2033	2033Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2033	2033Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2033	2033Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2033	2033Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2033	2033Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2033	2033Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2033	2033Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2033	2033Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2033	2033Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2033	2033Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2033	2033Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2033	2033Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2033	2033Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2033	2033Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2033	2033Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2033	2033Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2033	2033Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2033	2033Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2033	2033Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2033	2033Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2033	2033Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2033	2033Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2033	2033Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2033	2033Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2033	2033Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2033	2033Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2033	2033Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2033	2033Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2033	2033Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2033	2033Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2033	2033Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2033	2033Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2033	2033Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2033	2033Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2033	2033Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2033	2033Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2033	2033Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2033	2033Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2033	2033Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2033	2033Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2033	2033Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2033	2033Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2033	2033Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2033	2033Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2033	2033Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2033	2033Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2033	2033Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2033	2033Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2033	2033Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2033	2033Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2033	2033Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2033	2033Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2033	2033Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2033	2033Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2033	2033Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2033	2033Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2033	2033Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2033	2033Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2033	2033Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2033	2033Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2033	2033Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2033	2033Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2033	2033Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2033	2033Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2033	2033Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2033	2033Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2033	2033Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2033	2033Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2033	2033Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2033	2033Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2033	2033Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2033	2033Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2033	2033Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2033	2033Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2033	2033Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2033	2033Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2033	2033Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2033	2033Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2033	2033Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2033	2033Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2033	2033Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2033	2033Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2033	2033Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2033	2033Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2033	2033Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2033	2033Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2033	2033Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2033	2033Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2033	2033Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284

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2033	2033Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2033	2033Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2033	2033Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2033	2033Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2033	2033Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2033	2033Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2033	2033Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2033	2033Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2033	2033Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2035	2035Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2035	2035Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2035	2035Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2035	2035Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2035	2035Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2035	2035Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2035	2035Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2035	2035Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2035	2035Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2035	2035Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2035	2035Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2035	2035Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2035	2035Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2035	2035Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2035	2035Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2035	2035Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2035	2035Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2035	2035Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2035	2035Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2035	2035Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2035	2035Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2035	2035Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2035	2035Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2035	2035Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2035	2035Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2035	2035Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2035	2035Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2035	2035Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2035	2035Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2035	2035Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2035	2035Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2035	2035Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2035	2035Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2035	2035Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2035	2035Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2035	2035Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2035	2035Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2035	2035Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2035	2035Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2035	2035Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2035	2035Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2035	2035Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2035	2035Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2035	2035Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2035	2035Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2035	2035Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2035	2035Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083

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2035	2035Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2035	2035Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2035	2035Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2035	2035Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2035	2035Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2035	2035Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2035	2035Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2035	2035Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2035	2035Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2035	2035Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2035	2035Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2035	2035Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2035	2035Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2035	2035Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2035	2035Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2035	2035Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2035	2035Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2035	2035Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2035	2035Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2035	2035Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2035	2035Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2035	2035Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2035	2035Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2035	2035Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2035	2035Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2035	2035Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2035	2035Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2035	2035Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2035	2035Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2035	2035Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2035	2035Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2035	2035Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2035	2035Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2035	2035Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2035	2035Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2035	2035Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2035	2035Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2035	2035Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2035	2035Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2035	2035Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2035	2035Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2035	2035Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2035	2035Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2035	2035Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2035	2035Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2035	2035Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2035	2035Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2035	2035Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2035	2035Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2035	2035Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2035	2035Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2035	2035Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2035	2035Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2035	2035Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2035	2035Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2035	2035Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2035	2035Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2035	2035Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2035	2035Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2035	2035Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2035	2035Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2035	2035Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2035	2035Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2035	2035Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2035	2035Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2035	2035Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2035	2035Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2035	2035Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2035	2035Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2035	2035Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2035	2035Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2035	2035Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2035	2035Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2035	2035Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2035	2035Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2035	2035Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2035	2035Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2035	2035Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2035	2035Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2035	2035Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2035	2035Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2035	2035Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2035	2035Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2035	2035Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2035	2035Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2035	2035Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2035	2035Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2035	2035Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2035	2035Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2035	2035Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2035	2035Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2035	2035Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2035	2035Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2035	2035Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2035	2035Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2035	2035Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2035	2035Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2035	2035Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2035	2035Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2035	2035Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2035	2035Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2035	2035Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2035	2035Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2035	2035Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2035	2035Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2035	2035Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2035	2035Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2035	2035Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2035	2035Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2035	2035Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2035	2035Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2035	2035Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2035	2035Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2035	2035Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2035	2035Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2035	2035Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2035	2035Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2035	2035Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2035	2035Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2035	2035Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2035	2035Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2035	2035Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2035	2035Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2035	2035Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2035	2035Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2035	2035Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2035	2035Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2035	2035Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2035	2035Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2035	2035Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2035	2035Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2035	2035Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2035	2035Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2035	2035Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2035	2035Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2035	2035Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2035	2035Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2035	2035Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2035	2035Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2035	2035Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2035	2035Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2035	2035Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2035	2035Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2035	2035Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2035	2035Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2035	2035Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2035	2035Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2035	2035Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2035	2035Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2035	2035Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2035	2035Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2035	2035Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2035	2035Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2035	2035Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2035	2035Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2035	2035Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2035	2035Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2035	2035Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2035	2035Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2035	2035Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2035	2035Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2035	2035Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2035	2035Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2035	2035Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2035	2035Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2035	2035Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2035	2035Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2035	2035Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051

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2035	2035Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2035	2035Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2035	2035Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2035	2035Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2035	2035Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2035	2035Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2035	2035Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2035	2035Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2035	2035Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2035	2035Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2035	2035Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2035	2035Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2035	2035Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2035	2035Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2035	2035Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2035	2035Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2035	2035Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2035	2035Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2035	2035Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2035	2035Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2035	2035Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2035	2035Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2035	2035Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2035	2035Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2035	2035Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2035	2035Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2035	2035Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2037	2037Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2037	2037Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2037	2037Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2037	2037Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2037	2037Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2037	2037Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2037	2037Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2037	2037Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2037	2037Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2037	2037Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2037	2037Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2037	2037Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2037	2037Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2037	2037Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2037	2037Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2037	2037Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2037	2037Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2037	2037Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2037	2037Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2037	2037Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2037	2037Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2037	2037Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2037	2037Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2037	2037Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2037	2037Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2037	2037Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2037	2037Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2037	2037Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2037	2037Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2037	2037Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2037	2037Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2037	2037Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2037	2037Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2037	2037Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2037	2037Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2037	2037Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2037	2037Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2037	2037Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2037	2037Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2037	2037Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2037	2037Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2037	2037Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2037	2037Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2037	2037Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2037	2037Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2037	2037Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2037	2037Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2037	2037Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2037	2037Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2037	2037Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2037	2037Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2037	2037Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2037	2037Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2037	2037Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2037	2037Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2037	2037Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2037	2037Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2037	2037Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2037	2037Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2037	2037Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2037	2037Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2037	2037Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2037	2037Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2037	2037Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2037	2037Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2037	2037Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2037	2037Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2037	2037Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2037	2037Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2037	2037Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2037	2037Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2037	2037Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2037	2037Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2037	2037Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2037	2037Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2037	2037Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2037	2037Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2037	2037Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2037	2037Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2037	2037Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2037	2037Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2037	2037Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2037	2037Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2037	2037Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2037	2037Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2037	2037Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2037	2037Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2037	2037Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2037	2037Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2037	2037Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2037	2037Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2037	2037Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2037	2037Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2037	2037Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2037	2037Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2037	2037Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2037	2037Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2037	2037Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2037	2037Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2037	2037Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2037	2037Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2037	2037Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2037	2037Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2037	2037Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2037	2037Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2037	2037Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2037	2037Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2037	2037Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2037	2037Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2037	2037Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2037	2037Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2037	2037Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2037	2037Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2037	2037Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2037	2037Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2037	2037Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2037	2037Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2037	2037Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2037	2037Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2037	2037Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2037	2037Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2037	2037Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2037	2037Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2037	2037Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2037	2037Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2037	2037Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2037	2037Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2037	2037Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2037	2037Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2037	2037Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2037	2037Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2037	2037Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2037	2037Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2037	2037Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2037	2037Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2037	2037Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2037	2037Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2037	2037Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2037	2037Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2037	2037Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2037	2037Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2037	2037Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2037	2037Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2037	2037Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2037	2037Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2037	2037Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2037	2037Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2037	2037Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2037	2037Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2037	2037Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2037	2037Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2037	2037Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2037	2037Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2037	2037Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2037	2037Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2037	2037Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2037	2037Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2037	2037Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2037	2037Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2037	2037Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2037	2037Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2037	2037Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2037	2037Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2037	2037Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2037	2037Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2037	2037Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2037	2037Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2037	2037Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2037	2037Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2037	2037Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2037	2037Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2037	2037Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2037	2037Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2037	2037Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2037	2037Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2037	2037Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2037	2037Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2037	2037Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2037	2037Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2037	2037Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2037	2037Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2037	2037Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2037	2037Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2037	2037Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2037	2037Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2037	2037Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2037	2037Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2037	2037Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2037	2037Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2037	2037Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2037	2037Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2037	2037Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2037	2037Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2037	2037Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2037	2037Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2037	2037Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2037	2037Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2037	2037Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2037	2037Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2037	2037Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2037	2037Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2037	2037Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2037	2037Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2037	2037Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2037	2037Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2037	2037Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2037	2037Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2037	2037Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2037	2037Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2037	2037Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2037	2037Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2037	2037Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2037	2037Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2037	2037Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2037	2037Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2037	2037Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2037	2037Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2037	2037Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2037	2037Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2037	2037Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2037	2037Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2037	2037Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2037	2037Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2037	2037Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2037	2037Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2037	2037Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2037	2037Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2037	2037Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2037	2037Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2037	2037Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2037	2037Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2037	2037Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2037	2037Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2037	2037Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2037	2037Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2037	2037Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2037	2037Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2037	2037Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2037	2037Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2037	2037Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2037	2037Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2037	2037Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2038	2038Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2038	2038Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2038	2038Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2038	2038Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2038	2038Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2038	2038Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2038	2038Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2038	2038Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2038	2038Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2038	2038Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2038	2038Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026

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2038	2038Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2038	2038Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2038	2038Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2038	2038Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2038	2038Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2038	2038Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2038	2038Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2038	2038Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2038	2038Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2038	2038Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2038	2038Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2038	2038Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2038	2038Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2038	2038Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2038	2038Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2038	2038Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2038	2038Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2038	2038Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2038	2038Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2038	2038Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2038	2038Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2038	2038Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2038	2038Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2038	2038Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2038	2038Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2038	2038Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2038	2038Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2038	2038Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2038	2038Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2038	2038Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2038	2038Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2038	2038Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2038	2038Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2038	2038Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2038	2038Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2038	2038Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2038	2038Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2038	2038Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226
2038	2038Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2038	2038Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2038	2038Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2038	2038Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2038	2038Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2038	2038Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2038	2038Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2038	2038Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2038	2038Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2038	2038Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2038	2038Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2038	2038Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2038	2038Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2038	2038Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2038	2038Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2038	2038Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2038	2038Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2038	2038Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2038	2038Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2038	2038Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2038	2038Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2038	2038Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2038	2038Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2038	2038Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2038	2038Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2038	2038Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2038	2038Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2038	2038Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2038	2038Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2038	2038Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2038	2038Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2038	2038Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2038	2038Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2038	2038Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2038	2038Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2038	2038Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2038	2038Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2038	2038Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2038	2038Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2038	2038Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2038	2038Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2038	2038Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2038	2038Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2038	2038Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2038	2038Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2038	2038Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2038	2038Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2038	2038Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2038	2038Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2038	2038Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2038	2038Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2038	2038Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2038	2038Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2038	2038Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2038	2038Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2038	2038Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011
2038	2038Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2038	2038Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2038	2038Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2038	2038Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2038	2038Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2038	2038Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2038	2038Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2038	2038Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2038	2038Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2038	2038Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2038	2038Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2038	2038Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2038	2038Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2038	2038Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2038	2038Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2038	2038Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2038	2038Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2038	2038Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038

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2038	2038Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2038	2038Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2038	2038Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2038	2038Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2038	2038Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2038	2038Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2038	2038Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2038	2038Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2038	2038Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2038	2038Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2038	2038Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2038	2038Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2038	2038Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2038	2038Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2038	2038Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2038	2038Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2038	2038Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2038	2038Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2038	2038Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2038	2038Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2038	2038Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2038	2038Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2038	2038Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2038	2038Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2038	2038Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2038	2038Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2038	2038Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2038	2038Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2038	2038Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2038	2038Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2038	2038Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2038	2038Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2038	2038Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2038	2038Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2038	2038Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2038	2038Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2038	2038Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2038	2038Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031
2038	2038Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2038	2038Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2038	2038Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2038	2038Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2038	2038Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2038	2038Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2038	2038Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2038	2038Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2038	2038Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2038	2038Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2038	2038Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2038	2038Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2038	2038Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2038	2038Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2038	2038Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2038	2038Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2038	2038Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2038	2038Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018

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2038	2038Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2038	2038Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2038	2038Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2038	2038Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2038	2038Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2038	2038Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2038	2038Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2038	2038Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2038	2038Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2038	2038Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2038	2038Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2038	2038Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2038	2038Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2038	2038Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2038	2038Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2038	2038Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2038	2038Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2038	2038Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2038	2038Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2038	2038Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2038	2038Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2038	2038Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2038	2038Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2038	2038Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2038	2038Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2038	2038Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2038	2038Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2038	2038Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2038	2038Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2038	2038Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2038	2038Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2038	2038Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2038	2038Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2038	2038Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2038	2038Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2038	2038Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2038	2038Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2038	2038Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037
2038	2038Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2038	2038Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2038	2038Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2038	2038Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2038	2038Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2038	2038Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2038	2038Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2038	2038Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2038	2038Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2038	2038Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2038	2038Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2038	2038Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2038	2038Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2038	2038Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2038	2038Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2038	2038Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2038	2038Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2038	2038Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2038	2038Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2038	2038Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2038	2038Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2038	2038Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2038	2038Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2038	2038Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2038	2038Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019
2041	2041Aerial Lifts15	Aerial Lifts	15	0.0101	0.0528	0.0631	0.0001	0.0025	8.7	0.0009
2041	2041Aerial Lifts25	Aerial Lifts	25	0.0132	0.0451	0.0838	0.0001	0.0032	11.0	0.0012
2041	2041Aerial Lifts50	Aerial Lifts	50	0.0168	0.1351	0.1218	0.0003	0.0035	19.6	0.0015
2041	2041Aerial Lifts120	Aerial Lifts	120	0.0176	0.2265	0.1496	0.0004	0.0063	38.1	0.0016
2041	2041Aerial Lifts500	Aerial Lifts	500	0.0580	0.3710	0.3660	0.0021	0.0109	213	0.0052
2041	2041Aerial Lifts750	Aerial Lifts	750	0.1054	0.6706	0.6753	0.0039	0.0199	385	0.0095
2041	2041Aerial Lifts Composite	Aerial Lifts Composite		0.0184	0.1646	0.1366	0.0004	0.0048	34.7	0.0017
2041	2041Air Compressors15	Air Compressors	15	0.0087	0.0444	0.0545	0.0001	0.0023	7.2	0.0008
2041	2041Air Compressors25	Air Compressors	25	0.0181	0.0605	0.1121	0.0002	0.0045	14.4	0.0016
2041	2041Air Compressors50	Air Compressors	50	0.0263	0.1911	0.1476	0.0003	0.0047	22.3	0.0024
2041	2041Air Compressors120	Air Compressors	120	0.0289	0.3023	0.1928	0.0006	0.0088	47.0	0.0026
2041	2041Air Compressors175	Air Compressors	175	0.0424	0.4998	0.2187	0.0010	0.0104	88.5	0.0038
2041	2041Air Compressors250	Air Compressors	250	0.0514	0.2531	0.2553	0.0015	0.0078	131	0.0046
2041	2041Air Compressors500	Air Compressors	500	0.0894	0.4292	0.4150	0.0023	0.0134	232	0.0081
2041	2041Air Compressors750	Air Compressors	750	0.1385	0.6633	0.6545	0.0036	0.0210	358	0.0125
2041	2041Air Compressors1000	Air Compressors	1000	0.1999	0.9265	2.5439	0.0049	0.0483	486	0.0180
2041	2041Air Compressors Composite	Air Compressors Composite		0.0349	0.3027	0.2104	0.0007	0.0088	63.6	0.0031
2041	2041Bore/Drill Rigs15	Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
2041	2041Bore/Drill Rigs25	Bore/Drill Rigs	25	0.0193	0.0658	0.1219	0.0002	0.0046	16.0	0.0017
2041	2041Bore/Drill Rigs50	Bore/Drill Rigs	50	0.0190	0.2200	0.1662	0.0004	0.0009	31.0	0.0017
2041	2041Bore/Drill Rigs120	Bore/Drill Rigs	120	0.0252	0.4660	0.1955	0.0009	0.0020	77.1	0.0023
2041	2041Bore/Drill Rigs175	Bore/Drill Rigs	175	0.0324	0.7542	0.0787	0.0016	0.0030	141	0.0029
2041	2041Bore/Drill Rigs250	Bore/Drill Rigs	250	0.0427	0.3426	0.0981	0.0021	0.0035	188	0.0039
2041	2041Bore/Drill Rigs500	Bore/Drill Rigs	500	0.0706	0.5512	0.1622	0.0031	0.0058	311	0.0064
2041	2041Bore/Drill Rigs750	Bore/Drill Rigs	750	0.1396	1.0891	0.3204	0.0062	0.0115	615	0.0126
2041	2041Bore/Drill Rigs1000	Bore/Drill Rigs	1000	0.2115	1.6437	3.8912	0.0093	0.0364	928	0.0191
2041	2041Bore/Drill Rigs Composite	Bore/Drill Rigs Composite		0.0428	0.5007	0.2864	0.0017	0.0042	165	0.0039
2041	2041Cement and Mortar Mixers15	Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2041	2041Cement and Mortar Mixers25	Cement and Mortar Mixers	25	0.0213	0.0724	0.1346	0.0002	0.0052	17.6	0.0019
2041	2041Cement and Mortar Mixers Composite	Cement and Mortar Mixers Composite		0.0085	0.0414	0.0534	0.0001	0.0021	7.2	0.0008
2041	2041Concrete/Industrial Saws25	Concrete/Industrial Saws	25	0.0199	0.0678	0.1256	0.0002	0.0047	16.5	0.0018
2041	2041Concrete/Industrial Saws50	Concrete/Industrial Saws	50	0.0279	0.2284	0.1910	0.0004	0.0053	30.2	0.0025
2041	2041Concrete/Industrial Saws120	Concrete/Industrial Saws	120	0.0370	0.4561	0.2840	0.0009	0.0117	74.1	0.0033
2041	2041Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0.0623	0.8663	0.3523	0.0018	0.0160	160	0.0056
2041	2041Concrete/Industrial Saws Composite	Concrete/Industrial Saws Composite		0.0337	0.3706	0.2471	0.0007	0.0093	58.5	0.0030
2041	2041Cranes50	Cranes	50	0.0350	0.2256	0.1644	0.0003	0.0062	23.2	0.0032
2041	2041Cranes120	Cranes	120	0.0376	0.3384	0.2298	0.0006	0.0120	50.1	0.0034
2041	2041Cranes175	Cranes	175	0.0462	0.4744	0.2300	0.0009	0.0120	80.3	0.0042
2041	2041Cranes250	Cranes	250	0.0544	0.2316	0.2705	0.0013	0.0094	112	0.0049
2041	2041Cranes500	Cranes	500	0.0858	0.3535	0.3977	0.0018	0.0146	180	0.0077
2041	2041Cranes750	Cranes	750	0.1446	0.5947	0.6821	0.0030	0.0248	303	0.0130
2041	2041Cranes9999	Cranes	9999	0.5219	1.9715	5.5760	0.0098	0.1146	971	0.0471
2041	2041Cranes Composite	Cranes Composite		0.0681	0.3738	0.4223	0.0014	0.0143	129	0.0061
2041	2041Crawler Tractors50	Crawler Tractors	50	0.0487	0.2566	0.1842	0.0003	0.0090	24.9	0.0044
2041	2041Crawler Tractors120	Crawler Tractors	120	0.0609	0.4537	0.3562	0.0008	0.0221	65.8	0.0055
2041	2041Crawler Tractors175	Crawler Tractors	175	0.0823	0.7265	0.4447	0.0014	0.0241	121	0.0074
2041	2041Crawler Tractors250	Crawler Tractors	250	0.0924	0.3662	0.5348	0.0019	0.0192	166	0.0083
2041	2041Crawler Tractors500	Crawler Tractors	500	0.1392	0.5877	0.7527	0.0025	0.0280	259	0.0126
2041	2041Crawler Tractors750	Crawler Tractors	750	0.2506	1.0528	1.3878	0.0047	0.0510	465	0.0226

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2041	2041Crawler Tractors1000	Crawler Tractors	1000	0.3749	1.5618	4.2168	0.0066	0.0958	658	0.0338
2041	2041Crawler Tractors Composite	Crawler Tractors Composite		0.0789	0.5065	0.4492	0.0013	0.0227	114	0.0071
2041	2041Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0.0508	0.3859	0.2899	0.0006	0.0083	44.0	0.0046
2041	2041Crushing/Proc. Equipment120	Crushing/Proc. Equipment	120	0.0506	0.5406	0.3289	0.0010	0.0140	83.1	0.0046
2041	2041Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0.0795	0.9556	0.3830	0.0019	0.0177	167	0.0072
2041	2041Crushing/Proc. Equipment250	Crushing/Proc. Equipment	250	0.0967	0.4768	0.4357	0.0028	0.0134	245	0.0087
2041	2041Crushing/Proc. Equipment500	Crushing/Proc. Equipment	500	0.1459	0.6977	0.6163	0.0037	0.0200	374	0.0132
2041	2041Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0.2307	1.1003	0.9907	0.0059	0.0316	589	0.0208
2041	2041Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0.6019	2.5014	6.6977	0.0131	0.1238	1,308	0.0543
2041	2041Crushing/Proc. Equipment Composite	Crushing/Proc. Equipment Composite		0.0693	0.6187	0.3763	0.0015	0.0146	132	0.0062
2041	2041Dumpers/Tenders25	Dumpers/Tenders	25	0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2041	2041Dumpers/Tenders Composite	Dumpers/Tenders Composite		0.0092	0.0314	0.0581	0.0001	0.0022	7.6	0.0008
2041	2041Excavators25	Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	16.4	0.0018
2041	2041Excavators50	Excavators	50	0.0297	0.2365	0.1616	0.0003	0.0035	25.0	0.0027
2041	2041Excavators120	Excavators	120	0.0448	0.4942	0.2638	0.0009	0.0092	73.6	0.0040
2041	2041Excavators175	Excavators	175	0.0518	0.6636	0.1982	0.0013	0.0091	112	0.0047
2041	2041Excavators250	Excavators	250	0.0647	0.3210	0.2222	0.0018	0.0074	159	0.0058
2041	2041Excavators500	Excavators	500	0.0946	0.4495	0.3091	0.0023	0.0107	234	0.0085
2041	2041Excavators750	Excavators	750	0.1569	0.7451	0.5194	0.0039	0.0178	387	0.0142
2041	2041Excavators Composite	Excavators Composite		0.0559	0.5086	0.2269	0.0013	0.0086	120	0.0050
2041	2041Forklifts50	Forklifts	50	0.0150	0.1361	0.0904	0.0002	0.0013	14.7	0.0014
2041	2041Forklifts120	Forklifts	120	0.0168	0.2086	0.0997	0.0004	0.0023	31.2	0.0015
2041	2041Forklifts175	Forklifts	175	0.0228	0.3310	0.0732	0.0006	0.0029	56.1	0.0021
2041	2041Forklifts250	Forklifts	250	0.0289	0.1551	0.0746	0.0009	0.0027	77.1	0.0026
2041	2041Forklifts500	Forklifts	500	0.0416	0.2123	0.1038	0.0011	0.0038	111	0.0038
2041	2041Forklifts Composite	Forklifts Composite		0.0236	0.2148	0.0860	0.0006	0.0025	54.4	0.0021
2041	2041Generator Sets15	Generator Sets	15	0.0109	0.0627	0.0768	0.0002	0.0032	10.2	0.0010
2041	2041Generator Sets25	Generator Sets	25	0.0216	0.0738	0.1368	0.0002	0.0055	17.6	0.0019
2041	2041Generator Sets50	Generator Sets	50	0.0242	0.2034	0.1881	0.0004	0.0051	30.6	0.0022
2041	2041Generator Sets120	Generator Sets	120	0.0340	0.4585	0.3022	0.0009	0.0122	77.9	0.0031
2041	2041Generator Sets175	Generator Sets	175	0.0469	0.7328	0.3291	0.0016	0.0136	142	0.0042
2041	2041Generator Sets250	Generator Sets	250	0.0558	0.3746	0.3885	0.0024	0.0108	213	0.0050
2041	2041Generator Sets500	Generator Sets	500	0.0862	0.5820	0.5697	0.0033	0.0167	337	0.0078
2041	2041Generator Sets750	Generator Sets	750	0.1401	0.9395	0.9382	0.0055	0.0272	544	0.0126
2041	2041Generator Sets9999	Generator Sets	9999	0.3235	1.8648	5.2188	0.0105	0.0888	1,049	0.0292
2041	2041Generator Sets Composite	Generator Sets Composite		0.0288	0.2667	0.2329	0.0007	0.0081	61.0	0.0026
2041	2041Graders50	Graders	50	0.0382	0.2599	0.1877	0.0004	0.0063	27.5	0.0034
2041	2041Graders120	Graders	120	0.0521	0.5009	0.3219	0.0009	0.0153	75.0	0.0047
2041	2041Graders175	Graders	175	0.0652	0.7261	0.3117	0.0014	0.0157	124	0.0059
2041	2041Graders250	Graders	250	0.0781	0.3549	0.3652	0.0019	0.0129	172	0.0071
2041	2041Graders500	Graders	500	0.1023	0.4610	0.4468	0.0023	0.0165	229	0.0092
2041	2041Graders750	Graders	750	0.2167	0.9755	0.9628	0.0049	0.0353	486	0.0196
2041	2041Graders Composite	Graders Composite		0.0676	0.5696	0.3314	0.0015	0.0147	133	0.0061
2041	2041Off-Highway Tractors120	Off-Highway Tractors	120	0.1108	0.6619	0.6362	0.0011	0.0455	93.7	0.0100
2041	2041Off-Highway Tractors175	Off-Highway Tractors	175	0.1110	0.7932	0.6639	0.0015	0.0370	130	0.0100
2041	2041Off-Highway Tractors250	Off-Highway Tractors	250	0.0890	0.3179	0.5983	0.0015	0.0227	130	0.0080
2041	2041Off-Highway Tractors750	Off-Highway Tractors	750	0.3692	1.5358	2.4157	0.0057	0.0918	568	0.0333
2041	2041Off-Highway Tractors1000	Off-Highway Tractors	1000	0.5623	2.3619	6.0896	0.0082	0.1577	814	0.0507
2041	2041Off-Highway Tractors Composite	Off-Highway Tractors Composite		0.1134	0.6101	0.7291	0.0017	0.0331	151	0.0102
2041	2041Off-Highway Trucks175	Off-Highway Trucks	175	0.0622	0.7536	0.2376	0.0014	0.0112	125	0.0056
2041	2041Off-Highway Trucks250	Off-Highway Trucks	250	0.0730	0.3435	0.2521	0.0019	0.0085	167	0.0066
2041	2041Off-Highway Trucks500	Off-Highway Trucks	500	0.1183	0.5319	0.3878	0.0027	0.0135	272	0.0107
2041	2041Off-Highway Trucks750	Off-Highway Trucks	750	0.1921	0.8627	0.6384	0.0044	0.0221	442	0.0173
2041	2041Off-Highway Trucks1000	Off-Highway Trucks	1000	0.2823	1.2403	3.1782	0.0063	0.0546	625	0.0255
2041	2041Off-Highway Trucks Composite	Off-Highway Trucks Composite		0.1140	0.5385	0.4769	0.0027	0.0142	260	0.0103
2041	2041Other Construction Equipment15	Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0029	10.1	0.0011

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2041	2041Other Construction Equipment25	Other Construction Equipment	25	0.0159	0.0544	0.1008	0.0002	0.0038	13.2	0.0014
2041	2041Other Construction Equipment50	Other Construction Equipment	50	0.0244	0.2188	0.1693	0.0004	0.0034	28.0	0.0022
2041	2041Other Construction Equipment120	Other Construction Equipment	120	0.0379	0.5045	0.2730	0.0009	0.0087	80.9	0.0034
2041	2041Other Construction Equipment175	Other Construction Equipment	175	0.0384	0.5858	0.1729	0.0012	0.0075	107	0.0035
2041	2041Other Construction Equipment500	Other Construction Equipment	500	0.0792	0.4606	0.3034	0.0025	0.0099	254	0.0071
2041	2041Other Construction Equipment Composite	Other Construction Equipment Composite		0.0442	0.3474	0.2021	0.0013	0.0069	123	0.0040
2041	2041Other General Industrial Equipmen15	Other General Industrial Equipmen	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
2041	2041Other General Industrial Equipmen25	Other General Industrial Equipmen	25	0.0185	0.0632	0.1170	0.0002	0.0044	15.3	0.0017
2041	2041Other General Industrial Equipmen50	Other General Industrial Equipmen	50	0.0298	0.2099	0.1491	0.0003	0.0047	21.7	0.0027
2041	2041Other General Industrial Equipmen120	Other General Industrial Equipmen	120	0.0436	0.4189	0.2603	0.0007	0.0120	62.0	0.0039
2041	2041Other General Industrial Equipmen175	Other General Industrial Equipmen	175	0.0519	0.5684	0.2412	0.0011	0.0115	95.9	0.0047
2041	2041Other General Industrial Equipmen250	Other General Industrial Equipmen	250	0.0608	0.2743	0.2679	0.0015	0.0083	136	0.0055
2041	2041Other General Industrial Equipmen500	Other General Industrial Equipmen	500	0.1174	0.5103	0.4826	0.0026	0.0157	265	0.0106
2041	2041Other General Industrial Equipmen750	Other General Industrial Equipmen	750	0.1939	0.8411	0.8117	0.0044	0.0262	437	0.0175
2041	2041Other General Industrial Equipmen1000	Other General Industrial Equipmen	1000	0.2627	1.1060	2.9924	0.0056	0.0579	560	0.0237
2041	2041Other General Industrial Equipmen Composite	Other General Industrial Equipmen Composite		0.0747	0.4438	0.3947	0.0016	0.0130	152	0.0067
2041	2041Other Material Handling Equipment50	Other Material Handling Equipment	50	0.0410	0.2893	0.2073	0.0004	0.0065	30.3	0.0037
2041	2041Other Material Handling Equipment120	Other Material Handling Equipment	120	0.0421	0.4076	0.2541	0.0007	0.0117	60.7	0.0038
2041	2041Other Material Handling Equipment175	Other Material Handling Equipment	175	0.0653	0.7197	0.3067	0.0014	0.0146	122	0.0059
2041	2041Other Material Handling Equipment250	Other Material Handling Equipment	250	0.0642	0.2920	0.2863	0.0016	0.0088	145	0.0058
2041	2041Other Material Handling Equipment500	Other Material Handling Equipment	500	0.0837	0.3670	0.3482	0.0019	0.0113	192	0.0075
2041	2041Other Material Handling Equipment9999	Other Material Handling Equipment	9999	0.3781	1.4596	3.9555	0.0073	0.0764	741	0.0341
2041	2041Other Material Handling Equipment Composite	Other Material Handling Equipment Composite		0.0696	0.4355	0.3844	0.0015	0.0124	141	0.0063
2041	2041Pavers25	Pavers	25	0.0225	0.0768	0.1422	0.0002	0.0053	18.7	0.0020
2041	2041Pavers50	Pavers	50	0.0574	0.2803	0.2102	0.0004	0.0114	28.0	0.0052
2041	2041Pavers120	Pavers	120	0.0662	0.4696	0.4003	0.0008	0.0263	69.2	0.0060
2041	2041Pavers175	Pavers	175	0.0899	0.7543	0.5238	0.0014	0.0286	128	0.0081
2041	2041Pavers250	Pavers	250	0.1097	0.4287	0.7020	0.0022	0.0254	194	0.0099
2041	2041Pavers500	Pavers	500	0.1263	0.5374	0.7572	0.0023	0.0284	233	0.0114
2041	2041Pavers Composite	Pavers Composite		0.0717	0.4745	0.3858	0.0009	0.0220	77.9	0.0065
2041	2041Paving Equipment25	Paving Equipment	25	0.0152	0.0520	0.0963	0.0002	0.0036	12.6	0.0014
2041	2041Paving Equipment50	Paving Equipment	50	0.0469	0.2355	0.1789	0.0003	0.0095	23.9	0.0042
2041	2041Paving Equipment120	Paving Equipment	120	0.0503	0.3671	0.3092	0.0006	0.0200	54.5	0.0045
2041	2041Paving Equipment175	Paving Equipment	175	0.0687	0.5900	0.4021	0.0011	0.0219	101	0.0062
2041	2041Paving Equipment250	Paving Equipment	250	0.0672	0.2648	0.4289	0.0014	0.0154	122	0.0061
2041	2041Paving Equipment Composite	Paving Equipment Composite		0.0548	0.3993	0.3281	0.0008	0.0190	68.9	0.0049
2041	2041Plate Compactors15	Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2041	2041Plate Compactors Composite	Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	4.3	0.0005
2041	2041Pressure Washers15	Pressure Washers	15	0.0052	0.0301	0.0368	0.0001	0.0015	4.9	0.0005
2041	2041Pressure Washers25	Pressure Washers	25	0.0087	0.0299	0.0555	0.0001	0.0022	7.1	0.0008
2041	2041Pressure Washers50	Pressure Washers	50	0.0079	0.0810	0.0843	0.0002	0.0019	14.3	0.0007
2041	2041Pressure Washers120	Pressure Washers	120	0.0082	0.1351	0.0897	0.0003	0.0031	24.1	0.0007
2041	2041Pressure Washers Composite	Pressure Washers Composite		0.0066	0.0531	0.0561	0.0001	0.0019	9.4	0.0006
2041	2041Pumps15	Pumps	15	0.0089	0.0456	0.0560	0.0001	0.0024	7.4	0.0008
2041	2041Pumps25	Pumps	25	0.0244	0.0816	0.1512	0.0002	0.0061	19.5	0.0022
2041	2041Pumps50	Pumps	50	0.0299	0.2394	0.2138	0.0004	0.0061	34.3	0.0027
2041	2041Pumps120	Pumps	120	0.0365	0.4656	0.3062	0.0009	0.0129	77.9	0.0033
2041	2041Pumps175	Pumps	175	0.0499	0.7342	0.3301	0.0016	0.0142	140	0.0045
2041	2041Pumps250	Pumps	250	0.0572	0.3604	0.3745	0.0023	0.0107	201	0.0052
2041	2041Pumps500	Pumps	500	0.0959	0.6034	0.5922	0.0034	0.0178	345	0.0087
2041	2041Pumps750	Pumps	750	0.1593	0.9975	0.9991	0.0057	0.0297	571	0.0144
2041	2041Pumps9999	Pumps	9999	0.4488	2.4388	6.8114	0.0136	0.1186	1,355	0.0405
2041	2041Pumps Composite	Pumps Composite		0.0270	0.2617	0.2079	0.0006	0.0078	49.6	0.0024
2041	2041Rollers15	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
2041	2041Rollers25	Rollers	25	0.0161	0.0549	0.1017	0.0002	0.0038	13.3	0.0015
2041	2041Rollers50	Rollers	50	0.0345	0.2258	0.1776	0.0003	0.0068	26.0	0.0031

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2041	2041Rollers120	Rollers	120	0.0392	0.3801	0.2647	0.0007	0.0137	59.0	0.0035
2041	2041Rollers175	Rollers	175	0.0553	0.6096	0.3030	0.0012	0.0156	108	0.0050
2041	2041Rollers250	Rollers	250	0.0656	0.3037	0.3629	0.0017	0.0127	153	0.0059
2041	2041Rollers500	Rollers	500	0.0920	0.4189	0.4752	0.0022	0.0174	219	0.0083
2041	2041Rollers Composite	Rollers Composite		0.0410	0.3763	0.2501	0.0008	0.0122	67.0	0.0037
2041	2041Rough Terrain Forklifts50	Rough Terrain Forklifts	50	0.0381	0.3041	0.2193	0.0004	0.0054	33.9	0.0034
2041	2041Rough Terrain Forklifts120	Rough Terrain Forklifts	120	0.0369	0.4106	0.2316	0.0007	0.0087	62.4	0.0033
2041	2041Rough Terrain Forklifts175	Rough Terrain Forklifts	175	0.0569	0.7229	0.2450	0.0014	0.0112	125	0.0051
2041	2041Rough Terrain Forklifts250	Rough Terrain Forklifts	250	0.0671	0.3372	0.2625	0.0019	0.0084	171	0.0061
2041	2041Rough Terrain Forklifts500	Rough Terrain Forklifts	500	0.0999	0.4838	0.3682	0.0025	0.0123	257	0.0090
2041	2041Rough Terrain Forklifts Composite	Rough Terrain Forklifts Composite		0.0396	0.4430	0.2336	0.0008	0.0090	70.3	0.0036
2041	2041Rubber Tired Dozers175	Rubber Tired Dozers	175	0.1163	0.8019	0.6895	0.0015	0.0386	129	0.0105
2041	2041Rubber Tired Dozers250	Rubber Tired Dozers	250	0.1329	0.4624	0.8841	0.0021	0.0340	183	0.0120
2041	2041Rubber Tired Dozers500	Rubber Tired Dozers	500	0.1817	0.7490	1.1543	0.0026	0.0448	265	0.0164
2041	2041Rubber Tired Dozers750	Rubber Tired Dozers	750	0.2747	1.1262	1.7818	0.0040	0.0684	399	0.0248
2041	2041Rubber Tired Dozers1000	Rubber Tired Dozers	1000	0.4321	1.7954	4.5523	0.0060	0.1202	592	0.0390
2041	2041Rubber Tired Dozers Composite	Rubber Tired Dozers Composite		0.1672	0.6620	1.0824	0.0025	0.0419	239	0.0151
2041	2041Rubber Tired Loaders25	Rubber Tired Loaders	25	0.0204	0.0697	0.1291	0.0002	0.0048	16.9	0.0018
2041	2041Rubber Tired Loaders50	Rubber Tired Loaders	50	0.0418	0.2904	0.2109	0.0004	0.0069	31.1	0.0038
2041	2041Rubber Tired Loaders120	Rubber Tired Loaders	120	0.0397	0.3916	0.2476	0.0007	0.0115	58.9	0.0036
2041	2041Rubber Tired Loaders175	Rubber Tired Loaders	175	0.0546	0.6199	0.2592	0.0012	0.0130	106	0.0049
2041	2041Rubber Tired Loaders250	Rubber Tired Loaders	250	0.0661	0.3041	0.3040	0.0017	0.0107	149	0.0060
2041	2041Rubber Tired Loaders500	Rubber Tired Loaders	500	0.1034	0.4654	0.4455	0.0023	0.0164	237	0.0093
2041	2041Rubber Tired Loaders750	Rubber Tired Loaders	750	0.2119	0.9532	0.9273	0.0049	0.0338	486	0.0191
2041	2041Rubber Tired Loaders1000	Rubber Tired Loaders	1000	0.2701	1.1927	3.2272	0.0060	0.0615	594	0.0244
2041	2041Rubber Tired Loaders Composite	Rubber Tired Loaders Composite		0.0559	0.4311	0.2835	0.0012	0.0121	109	0.0050
2041	2041Scrapers120	Scrapers	120	0.0887	0.6472	0.5218	0.0011	0.0330	93.9	0.0080
2041	2041Scrapers175	Scrapers	175	0.1025	0.8864	0.5654	0.0017	0.0307	148	0.0092
2041	2041Scrapers250	Scrapers	250	0.1187	0.4642	0.7040	0.0024	0.0254	209	0.0107
2041	2041Scrapers500	Scrapers	500	0.1755	0.7332	0.9727	0.0032	0.0364	321	0.0158
2041	2041Scrapers750	Scrapers	750	0.3043	1.2657	1.7266	0.0056	0.0638	555	0.0275
2041	2041Scrapers Composite	Scrapers Composite		0.1495	0.7187	0.8387	0.0027	0.0335	262	0.0135
2041	2041Signal Boards15	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	6.2	0.0006
2041	2041Signal Boards50	Signal Boards	50	0.0332	0.2686	0.2268	0.0005	0.0063	36.2	0.0030
2041	2041Signal Boards120	Signal Boards	120	0.0394	0.4898	0.3076	0.0009	0.0127	80.2	0.0036
2041	2041Signal Boards175	Signal Boards	175	0.0587	0.8292	0.3433	0.0017	0.0152	155	0.0053
2041	2041Signal Boards250	Signal Boards	250	0.0794	0.4676	0.4435	0.0029	0.0132	255	0.0072
2041	2041Signal Boards Composite	Signal Boards Composite		0.0111	0.0909	0.0718	0.0002	0.0029	16.7	0.0010
2041	2041Skid Steer Loaders25	Skid Steer Loaders	25	0.0167	0.0568	0.1055	0.0002	0.0040	13.8	0.0015
2041	2041Skid Steer Loaders50	Skid Steer Loaders	50	0.0194	0.1977	0.1446	0.0003	0.0015	25.5	0.0017
2041	2041Skid Steer Loaders120	Skid Steer Loaders	120	0.0175	0.2665	0.1240	0.0005	0.0022	42.8	0.0016
2041	2041Skid Steer Loaders Composite	Skid Steer Loaders Composite		0.0186	0.2104	0.1354	0.0004	0.0019	30.3	0.0017
2041	2041Surfacing Equipment50	Surfacing Equipment	50	0.0171	0.1105	0.0934	0.0002	0.0035	14.1	0.0015
2041	2041Surfacing Equipment120	Surfacing Equipment	120	0.0385	0.3950	0.2869	0.0007	0.0146	63.8	0.0035
2041	2041Surfacing Equipment175	Surfacing Equipment	175	0.0386	0.4642	0.2429	0.0010	0.0119	85.8	0.0035
2041	2041Surfacing Equipment250	Surfacing Equipment	250	0.0504	0.2604	0.3275	0.0015	0.0111	135	0.0045
2041	2041Surfacing Equipment500	Surfacing Equipment	500	0.0800	0.4236	0.4893	0.0022	0.0174	221	0.0072
2041	2041Surfacing Equipment750	Surfacing Equipment	750	0.1260	0.6643	0.7833	0.0035	0.0275	347	0.0114
2041	2041Surfacing Equipment Composite	Surfacing Equipment Composite		0.0638	0.3590	0.3924	0.0017	0.0142	166	0.0058
2041	2041Sweepers/Scrubbers15	Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
2041	2041Sweepers/Scrubbers25	Sweepers/Scrubbers	25	0.0237	0.0808	0.1495	0.0002	0.0056	19.6	0.0021
2041	2041Sweepers/Scrubbers50	Sweepers/Scrubbers	50	0.0308	0.2762	0.1942	0.0004	0.0033	31.6	0.0028
2041	2041Sweepers/Scrubbers120	Sweepers/Scrubbers	120	0.0395	0.4895	0.2530	0.0009	0.0068	75.0	0.0036
2041	2041Sweepers/Scrubbers175	Sweepers/Scrubbers	175	0.0565	0.8005	0.2201	0.0016	0.0084	139	0.0051
2041	2041Sweepers/Scrubbers250	Sweepers/Scrubbers	250	0.0587	0.3179	0.1898	0.0018	0.0062	162	0.0053
2041	2041Sweepers/Scrubbers Composite	Sweepers/Scrubbers Composite		0.0410	0.4840	0.2255	0.0009	0.0061	78.5	0.0037

Year	Code	Equipment	MaxHP	ROG	CO	NOX	SOX	PM	CO2	CH4
2041	2041Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0.0191	0.0653	0.1209	0.0002	0.0045	15.9	0.0017
2041	2041Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0.0316	0.2678	0.1895	0.0004	0.0037	30.3	0.0029
2041	2041Tractors/Loaders/Backhoes120	Tractors/Loaders/Backhoes	120	0.0281	0.3379	0.1761	0.0006	0.0055	51.7	0.0025
2041	2041Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0.0420	0.5839	0.1613	0.0011	0.0072	101	0.0038
2041	2041Tractors/Loaders/Backhoes250	Tractors/Loaders/Backhoes	250	0.0633	0.3389	0.2157	0.0019	0.0073	172	0.0057
2041	2041Tractors/Loaders/Backhoes500	Tractors/Loaders/Backhoes	500	0.1263	0.6506	0.4127	0.0039	0.0144	345	0.0114
2041	2041Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0.1896	0.9760	0.6256	0.0058	0.0216	517	0.0171
2041	2041Tractors/Loaders/Backhoes Composite	Tractors/Loaders/Backhoes Composite		0.0336	0.3586	0.1857	0.0008	0.0059	66.8	0.0030
2041	2041Trenchers15	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
2041	2041Trenchers25	Trenchers	25	0.0397	0.1355	0.2509	0.0004	0.0094	32.9	0.0036
2041	2041Trenchers50	Trenchers	50	0.0687	0.3197	0.2467	0.0004	0.0140	32.9	0.0062
2041	2041Trenchers120	Trenchers	120	0.0625	0.4341	0.3863	0.0008	0.0259	64.9	0.0056
2041	2041Trenchers175	Trenchers	175	0.1009	0.8327	0.6152	0.0016	0.0338	144	0.0091
2041	2041Trenchers250	Trenchers	250	0.1247	0.4925	0.8480	0.0025	0.0309	223	0.0112
2041	2041Trenchers500	Trenchers	500	0.1661	0.7370	1.0663	0.0031	0.0400	311	0.0150
2041	2041Trenchers750	Trenchers	750	0.3147	1.3882	2.0666	0.0059	0.0766	587	0.0284
2041	2041Trenchers Composite	Trenchers Composite		0.0674	0.4085	0.3481	0.0007	0.0215	58.7	0.0061
2041	2041Welders15	Welders	15	0.0075	0.0381	0.0468	0.0001	0.0020	6.2	0.0007
2041	2041Welders25	Welders	25	0.0141	0.0473	0.0876	0.0001	0.0035	11.3	0.0013
2041	2041Welders50	Welders	50	0.0280	0.2077	0.1684	0.0003	0.0053	26.0	0.0025
2041	2041Welders120	Welders	120	0.0223	0.2476	0.1601	0.0005	0.0073	39.5	0.0020
2041	2041Welders175	Welders	175	0.0430	0.5400	0.2396	0.0011	0.0111	98.2	0.0039
2041	2041Welders250	Welders	250	0.0423	0.2236	0.2294	0.0013	0.0069	119	0.0038
2041	2041Welders500	Welders	500	0.0585	0.3040	0.2969	0.0016	0.0095	168	0.0053
2041	2041Welders Composite	Welders Composite		0.0214	0.1745	0.1373	0.0003	0.0052	25.6	0.0019

Construction Prior to 2019

Approach: Construction equipment used prior to the year 2021 would be equipped with engines meeting CARB requirements for a large fleet at the time of construction. In-Use Off-Road Diesel Fleet Regulation fleet targets for NOx are used to calculate NOx emissions. Source: Table 3 of the ARB In-Use Off-Road Diesel Fleet Regulation (http://www.arb.ca.gov/msprog/ordiesel/documents/finalregorder-dec2011.pdf).

Emission Factors by Year [1, 2]						
Year+Range	Year	Engine Size (hp)		Range	NOx EFs (lbs/bhp-hr)	NOx EFs (g/bhp-hr)
		Min	Max			
20141	2014	0	24	1	0.0128	5.8
20142	2014	25	49	2	0.0128	5.8
20143	2014	50	74	3	0.0143	6.5
20144	2014	75	99	4	0.0157	7.1
20145	2014	100	174	5	0.0141	6.4
20146	2014	175	299	6	0.0137	6.2
20147	2014	300	599	7	0.0130	5.9
20151	2015	0	24	1	0.0123	5.6
20152	2015	25	49	2	0.0123	5.6
20153	2015	50	74	3	0.0137	6.2
20154	2015	75	99	4	0.0148	6.7
20155	2015	100	174	5	0.0132	6.0
20156	2015	175	299	6	0.0128	5.8
20157	2015	300	599	7	0.0121	5.5
20161	2016	0	24	1	0.0117	5.3
20162	2016	25	49	2	0.0117	5.3
20163	2016	50	74	3	0.0128	5.8
20164	2016	75	99	4	0.0137	6.2
20165	2016	100	174	5	0.0121	5.5
20166	2016	175	299	6	0.0117	5.3
20167	2016	300	599	7	0.0112	5.1
20171	2017	0	24	1	0.0110	5.0
20172	2017	25	49	2	0.0110	5.0
20173	2017	50	74	3	0.0119	5.4
20174	2017	75	99	4	0.0121	5.5
20175	2017	100	174	5	0.0108	4.9
20176	2017	175	299	6	0.0104	4.7
20177	2017	300	599	7	0.0099	4.5
20181	2018	0	24	1	0.0104	4.7
20182	2018	25	49	2	0.0104	4.7
20183	2018	50	74	3	0.0110	5.0
20184	2018	75	99	4	0.0106	4.8
20185	2018	100	174	5	0.0095	4.3
20186	2018	175	299	6	0.0090	4.1
20187	2018	300	599	7	0.0088	4.0
20191	2019	0	24	1	0.0097	4.4
20192	2019	25	49	2	0.0097	4.4
20193	2019	50	74	3	0.0101	4.6
20194	2019	75	99	4	0.0090	4.1
20195	2019	100	174	5	0.0082	3.7
20196	2019	175	299	6	0.0077	3.5
20197	2019	300	599	7	0.0075	3.4

Construction Prior to 2019

20201	2020	0	24	1	0.0090	4.1
20202	2020	25	49	2	0.0090	4.1
20203	2020	50	74	3	0.0093	4.2
20204	2020	75	99	4	0.0075	3.4
20205	2020	100	174	5	0.0068	3.1
20206	2020	175	299	6	0.0064	2.9
20207	2020	300	599	7	0.0062	2.8
20211	2021	0	24	1	0.0084	3.8
20212	2021	25	49	2	0.0084	3.8
20213	2021	50	74	3	0.0084	3.8
20214	2021	75	99	4	0.0060	2.7
20215	2021	100	174	5	0.0055	2.5
20216	2021	175	299	6	0.0051	2.3
20217	2021	300	599	7	0.0049	2.2
20221	2022	0	24	1	0.0077	3.5
20222	2022	25	49	2	0.0077	3.5
20223	2022	50	74	3	0.0075	3.4
20224	2022	75	99	4	0.0044	2.0
20225	2022	100	174	5	0.0042	1.9
20226	2022	175	299	6	0.0037	1.7
20227	2022	300	599	7	0.0037	1.7
20231	2023	0	24	1	0.0073	3.3
20232	2023	25	49	2	0.0073	3.3
20233	2023	50	74	3	0.0066	3.0
20234	2023	75	99	4	0.0031	1.4
20235	2023	100	174	5	0.0029	1.3
20236	2023	175	299	6	0.0033	1.5
20237	2023	300	599	7	0.0033	1.5
20241	2024	0	24	1	0.0073	3.3
20242	2024	25	49	2	0.0073	3.3
20243	2024	50	74	3	0.0066	3.0
20244	2024	75	99	4	0.0031	1.4
20245	2024	100	174	5	0.0029	1.3
20246	2024	175	299	6	0.0033	1.5
20247	2024	300	599	7	0.0033	1.5
20251	2025	0	24	1	0.0073	3.3
20252	2025	25	49	2	0.0073	3.3
20253	2025	50	74	3	0.0066	3.0
20254	2025	75	99	4	0.0031	1.4
20255	2025	100	174	5	0.0029	1.3
20256	2025	175	299	6	0.0033	1.5
20257	2025	300	599	7	0.0033	1.5
20261	2026	0	24	1	0.0073	3.3
20262	2026	25	49	2	0.0073	3.3
20263	2026	50	74	3	0.0066	3.0
20264	2026	75	99	4	0.0031	1.4
20265	2026	100	174	5	0.0029	1.3
20266	2026	175	299	6	0.0033	1.5
20267	2026	300	599	7	0.0033	1.5
20271	2027	0	24	1	0.0073	3.3
20272	2027	25	49	2	0.0073	3.3
20273	2027	50	74	3	0.0066	3.0
20274	2027	75	99	4	0.0031	1.4
20275	2027	100	174	5	0.0029	1.3
20276	2027	175	299	6	0.0033	1.5
20277	2027	300	599	7	0.0033	1.5

Construction Prior to 2019

20281	2028	0	24	1	0.0073	3.3
20282	2028	25	49	2	0.0073	3.3
20283	2028	50	74	3	0.0066	3.0
20284	2028	75	99	4	0.0031	1.4
20285	2028	100	174	5	0.0029	1.3
20286	2028	175	299	6	0.0033	1.5
20287	2028	300	599	7	0.0033	1.5
20291	2029	0	24	1	0.0073	3.3
20292	2029	25	49	2	0.0073	3.3
20293	2029	50	74	3	0.0066	3.0
20294	2029	75	99	4	0.0031	1.4
20295	2029	100	174	5	0.0029	1.3
20296	2029	175	299	6	0.0033	1.5
20297	2029	300	599	7	0.0033	1.5
20301	2030	0	24	1	0.0073	3.3
20302	2030	25	49	2	0.0073	3.3
20303	2030	50	74	3	0.0066	3.0
20304	2030	75	99	4	0.0031	1.4
20305	2030	100	174	5	0.0029	1.3
20306	2030	175	299	6	0.0033	1.5
20307	2030	300	599	7	0.0033	1.5
20311	2031	0	24	1	0.0073	3.3
20312	2031	25	49	2	0.0073	3.3
20313	2031	50	74	3	0.0066	3.0
20314	2031	75	99	4	0.0031	1.4
20315	2031	100	174	5	0.0029	1.3
20316	2031	175	299	6	0.0033	1.5
20317	2031	300	599	7	0.0033	1.5
20321	2032	0	24	1	0.0073	3.3
20322	2032	25	49	2	0.0073	3.3
20323	2032	50	74	3	0.0066	3.0
20324	2032	75	99	4	0.0031	1.4
20325	2032	100	174	5	0.0029	1.3
20326	2032	175	299	6	0.0033	1.5
20327	2032	300	599	7	0.0033	1.5
20331	2033	0	24	1	0.0073	3.3
20332	2033	25	49	2	0.0073	3.3
20333	2033	50	74	3	0.0066	3.0
20334	2033	75	99	4	0.0031	1.4
20335	2033	100	174	5	0.0029	1.3
20336	2033	175	299	6	0.0033	1.5
20337	2033	300	599	7	0.0033	1.5
20341	2034	0	24	1	0.0073	3.3
20342	2034	25	49	2	0.0073	3.3
20343	2034	50	74	3	0.0066	3.0
20344	2034	75	99	4	0.0031	1.4
20345	2034	100	174	5	0.0029	1.3
20346	2034	175	299	6	0.0033	1.5
20347	2034	300	599	7	0.0033	1.5
20351	2035	0	24	1	0.0073	3.3
20352	2035	25	49	2	0.0073	3.3
20353	2035	50	74	3	0.0066	3.0
20354	2035	75	99	4	0.0031	1.4
20355	2035	100	174	5	0.0029	1.3
20356	2035	175	299	6	0.0033	1.5
20357	2035	300	599	7	0.0033	1.5

Construction Prior to 2019

20361	2036	0	24	1	0.0073	3.3
20362	2036	25	49	2	0.0073	3.3
20363	2036	50	74	3	0.0066	3.0
20364	2036	75	99	4	0.0031	1.4
20365	2036	100	174	5	0.0029	1.3
20366	2036	175	299	6	0.0033	1.5
20367	2036	300	599	7	0.0033	1.5
20371	2037	0	24	1	0.0073	3.3
20372	2037	25	49	2	0.0073	3.3
20373	2037	50	74	3	0.0066	3.0
20374	2037	75	99	4	0.0031	1.4
20375	2037	100	174	5	0.0029	1.3
20376	2037	175	299	6	0.0033	1.5
20377	2037	300	599	7	0.0033	1.5
20381	2038	0	24	1	0.0073	3.3
20382	2038	25	49	2	0.0073	3.3
20383	2038	50	74	3	0.0066	3.0
20384	2038	75	99	4	0.0031	1.4
20385	2038	100	174	5	0.0029	1.3
20386	2038	175	299	6	0.0033	1.5
20387	2038	300	599	7	0.0033	1.5
20391	2039	0	24	1	0.0073	3.3
20392	2039	25	49	2	0.0073	3.3
20393	2039	50	74	3	0.0066	3.0
20394	2039	75	99	4	0.0031	1.4
20395	2039	100	174	5	0.0029	1.3
20396	2039	175	299	6	0.0033	1.5
20397	2039	300	599	7	0.0033	1.5
20401	2040	0	24	1	0.0073	3.3
20402	2040	25	49	2	0.0073	3.3
20403	2040	50	74	3	0.0066	3.0
20404	2040	75	99	4	0.0031	1.4
20405	2040	100	174	5	0.0029	1.3
20406	2040	175	299	6	0.0033	1.5
20407	2040	300	599	7	0.0033	1.5
20411	2041	0	24	1	0.0073	3.3
20412	2041	25	49	2	0.0073	3.3
20413	2041	50	74	3	0.0066	3.0
20414	2041	75	99	4	0.0031	1.4
20415	2041	100	174	5	0.0029	1.3
20416	2041	175	299	6	0.0033	1.5
20417	2041	300	599	7	0.0033	1.5

Notes:

[1] ARB In-Use Off-Road Diesel Reg NOx targets do not include equipment with horsepower ranging from 0-24 hp. Emissions factors are assumed to be the same as equipment from 25-49 hp.

[2] ARB In-Use Off-Road Diesel Reg NOx targets end at year 2023. Years 2024-2041 are conservatively assumed to have the same emission factors as year 2023.

Construction Beginning with the Year 2019 and Operation

Approach: Off-road diesel operation equipment purchased as part of the proposed project and off-road diesel construction equipment beginning with the year 2021 would be equipped with engines meeting Tier 4 Final emission standards. Source: Table 3.5 of CalEEMod Appendix D (http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixd.pdf?sfvrsn=2).

Emission Factors by Year [1]												
Engine Size (hp) [1]			Tier 4f (g/bhp-hr)					Tier 4f (lbs/bhp-hr)				
Min	Max	Range	CO	VOC	NO_x (final)	PM_{10}	$PM_{2.5}$	CO	VOC	NO_x (final)	PM_{10}	$PM_{2.5}$
0	24	1	4.1	0.12	2.75	0.008	0.008	0.009039	0.000265	0.006063	1.764E-05	1.7637E-05
25	49	2	4.1	0.12	2.75	0.008	0.008	0.009039	0.000265	0.006063	1.764E-05	1.7637E-05
50	74	3	3.7	0.12	2.74	0.008	0.008	0.008157	0.000265	0.006041	1.764E-05	1.7637E-05
75	119	4	3.7	0.06	0.26	0.008	0.008	0.008157	0.000132	0.000573	1.764E-05	1.7637E-05
120	174	5	3.7	0.06	0.26	0.008	0.008	0.008157	0.000132	0.000573	1.764E-05	1.7637E-05
175	299	6	2.2	0.06	0.26	0.008	0.008	0.00485	0.000132	0.000573	1.764E-05	1.7637E-05
300	599	7	2.2	0.06	0.26	0.008	0.008	0.00485	0.000132	0.000573	1.764E-05	1.7637E-05

[1] Tier EFs not available for equipment with less than 25 hp; EFs assumed equal to EFs for equipment with 25-49 hp.

453.592 g/lb

EMFAC2014 Onroad Vehicle Emission Factors

EMFAC2014: Passenger Cars (LDA), Light-Duty Trucks (LDT2), Light-Heavy-Duty Trucks (LHD2),

Exhaust emission factors from EMFAC2014 for Los Angeles (SC). A speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults. An average temperature of 68°F and humidity of 55% were used per Table B-1 of CT-EMFAC: A Computer Model to Estimate Transportation Project Emissions. Version: EMFAC2014 Version 1.0.7. Run date: 2015/9/22 13:48; Season: Annual; Area: Los Angeles (SC); EMFAC2011 Vehicle Categories; Fuel: Gasoline.

EMFAC2014: Medium-Heavy-Duty Trucks (MHDT), Heavy-Heavy-Duty Trucks (HHDT)

Exhaust emission factors from EMFAC2014 for Los Angeles (SC); EMFAC2011 Vehicle Categories; Region: Los Angeles (SC); Season: Annual Average; Fuel: Diesel; Speed: 40mph (combined speeds for PM fugitive and SOx). MHDT is average of T6 instate construction heavy, T6 instate construction small, T6 instate heavy, T6 instate small, and T6 Public. HHDT is T7 SWCV (Solid Waste Collection Truck). EMFAC does not predict methane emissions from MHDT and HHDT.

Running Exhaust Emissions **(grams/mile)**

Year	Vehicle Category		CO	NOx	ROG	SOx	PM_{10}	PM_{10}-Tire Wear	PM_{10}-Break Wear	PM10 Fugitive	$PM_{2.5}$	$PM^{2.5}$-Tire Wear	$PM^{2.5}$-Break Wear (Fugitive)	PM2.5 Fugitive	CO2	CH4
			g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi
2017	Heavy-Heavy Duty Trucks	HHDT	0.01344	14.4334	0.0015	0.037	0.0121	0.036	0.06174	0.09774	0.01154	0.009	0.02646	0.03546	3862.76	6.9451E-05
2017	Medium-Heavy Duty Trucks	MHDT	0.42205	3.83443	0.1219	0.011	0.0668	0.012	0.13034	0.14234	0.06393786	0.003	0.05586	0.05886	1151.1	0.00566193
2017	Light-Heavy Duty Trucks	LHD2	1.0114	0.27602	0.03581	0.008	0.001	0.008	0.08918	0.09718	0.00089	0.002	0.03822	0.04022	760.854	0.014054
2017	Light-Duty Trucks	LDT2	1.19622	0.12755	0.02472	0.004	0.0015	0.008	0.03675	0.04475	0.001385	0.002	0.01575	0.01775	349.742	0.008557
2017	Passenger Cars	LDA	0.912	0.07586	0.01935	0.003	0.0015	0.008	0.03675	0.04475	0.00140696	0.002	0.01575	0.01775	261.084	0.00649135
2017	Light-Light Duty Trucks	LDT1	2.42105	0.22155	0.06017	0.003	0.0033	0.008	0.03675	0.04475	0.003006	0.002	0.01575	0.01775	304.699	0.019015
2018	Heavy-Heavy Duty Trucks	HHDT	0.01346	14.344	0.00156	0.037	0.012	0.036	0.06174	0.09774	0.011453	0.009	0.02646	0.03546	3860.97	7.2273E-05
2018	Medium-Heavy Duty Trucks	MHDT	0.3551	3.32316	0.10172	0.011	0.0525	0.012	0.13034	0.14234	0.05026556	0.003	0.05586	0.05886	1150.37	0.0047247
2018	Light-Heavy Duty Trucks	LHD2	0.84828	0.24231	0.03001	0.008	0.0009	0.008	0.8918	0.8998	0.000847	0.002	0.03822	0.04022	755.629	0.011787
2018	Light-Duty Trucks	LDT2	1.05247	0.109	0.02017	0.003	0.0015	0.008	0.03675	0.04475	0.001368	0.002	0.01575	0.01775	340.21	0.007483
2018	Passenger Cars	LDA	0.81445	0.0667	0.01557	0.003	0.0015	0.008	0.03675	0.04475	0.001395	0.002	0.01575	0.01775	254.152	0.005729
2018	Light-Light Duty Trucks	LDT1	2.10353	0.19186	0.04523	0.003	0.003	0.008	0.03675	0.04475	0.002745	0.002	0.01575	0.01775	297.888	0.016643
2019	Heavy-Heavy Duty Trucks	HHDT	0.01343	14.233	0.00162	0.037	0.0118	0.036	0.06174	0.09774	0.011294	0.009	0.02646	0.03546	3858.24	7.5383E-05
2019	Medium-Heavy Duty Trucks	MHDT	0.31722	2.92708	0.0897	0.011	0.0443	0.012	0.13034	0.14234	0.0424034	0.003	0.05586	0.05886	1147.58	0.0041662
2019	Light-Heavy Duty Trucks	LHD2	0.70752	0.21195	0.02494	0.007	0.0009	0.008	0.08918	0.09718	0.000812	0.002	0.03822	0.04022	750.264	0.009814
2019	Light-Duty Trucks	LDT2	0.93612	0.09382	0.01674	0.003	0.0015	0.008	0.03675	0.04475	0.001365	0.002	0.01575	0.01775	330.706	0.006605
2019	Passenger Cars	LDA	0.73717	0.0593	0.01276	0.002	0.0015	0.008	0.03675	0.04475	0.001392	0.002	0.01575	0.01775	247.144	0.005114
2019	Light-Light Duty Trucks	LDT1	1.89288	0.17124	0.03806	0.003	0.0028	0.008	0.03675	0.04475	0.002585	0.002	0.01575	0.01775	291.139	0.014912
2020	Heavy-Heavy Duty Trucks	HHDT	0.01341	14.1218	0.00169	0.037	0.0116	0.036	0.06174	0.09774	0.01113205	0.009	0.02646	0.03546	3855.49	7.85E-05
2020	Medium-Heavy Duty Trucks	MHDT	0.24455	2.36307	0.0676	0.011	0.0304	0.012	0.13034	0.14234	0.02908611	0.003	0.05586	0.05886	1145.26	0.00313992
2020	Light-Heavy Duty Trucks	LHD2	0.58838	0.18558	0.02062	0.007	0.0009	0.008	0.08918	0.09718	0.00078462	0.002	0.03822	0.04022	745.191	0.0082257
2020	Light-Duty Trucks	LDT2	0.84746	0.08223	0.01453	0.003	0.0015	0.008	0.03675	0.04475	0.00135657	0.002	0.01575	0.01775	321.254	0.00584818
2020	Passenger Cars	LDA	0.68262	0.05355	0.01144	0.002	0.0015	0.008	0.03675	0.04475	0.00137783	0.002	0.01575	0.01775	240.305	0.00459183
2020	Light-Light Duty Trucks	LDT1	1.71724	0.15401	0.03314	0.003	0.0027	0.008	0.03675	0.04475	0.00244149	0.002	0.01575	0.01775	284.254	0.01325812
2021	Heavy-Heavy Duty Trucks	HHDT	0.01334	13.9855	0.00177	0.037	0.0114	0.036	0.06174	0.09774	0.01089	0.009	0.02646	0.03546	3851.67	8.2004E-05
2021	Medium-Heavy Duty Trucks	MHDT	0.17063	1.82876	0.04195	0.011	0.0098	0.012	0.13034	0.14234	0.00941721	0.003	0.05586	0.05886	1143.77	0.00194851
2021	Light-Heavy Duty Trucks	LHD2	0.49046	0.16183	0.01696	0.007	0.0008	0.008	0.08918	0.09718	0.000766	0.002	0.03822	0.04022	740.378	0.006854
2021	Light-Duty Trucks	LDT2	0.78281	0.07332	0.01317	0.003	0.0015	0.008	0.03675	0.04475	0.00134	0.002	0.01575	0.01775	310.702	0.005305
2021	Passenger Cars	LDA	0.63969	0.04882	0.01036	0.002	0.0015	0.008	0.03675	0.04475	0.00135	0.002	0.01575	0.01775	233.344	0.004164
2021	Light-Light Duty Trucks	LDT1	1.5685	0.13923	0.02978	0.003	0.0025	0.008	0.03675	0.04475	0.0023	0.002	0.01575	0.01775	276.371	0.011933
2022	Heavy-Heavy Duty Trucks	HHDT	0.01338	13.9094	0.00182	0.037	0.0113	0.036	0.06174	0.09774	0.01081472	0.009	0.02646	0.03546	3850.18	8.47E-05
2022	Medium-Heavy Duty Trucks	MHDT	0.16908	1.63283	0.04045	0.011	0.0088	0.012	0.13034	0.14234	0.00839874	0.003	0.05586	0.05886	1139.91	0.00187895
2022	Light-Heavy Duty Trucks	LHD2	0.41304	0.14005	0.01393	0.007	0.0008	0.008	0.08918	0.09718	0.00075583	0.002	0.03822	0.04022	735.817	0.0056273
2022	Light-Duty Trucks	LDT2	0.73304	0.06616	0.01205	0.003	0.0014	0.008	0.03675	0.04475	0.00133234	0.002	0.01575	0.01775	300.104	0.00485774
2022	Passenger Cars	LDA	0.60357	0.04477	0.00943	0.002	0.0015	0.008	0.03675	0.04475	0.00133488	0.002	0.01575	0.01775	226.476	0.00379878
2022	Light-Light Duty Trucks	LDT1	1.43244	0.12581	0.02668	0.003	0.0024	0.008	0.03675	0.04475	0.00217461	0.002	0.01575	0.01775	268.257	0.01071889
2023	Heavy-Heavy Duty Trucks	HHDT	0.01336	13.8058	0.00189	0.037	0.0111	0.036	0.06174	0.09774	0.01064554	0.009	0.02646	0.03546	3847.44	8.78E-05
2023	Medium-Heavy Duty Trucks	MHDT	0.15237	0.98303	0.03059	0.011	0.005	0.012	0.13034	0.14234	0.00482875	0.003	0.05586	0.05886	1133.05	0.00142064
2023	Light-Heavy Duty Trucks	LHD2	0.35403	0.12219	0.01173	0.007	0.0008	0.008	0.08918	0.09718	0.00075275	0.002	0.03822	0.04022	731.482	0.00474003
2023	Light-Duty Trucks	LDT2	0.69	0.05994	0.01101	0.003	0.0014	0.008	0.03675	0.04475	0.00132973	0.002	0.01575	0.01775	289.439	0.0044452
2023	Passenger Cars	LDA	0.56956	0.04128	0.00861	0.002	0.0014	0.008	0.03675	0.04475	0.0013261	0.002	0.01575	0.01775	219.736	0.00347241
2023	Light-Light Duty Trucks	LDT1	1.29924	0.11327	0.0237	0.003	0.0022	0.008	0.03675	0.04475	0.00205858	0.002	0.01575	0.01775	259.856	0.00955547
2024	Heavy-Heavy Duty Trucks	HHDT	0.01335	13.7107	0.00195	0.037	0.011	0.036	0.06174	0.09774	0.01048309	0.009	0.02646	0.03546	3844.86	9.07E-05
2024	Medium-Heavy Duty Trucks	MHDT	0.15321	0.91444	0.03056	0.011	0.0048	0.012	0.13034	0.14234	0.00457932	0.003	0.05586	0.05886	1129.75	0.00141939
2024	Light-Heavy Duty Trucks	LHD2	0.30904	0.10705	0.01006	0.007	0.0008	0.008	0.08918	0.09718	0.00075553	0.002	0.03822	0.04022	727.445	0.00406443
2024	Light-Duty Trucks	LDT2	0.65619	0.05461	0.0101	0.003	0.0014	0.008	0.03675	0.04475	0.00132986	0.002	0.01575	0.01775	278.897	0.00408067

EMFAC2014 Onroad Vehicle Emission Factors

EMFAC2014: Passenger Cars (LDA), Light-Duty Trucks (LDT2), Light-Heavy-Duty Trucks (LHD2),

Exhaust emission factors from EMFAC2014 for Los Angeles (SC). A speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults. An average temperature of 68°F and humidity of 55% were used per Table B-1 of CT-EMFAC: A Computer Model to Estimate Transportation Project Emissions. Version: EMFAC2014 Version 1.0.7. Run date: 2015/9/22 13:48; Season: Annual; Area: Los Angeles (SC); EMFAC2011 Vehicle Categories; Fuel: Gasoline.

EMFAC2014: Medium-Heavy-Duty Trucks (MHDT), Heavy-Heavy-Duty Trucks (HHDT)

Exhaust emission factors from EMFAC2014 for Los Angeles (SC); EMFAC2011 Vehicle Categories; Region: Los Angeles (SC); Season: Annual Average; Fuel: Diesel; Speed: 40mph (combined speeds for PM fugitive and SOx). MHDT is average of T6 instate construction heavy, T6 instate construction small, T6 instate heavy, T6 instate small, and T6 Public. HHDT is T7 SWCV (Solid Waste Collection Truck). EMFAC does not predict methane emissions from MHDT and HHDT.

Running Exhaust Emissions **(grams/mile)**

Year	Vehicle Category		CO	NOx	ROG	SOx	PM_{10}	PM_{10}-Tire Wear	PM_{10}-Break Wear	PM10 Fugitive	$PM_{2.5}$	$PM^{2.5}$-Tire Wear	$PM^{2.5}$-Break Wear (Fugitive)	PM2.5 Fugitive	CO2	CH4
			g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi
2024	Passenger Cars	LDA	0.53629	0.03812	0.00785	0.002	0.0014	0.008	0.03675	0.04475	0.00132098	0.002	0.01575	0.01775	213.048	0.00317105
2024	Light-Light Duty Trucks	LDT1	1.19429	0.10281	0.02134	0.003	0.0021	0.008	0.03675	0.04475	0.0019606	0.002	0.01575	0.01775	251.377	0.00861428
2025	Heavy-Heavy Duty Trucks	HHDT	0.01335	13.6295	0.00201	0.037	0.0108	0.036	0.06174	0.09774	0.010338	0.009	0.02646	0.03546	3842.59	9.3252E-05
2025	Medium-Heavy Duty Trucks	MHDT	0.1537	0.85029	0.03048	0.011	0.0045	0.012	0.13034	0.14234	0.00435098	0.003	0.05586	0.05886	1126.35	0.0014158
2025	Light-Heavy Duty Trucks	LHD2	0.27597	0.09455	0.00885	0.007	0.0008	0.008	0.08918	0.09718	0.000763	0.002	0.03822	0.04022	723.696	0.003576
2025	Light-Duty Trucks	LDT2	0.62171	0.0502	0.00933	0.003	0.0015	0.008	0.03675	0.04475	0.001333	0.002	0.01575	0.01775	268.554	0.003769
2025	Passenger Cars	LDA	0.50636	0.0356	0.00727	0.002	0.0014	0.008	0.03675	0.04475	0.001322	0.002	0.01575	0.01775	206.357	0.002937
2025	Light-Light Duty Trucks	LDT1	1.09781	0.0936	0.01927	0.002	0.002	0.008	0.03675	0.04475	0.001876	0.002	0.01575	0.01775	242.904	0.007788
2026	Heavy-Heavy Duty Trucks	HHDT	0.01333	13.5495	0.00206	0.037	0.0106	0.036	0.06174	0.09774	0.01017083	0.009	0.02646	0.03546	3840.08	9.57E-05
2026	Medium-Heavy Duty Trucks	MHDT	0.15381	0.78943	0.03034	0.011	0.0043	0.012	0.13034	0.14234	0.0041344	0.003	0.05586	0.05886	1123.01	0.00140934
2026	Light-Heavy Duty Trucks	LHD2	0.24185	0.08297	0.00752	0.007	0.0008	0.008	0.08918	0.09718	0.0007696	0.002	0.03822	0.04022	720.271	0.0030388
2026	Light-Duty Trucks	LDT2	0.59317	0.04654	0.00867	0.003	0.0014	0.008	0.03675	0.04475	0.0013117	0.002	0.01575	0.01775	259.554	0.00350286
2026	Passenger Cars	LDA	0.4816	0.03342	0.00677	0.002	0.0014	0.008	0.03675	0.04475	0.00129621	0.002	0.01575	0.01775	200.565	0.00273604
2026	Light-Light Duty Trucks	LDT1	1.01353	0.08589	0.01748	0.002	0.002	0.008	0.03675	0.04475	0.00179403	0.002	0.01575	0.01775	235.43	0.00706418
2027	Heavy-Heavy Duty Trucks	HHDT	0.01334	13.4989	0.0021	0.037	0.0105	0.036	0.06174	0.09774	0.01005577	0.009	0.02646	0.03546	3838.37	9.75E-05
2027	Medium-Heavy Duty Trucks	MHDT	0.15347	0.73069	0.03013	0.011	0.0041	0.012	0.13034	0.14234	0.00393641	0.003	0.05586	0.05886	1119.55	0.00139965
2027	Light-Heavy Duty Trucks	LHD2	0.21447	0.07317	0.00647	0.007	0.0008	0.008	0.08918	0.09718	0.00077837	0.002	0.03822	0.04022	717.166	0.00261362
2027	Light-Duty Trucks	LDT2	0.56876	0.04336	0.00809	0.003	0.0014	0.008	0.03675	0.04475	0.00126041	0.002	0.01575	0.01775	251.594	0.00326954
2027	Passenger Cars	LDA	0.45957	0.03143	0.00631	0.002	0.0013	0.008	0.03675	0.04475	0.00123729	0.002	0.01575	0.01775	195.408	0.00255148
2027	Light-Light Duty Trucks	LDT1	0.93521	0.07871	0.01582	0.002	0.0018	0.008	0.03675	0.04475	0.00169056	0.002	0.01575	0.01775	228.641	0.00639405
2028	Heavy-Heavy Duty Trucks	HHDT	0.01332	13.4535	0.00213	0.037	0.0104	0.036	0.06174	0.09774	0.009924	0.009	0.02646	0.03546	3836.49	9.8942E-05
2028	Medium-Heavy Duty Trucks	MHDT	0.15336	0.68358	0.02998	0.011	0.0039	0.012	0.13034	0.14234	0.00377146	0.003	0.05586	0.05886	1116.73	0.00139267
2028	Light-Heavy Duty Trucks	LHD2	0.19476	0.06527	0.00568	0.007	0.0009	0.008	0.08918	0.09718	0.000789	0.002	0.03822	0.04022	714.404	0.002296
2028	Light-Duty Trucks	LDT2	0.54718	0.04057	0.00758	0.002	0.0013	0.008	0.03675	0.04475	0.001183	0.002	0.01575	0.01775	244.543	0.003062
2028	Passenger Cars	LDA	0.43956	0.02963	0.0059	0.002	0.0013	0.008	0.03675	0.04475	0.001151	0.002	0.01575	0.01775	190.82	0.002382
2028	Light-Light Duty Trucks	LDT1	0.86708	0.07212	0.01446	0.002	0.0017	0.008	0.03675	0.04475	0.001572	0.002	0.01575	0.01775	222.525	0.005843
2029	Heavy-Heavy Duty Trucks	HHDT	0.01322	13.3719	0.00217	0.037	0.0101	0.036	0.06174	0.09774	0.009658	0.009	0.02646	0.03546	3832.79	0.00010062
2029	Medium-Heavy Duty Trucks	MHDT	0.15315	0.64246	0.02983	0.011	0.0038	0.012	0.13034	0.14234	0.00362446	0.003	0.05586	0.05886	1114.19	0.00138557
2029	Light-Heavy Duty Trucks	LHD2	0.17863	0.05863	0.00507	0.007	0.0009	0.008	0.08918	0.09718	0.000798	0.002	0.03822	0.04022	711.954	0.002047
2029	Light-Duty Trucks	LDT2	0.52699	0.03804	0.0071	0.002	0.0012	0.008	0.03675	0.04475	0.001112	0.002	0.01575	0.01775	238.26	0.002867
2029	Passenger Cars	LDA	0.42042	0.02793	0.0055	0.002	0.0012	0.008	0.03675	0.04475	0.001079	0.002	0.01575	0.01775	186.727	0.002222
2029	Light-Light Duty Trucks	LDT1	0.79392	0.06501	0.01298	0.002	0.0016	0.008	0.03675	0.04475	0.001455	0.002	0.01575	0.01775	216.92	0.005246
2030	Heavy-Heavy Duty Trucks	HHDT	0.01312	13.3166	0.00219	0.037	0.0099	0.036	0.06174	0.09774	0.00943682	0.009	0.02646	0.03546	3829.71	0.00010162
2030	Medium-Heavy Duty Trucks	MHDT	0.15277	0.60525	0.02966	0.011	0.0036	0.012	0.13034	0.14234	0.00348863	0.003	0.05586	0.05886	0.02966	0.00137747
2030	Light-Heavy Duty Trucks	LHD2	0.16516	0.05297	0.00453	0.007	0.0009	0.008	0.08918	0.09718	0.00080661	0.002	0.03822	0.04022	709.787	0.00183015
2030	Light-Duty Trucks	LDT2	0.50844	0.0358	0.00666	0.002	0.0011	0.008	0.03675	0.04475	0.00104725	0.002	0.01575	0.01775	232.667	0.00269222
2030	Passenger Cars	LDA	0.40307	0.0264	0.00514	0.002	0.0011	0.008	0.03675	0.04475	0.00101572	0.002	0.01575	0.01775	183.088	0.0020776
2030	Light-Light Duty Trucks	LDT1	0.72406	0.05777	0.01157	0.002	0.0015	0.008	0.03675	0.04475	0.00134256	0.002	0.01575	0.01775	211.781	0.00467652
2031	Heavy-Heavy Duty Trucks	HHDT	0.01298	13.2564	0.0022	0.037	0.0096	0.036	0.06174	0.09774	0.00917842	0.009	0.02646	0.03546	3826.08	0.00010235
2031	Medium-Heavy Duty Trucks	MHDT	0.15233	0.5714	0.02948	0.011	0.0035	0.012	0.13034	0.14234	0.00336506	0.003	0.05586	0.05886	1109.62	0.00136924
2031	Light-Heavy Duty Trucks	LHD2	0.15084	0.04784	0.00395	0.007	0.0009	0.008	0.08918	0.09718	0.00081346	0.002	0.03822	0.04022	707.875	0.00159807
2031	Light-Duty Trucks	LDT2	0.4908	0.03377	0.00626	0.002	0.0011	0.008	0.03675	0.04475	0.00098687	0.002	0.01575	0.01775	227.715	0.00253065
2031	Passenger Cars	LDA	0.38702	0.02502	0.00482	0.002	0.001	0.008	0.03675	0.04475	0.00095768	0.002	0.01575	0.01775	179.874	0.00194615
2031	Light-Light Duty Trucks	LDT1	0.64935	0.04981	0.01009	0.002	0.0013	0.008	0.03675	0.04475	0.00122669	0.002	0.01575	0.01775	207.012	0.00407736
2032	Heavy-Heavy Duty Trucks	HHDT	0.01279	13.1789	0.00222	0.036	0.0093	0.036	0.06174	0.09774	0.00885904	0.009	0.02646	0.03546	3821.48	0.00010303
2032	Medium-Heavy Duty Trucks	MHDT	0.15185	0.5409	0.02931	0.011	0.0034	0.012	0.13034	0.14234	0.00325792	0.003	0.05586	0.05886	1107.76	0.00136119

EMFAC2014 Onroad Vehicle Emission Factors

EMFAC2014: Passenger Cars (LDA), Light-Duty Trucks (LDT2), Light-Heavy-Duty Trucks (LHD2),

Exhaust emission factors from EMFAC2014 for Los Angeles (SC). A speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults. An average temperature of 68°F and humidity of 55% were used per Table B-1 of CT-EMFAC: A Computer Model to Estimate Transportation Project Emissions. Version: EMFAC2014 Version 1.0.7. Run date: 2015/9/22 13:48; Season: Annual; Area: Los Angeles (SC); EMFAC2011 Vehicle Categories; Fuel: Gasoline.

EMFAC2014: Medium-Heavy-Duty Trucks (MHDT), Heavy-Heavy-Duty Trucks (HHDT)

Exhaust emission factors from EMFAC2014 for Los Angeles (SC); EMFAC2011 Vehicle Categories; Region: Los Angeles (SC); Season: Annual Average; Fuel: Diesel; Speed: 40mph (combined speeds for PM fugitive and SOx). MHDT is average of T6 instate construction heavy, T6 instate construction small, T6 instate heavy, T6 instate small, and T6 Public. HHDT is T7 SWCV (Solid Waste Collection Truck). EMFAC does not predict methane emissions from MHDT and HHDT.

Running Exhaust Emissions **(grams/mile)**

Year	Vehicle Category		CO	NOx	ROG	SOx	PM_{10}	PM_{10}-Tire Wear	PM_{10}-Break Wear	PM10 Fugitive	$PM_{2.5}$	$PM^{2.5}$-Tire Wear	$PM^{2.5}$-Break Wear (Fugitive)	PM2.5 Fugitive	CO2	CH4
			g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi
2032	Light-Heavy Duty Trucks	LHD2	0.13842	0.04357	0.00344	0.007	0.0009	0.008	0.08918	0.09718	0.00081979	0.002	0.03822	0.04022	706.189	0.00138869
2032	Light-Duty Trucks	LDT2	0.47411	0.03194	0.0059	0.002	0.001	0.008	0.03675	0.04475	0.00092955	0.002	0.01575	0.01775	223.353	0.00238276
2032	Passenger Cars	LDA	0.37198	0.02377	0.00452	0.002	0.001	0.008	0.03675	0.04475	0.00090306	0.002	0.01575	0.01775	177.044	0.0018251
2032	Light-Light Duty Trucks	LDT1	0.58674	0.0431	0.00885	0.002	0.0012	0.008	0.03675	0.04475	0.00112507	0.002	0.01575	0.01775	202.727	0.00357611
2033	Heavy-Heavy Duty Trucks	HHDT	0.01257	13.0982	0.00223	0.036	0.0089	0.036	0.06174	0.09774	0.008536	0.009	0.02646	0.03546	3816.62	0.0001035
2033	Medium-Heavy Duty Trucks	MHDT	0.1514	0.51359	0.02915	0.011	0.0033	0.012	0.13034	0.14234	0.00316799	0.003	0.05586	0.05886	1105.97	0.00135395
2033	Light-Heavy Duty Trucks	LHD2	0.13476	0.0407	0.00328	0.007	0.0009	0.008	0.08918	0.09718	0.000827	0.002	0.03822	0.04022	704.71	0.001324
2033	Light-Duty Trucks	LDT2	0.45827	0.03025	0.00556	0.002	0.001	0.008	0.03675	0.04475	0.000875	0.002	0.01575	0.01775	219.534	0.002246
2033	Passenger Cars	LDA	0.35813	0.02264	0.00425	0.002	0.0009	0.008	0.03675	0.04475	0.000852	0.002	0.01575	0.01775	174.576	0.001716
2033	Light-Light Duty Trucks	LDT1	0.53693	0.03769	0.00786	0.002	0.0011	0.008	0.03675	0.04475	0.001037	0.002	0.01575	0.01775	198.903	0.003175
2034	Heavy-Heavy Duty Trucks	HHDT	0.01226	12.9622	0.00225	0.036	0.0085	0.036	0.06174	0.09774	0.00808607	0.009	0.02646	0.03546	3809.6	0.00010459
2034	Medium-Heavy Duty Trucks	MHDT	0.15088	0.48923	0.02899	0.011	0.0032	0.012	0.13034	0.14234	0.0030881	0.003	0.05586	0.05886	1104.33	0.00134655
2034	Light-Heavy Duty Trucks	LHD2	0.13098	0.03819	0.00312	0.007	0.0009	0.008	0.08918	0.09718	0.00083225	0.002	0.03822	0.04022	703.415	0.00125881
2034	Light-Duty Trucks	LDT2	0.44324	0.02871	0.00524	0.002	0.0009	0.008	0.03675	0.04475	0.00082231	0.002	0.01575	0.01775	216.221	0.00211922
2034	Passenger Cars	LDA	0.34464	0.02164	0.00399	0.002	0.0009	0.008	0.03675	0.04475	0.00080249	0.002	0.01575	0.01775	172.433	0.00161333
2034	Light-Light Duty Trucks	LDT1	0.4872	0.03338	0.00687	0.002	0.001	0.008	0.03675	0.04475	0.00094983	0.002	0.01575	0.01775	195.395	0.0027759
2035	Heavy-Heavy Duty Trucks	HHDT	0.01205	12.8738	0.00226	0.036	0.0082	0.036	0.06174	0.09774	0.00784005	0.009	0.02646	0.03546	3804.9	0.00010509
2035	Medium-Heavy Duty Trucks	MHDT	0.1503	0.46737	0.02883	0.011	0.0031	0.012	0.13034	0.14234	0.00301284	0.003	0.05586	0.05886	1102.91	0.00133887
2035	Light-Heavy Duty Trucks	LHD2	0.1277	0.03603	0.00297	0.007	0.0009	0.008	0.08918	0.09718	0.00083665	0.002	0.03822	0.04022	702.3	0.00120162
2035	Light-Duty Trucks	LDT2	0.42941	0.02732	0.00496	0.002	0.0008	0.008	0.03675	0.04475	0.00077313	0.002	0.01575	0.01775	213.383	0.00200483
2035	Passenger Cars	LDA	0.33165	0.02078	0.00375	0.002	0.0008	0.008	0.03675	0.04475	0.00075598	0.002	0.01575	0.01775	170.592	0.00151659
2035	Light-Light Duty Trucks	LDT1	0.45132	0.03084	0.00616	0.002	0.001	0.008	0.03675	0.04475	0.0008808	0.002	0.01575	0.01775	192.368	0.00248923
2036	Heavy-Heavy Duty Trucks	HHDT	0.01195	12.804	0.00228	0.036	0.0082	0.036	0.06174	0.09774	0.0078152	0.009	0.02646	0.03546	3801.69	0.00010572
2036	Medium-Heavy Duty Trucks	MHDT	0.14974	0.44799	0.02868	0.011	0.0031	0.012	0.13034	0.14234	0.00295569	0.003	0.05586	0.05886	1102.89	0.00133198
2036	Light-Heavy Duty Trucks	LHD2	0.12525	0.03414	0.00287	0.007	0.0009	0.008	0.08918	0.09718	0.00084127	0.002	0.03822	0.04022	701.361	0.00115849
2036	Light-Duty Trucks	LDT2	0.416	0.02594	0.00468	0.002	0.0008	0.008	0.03675	0.04475	0.0007285	0.002	0.01575	0.01775	210.957	0.00189286
2036	Passenger Cars	LDA	0.32005	0.02004	0.00354	0.002	0.0008	0.008	0.03675	0.04475	0.00071577	0.002	0.01575	0.01775	169.033	0.00143208
2036	Light-Light Duty Trucks	LDT1	0.42052	0.02862	0.00554	0.002	0.0009	0.008	0.03675	0.04475	0.00082898	0.002	0.01575	0.01775	189.69	0.00224049
2037	Heavy-Heavy Duty Trucks	HHDT	0.01188	12.7412	0.0023	0.036	0.0082	0.036	0.06174	0.09774	0.007837	0.009	0.02646	0.03546	3800.48	0.0001068
2037	Medium-Heavy Duty Trucks	MHDT	0.14916	0.43076	0.02853	0.011	0.003	0.012	0.13034	0.14234	0.00290715	0.003	0.05586	0.05886	1101.67	0.0013252
2037	Light-Heavy Duty Trucks	LHD2	0.12376	0.03265	0.00279	0.007	0.0009	0.008	0.08918	0.09718	0.000845	0.002	0.03822	0.04022	700.585	0.001128
2037	Light-Duty Trucks	LDT2	0.40463	0.02482	0.00446	0.002	0.0007	0.008	0.03675	0.04475	0.000688	0.002	0.01575	0.01775	208.943	0.001801
2037	Passenger Cars	LDA	0.31019	0.01943	0.00337	0.002	0.0007	0.008	0.03675	0.04475	0.000679	0.002	0.01575	0.01775	167.735	0.001363
2037	Light-Light Duty Trucks	LDT1	0.39675	0.0269	0.00508	0.002	0.0009	0.008	0.03675	0.04475	0.000784	0.002	0.01575	0.01775	187.398	0.002051
2038	Heavy-Heavy Duty Trucks	HHDT	0.01186	12.658	0.00236	0.036	0.0083	0.036	0.06174	0.09774	0.007922	0.009	0.02646	0.03546	3800.85	0.00010939
2038	Medium-Heavy Duty Trucks	MHDT	0.14869	0.41673	0.02841	0.011	0.003	0.012	0.13034	0.14234	0.0028665	0.003	0.05586	0.05886	1100.67	0.00131968
2038	Light-Heavy Duty Trucks	LHD2	0.12226	0.03129	0.00272	0.007	0.0009	0.008	0.08918	0.09718	0.000849	0.002	0.03822	0.04022	699.948	0.001099
2038	Light-Duty Trucks	LDT2	0.39498	0.02383	0.00426	0.002	0.0007	0.008	0.03675	0.04475	0.000653	0.002	0.01575	0.01775	207.286	0.001723
2038	Passenger Cars	LDA	0.30209	0.01894	0.00324	0.002	0.0007	0.008	0.03675	0.04475	0.000647	0.002	0.01575	0.01775	166.666	0.001309
2038	Light-Light Duty Trucks	LDT1	0.37931	0.02534	0.00469	0.002	0.0008	0.008	0.03675	0.04475	0.000742	0.002	0.01575	0.01775	185.387	0.001896
2039	Heavy-Heavy Duty Trucks	HHDT	0.01199	12.5982	0.00244	0.036	0.0085	0.036	0.06174	0.09774	0.00816091	0.009	0.02646	0.03546	3808.02	0.00011348
2039	Medium-Heavy Duty Trucks	MHDT	0.14833	0.40561	0.02832	0.01	0.003	0.012	0.13034	0.14234	0.00283351	0.003	0.05586	0.05886	1099.88	0.00131538
2039	Light-Heavy Duty Trucks	LHD2	0.12005	0.02993	0.00264	0.007	0.0009	0.008	0.08918	0.09718	0.00085081	0.002	0.03822	0.04022	699.424	0.00106497
2039	Light-Duty Trucks	LDT2	0.38734	0.02303	0.00412	0.002	0.0007	0.008	0.03675	0.04475	0.00062109	0.002	0.01575	0.01775	205.943	0.00166316
2039	Passenger Cars	LDA	0.29581	0.01857	0.00314	0.002	0.0007	0.008	0.03675	0.04475	0.00061766	0.002	0.01575	0.01775	165.791	0.00127061
2039	Light-Light Duty Trucks	LDT1	0.36537	0.02412	0.00438	0.002	0.0008	0.008	0.03675	0.04475	0.00070246	0.002	0.01575	0.01775	183.576	0.00177097

EMFAC2014 Onroad Vehicle Emission Factors

EMFAC2014: Passenger Cars (LDA), Light-Duty Trucks (LDT2), Light-Heavy-Duty Trucks (LHD2),

Exhaust emission factors from EMFAC2014 for Los Angeles (SC). A speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults. An average temperature of 68°F and humidity of 55% were used per Table B-1 of CT-EMFAC: A Computer Model to Estimate Transportation Project Emissions. Version: EMFAC2014 Version 1.0.7. Run date: 2015/9/22 13:48; Season: Annual; Area: Los Angeles (SC); EMFAC2011 Vehicle Categories; Fuel: Gasoline.

EMFAC2014: Medium-Heavy-Duty Trucks (MHDT), Heavy-Heavy-Duty Trucks (HHDT)

Exhaust emission factors from EMFAC2014 for Los Angeles (SC); EMFAC2011 Vehicle Categories; Region: Los Angeles (SC); Season: Annual Average; Fuel: Diesel; Speed: 40mph (combined speeds for PM fugitive and SOx). MHDT is average of T6 instate construction heavy, T6 instate construction small, T6 instate heavy, T6 instate small, and T6 Public. HHDT is T7 SWCV (Solid Waste Collection Truck). EMFAC does not predict methane emissions from MHDT and HHDT.

Running Exhaust Emissions **(grams/mile)**

Year	Vehicle Category		CO	NOx	ROG	SOx	PM_{10}	PM_{10}-Tire Wear	PM_{10}-Break Wear	PM10 Fugitive	$PM_{2.5}$	$PM^{2.5}$-Tire Wear	$PM^{2.5}$-Break Wear (Fugitive)	PM2.5 Fugitive	CO2	CH4
			g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi	g/mi
2040	Heavy-Heavy Duty Trucks	HHDT	0.01222	12.49	0.00258	0.036	0.0089	0.036	0.06174	0.09774	0.00849272	0.009	0.02646	0.03546	3816.58	0.00011971
2040	Medium-Heavy Duty Trucks	MHDT	0.14805	0.39638	0.02824	0.01	0.0029	0.012	0.13034	0.14234	0.00280555	0.003	0.05586	0.05886	1099.22	0.00131187
2040	Light-Heavy Duty Trucks	LHD2	0.11889	0.02891	0.00258	0.007	0.0009	0.008	0.08918	0.09718	0.00085286	0.002	0.03822	0.04022	699.01	0.00104422
2040	Light-Duty Trucks	LDT2	0.38097	0.02242	0.00399	0.002	0.0006	0.008	0.03675	0.04475	0.00059347	0.002	0.01575	0.01775	204.858	0.00161284
2040	Passenger Cars	LDA	0.29066	0.01827	0.00307	0.002	0.0006	0.008	0.03675	0.04475	0.00059186	0.002	0.01575	0.01775	165.08	0.00124075
2040	Light-Light Duty Trucks	LDT1	0.35425	0.02312	0.00414	0.002	0.0007	0.008	0.03675	0.04475	0.00066765	0.002	0.01575	0.01775	181.99	0.00167488
2041	Heavy-Heavy Duty Trucks	HHDT	0.01251	12.3288	0.00275	0.036	0.0093	0.036	0.06174	0.09774	0.008883	0.009	0.02646	0.03546	3824.47	0.00012748
2041	Medium-Heavy Duty Trucks	MHDT	0.14782	0.38864	0.02818	0.01	0.0029	0.012	0.13034	0.14234	0.00278276	0.003	0.05586	0.05886	1098.66	0.00130902
2041	Light-Heavy Duty Trucks	LHD2	0.11871	0.02828	0.00256	0.007	0.0009	0.008	0.08918	0.09718	0.000855	0.002	0.03822	0.04022	698.684	0.001034
2041	Light-Duty Trucks	LDT2	0.37586	0.02198	0.0039	0.002	0.0006	0.008	0.03675	0.04475	0.000572	0.002	0.01575	0.01775	204.007	0.001576
2041	Passenger Cars	LDA	0.28654	0.01804	0.00302	0.002	0.0006	0.008	0.03675	0.04475	0.000571	0.002	0.01575	0.01775	164.516	0.001218
2041	Light-Light Duty Trucks	LDT1	0.34435	0.02234	0.00396	0.002	0.0007	0.008	0.03675	0.04475	0.000644	0.002	0.01575	0.01775	180.61	0.001601
2042	Heavy-Heavy Duty Trucks	HHDT	0.01282	12.1066	0.00291	0.037	0.0097	0.036	0.06174	0.09774	0.0092391	0.009	0.02646	0.03546	3827.18	0.00013497
2042	Medium-Heavy Duty Trucks	MHDT	0.14764	0.38182	0.02813	0.01	0.0029	0.012	0.13034	0.14234	0.002763	0.003	0.05586	0.05886	1098.18	0.00130664
2042	Light-Heavy Duty Trucks	LHD2	0.11858	0.02777	0.00254	0.007	0.0009	0.008	0.08918	0.09718	0.00085606	0.002	0.03822	0.04022	698.427	0.00102524
2042	Light-Duty Trucks	LDT2	0.37152	0.02161	0.00382	0.002	0.0006	0.008	0.03675	0.04475	0.00055391	0.002	0.01575	0.01775	203.33	0.00154516
2042	Passenger Cars	LDA	0.28309	0.01785	0.00297	0.002	0.0006	0.008	0.03675	0.04475	0.0005542	0.002	0.01575	0.01775	164.065	0.00120004
2042	Light-Light Duty Trucks	LDT1	0.33504	0.02165	0.00379	0.002	0.0007	0.008	0.03675	0.04475	0.00062167	0.002	0.01575	0.01775	179.389	0.00153252
2043	Heavy-Heavy Duty Trucks	HHDT	0.01333	11.7491	0.00315	0.037	0.0102	0.036	0.06174	0.09774	0.00971437	0.009	0.02646	0.03546	3827.1	0.0001465
2043	Medium-Heavy Duty Trucks	MHDT	0.14752	0.37653	0.0281	0.01	0.0029	0.012	0.13034	0.14234	0.00274747	0.003	0.05586	0.05886	1097.78	0.00130503
2043	Light-Heavy Duty Trucks	LHD2	0.1185	0.02739	0.00252	0.007	0.0009	0.008	0.08918	0.09718	0.0008571	0.002	0.03822	0.04022	698.224	0.00101859
2043	Light-Duty Trucks	LDT2	0.36806	0.02132	0.00377	0.002	0.0006	0.008	0.03675	0.04475	0.0005392	0.002	0.01575	0.01775	202.796	0.00152169
2043	Passenger Cars	LDA	0.28029	0.01771	0.00293	0.002	0.0006	0.008	0.03675	0.04475	0.00053981	0.002	0.01575	0.01775	163.709	0.00118573
2043	Light-Light Duty Trucks	LDT1	0.32637	0.02104	0.00365	0.002	0.0007	0.008	0.03675	0.04475	0.00060158	0.002	0.01575	0.01775	178.297	0.00147404
2044	Heavy-Heavy Duty Trucks	HHDT	0.01429	11.0498	0.0036	0.036	0.011	0.036	0.06174	0.09774	0.01047825	0.009	0.02646	0.03546	3822.54	0.00016705
2044	Medium-Heavy Duty Trucks	MHDT	0.14745	0.37203	0.02807	0.01	0.0029	0.012	0.13034	0.14234	0.00273426	0.003	0.05586	0.05886	1097.46	0.00130388
2044	Light-Heavy Duty Trucks	LHD2	0.11842	0.02705	0.00251	0.007	0.0009	0.008	0.08918	0.09718	0.00085791	0.002	0.03822	0.04022	698.056	0.0010129
2044	Light-Duty Trucks	LDT2	0.36531	0.02109	0.00372	0.002	0.0006	0.008	0.03675	0.04475	0.00052741	0.002	0.01575	0.01775	202.374	0.00150427
2044	Passenger Cars	LDA	0.27802	0.0176	0.00291	0.002	0.0006	0.008	0.03675	0.04475	0.00052804	0.002	0.01575	0.01775	163.429	0.00117471
2044	Light-Light Duty Trucks	LDT1	0.31949	0.02062	0.00355	0.002	0.0006	0.008	0.03675	0.04475	0.00058422	0.002	0.01575	0.01775	177.38	0.00143465
2045	Heavy-Heavy Duty Trucks	HHDT	0.01558	10.2441	0.00418	0.036	0.0118	0.036	0.06174	0.09774	0.01133	0.009	0.02646	0.03546	3817.2	0.00019393
2045	Medium-Heavy Duty Trucks	MHDT	0.14742	0.36843	0.02806	0.01	0.0028	0.012	0.13034	0.14234	0.00272335	0.003	0.05586	0.05886	1097.2	0.00130309
2045	Light-Heavy Duty Trucks	LHD2	0.11836	0.0268	0.0025	0.007	0.0009	0.008	0.08918	0.09718	0.00085857	0.002	0.03822	0.04022	697.922	0.00100847
2045	Light-Duty Trucks	LDT2	0.363	0.02091	0.00369	0.002	0.0006	0.008	0.03675	0.04475	0.00051803	0.002	0.01575	0.01775	202.026	0.00149093
2045	Passenger Cars	LDA	0.2761	0.01751	0.00289	0.002	0.0006	0.008	0.03675	0.04475	0.00051851	0.002	0.01575	0.01775	163.2	0.00116596
2045	Light-Light Duty Trucks	LDT1	0.31361	0.0203	0.00348	0.002	0.0006	0.008	0.03675	0.04475	0.00056907	0.002	0.01575	0.01775	176.552	0.00140651
2046	Heavy-Heavy Duty Trucks	HHDT	0.01744	9.29438	0.00498	0.036	0.0128	0.036	0.06174	0.09774	0.01228416	0.009	0.02646	0.03546	3810.74	0.0002312
2046	Medium-Heavy Duty Trucks	MHDT	0.1474	0.36547	0.02804	0.01	0.0028	0.012	0.13034	0.14234	0.00271411	0.003	0.05586	0.05886	1096.99	0.00130256
2046	Light-Heavy Duty Trucks	LHD2	0.1183	0.02657	0.00249	0.007	0.0009	0.008	0.08918	0.09718	0.00085907	0.002	0.03822	0.04022	697.812	0.0010046
2046	Light-Duty Trucks	LDT2	0.36128	0.02076	0.00366	0.002	0.0006	0.008	0.03675	0.04475	0.00051085	0.002	0.01575	0.01775	201.754	0.00148081
2046	Passenger Cars	LDA	0.27461	0.01744	0.00287	0.002	0.0006	0.008	0.03675	0.04475	0.00051101	0.002	0.01575	0.01775	163.019	0.00115903
2046	Light-Light Duty Trucks	LDT1	0.3083	0.02001	0.00342	0.002	0.0006	0.008	0.03675	0.04475	0.00055572	0.002	0.01575	0.01775	175.817	0.00138096

lbs/VMT

1gram = 0.0022046 lbs

Year		Vehicle Category		CO	NOx	ROG	SOx	PM_{10}	PM_{10} (Fugitive)	$PM_{2.5}$	$PM^{2.5}$ (Fugitive)	CO2	CH4
				lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT
2017	2017Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.963E-05	3.182E-02	3.296E-06	8.124E-05	2.660E-05	2.155E-04	2.544E-05	7.818E-05	8.516E+00	1.531E-07
2017	2017Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	9.305E-04	8.453E-03	2.687E-04	2.421E-05	1.473E-04	3.138E-04	1.410E-04	1.298E-04	2.538E+00	1.248E-05
2017	2017Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.230E-03	6.085E-04	7.895E-05	1.678E-05	2.132E-06	2.142E-04	1.962E-06	8.867E-05	1.677E+00	3.098E-05
2017	2017Light-Duty Trucks	Light-Duty Trucks	LDT2	2.637E-03	2.812E-04	5.450E-05	7.738E-06	3.318E-06	9.866E-05	3.053E-06	3.913E-05	7.710E-01	1.886E-05
2017	2017Passenger Cars	Passenger Cars	LDA	2.011E-03	1.672E-04	4.266E-05	5.777E-06	3.369E-06	9.866E-05	3.102E-06	3.913E-05	5.756E-01	1.431E-05
2017	2017Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	5.337E-03	4.884E-04	1.326E-04	6.792E-06	7.189E-06	9.866E-05	6.627E-06	3.913E-05	6.717E-01	4.192E-05
2018	2018Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.967E-05	3.162E-02	3.430E-06	8.121E-05	2.639E-05	2.155E-04	2.525E-05	7.818E-05	8.512E+00	1.593E-07
2018	2018Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	7.828E-04	7.326E-03	2.243E-04	2.420E-05	1.158E-04	3.138E-04	1.108E-04	1.298E-04	2.536E+00	1.042E-05
2018	2018Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	1.870E-03	5.342E-04	6.615E-05	1.666E-05	2.028E-06	1.984E-03	1.867E-06	8.867E-05	1.666E+00	2.599E-05
2018	2018Light-Duty Trucks	Light-Duty Trucks	LDT2	2.320E-03	2.403E-04	4.446E-05	7.522E-06	3.278E-06	9.866E-05	3.016E-06	3.913E-05	7.500E-01	1.650E-05
2018	2018Passenger Cars	Passenger Cars	LDA	1.796E-03	1.471E-04	3.433E-05	5.622E-06	3.342E-06	9.866E-05	3.075E-06	3.913E-05	5.603E-01	1.263E-05
2018	2018Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	4.637E-03	4.230E-04	9.971E-05	6.629E-06	6.576E-06	9.866E-05	6.052E-06	3.913E-05	6.567E-01	3.669E-05
2019	2019Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.961E-05	3.138E-02	3.578E-06	8.113E-05	2.601E-05	2.155E-04	2.490E-05	7.818E-05	8.506E+00	1.662E-07
2019	2019Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	6.994E-04	6.453E-03	1.977E-04	2.414E-05	9.771E-05	3.138E-04	9.348E-05	1.298E-04	2.530E+00	9.185E-06
2019	2019Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	1.560E-03	4.673E-04	5.497E-05	1.653E-05	1.947E-06	2.142E-04	1.790E-06	8.867E-05	1.654E+00	2.164E-05
2019	2019Light-Duty Trucks	Light-Duty Trucks	LDT2	2.064E-03	2.068E-04	3.691E-05	7.308E-06	3.272E-06	9.866E-05	3.009E-06	3.913E-05	7.291E-01	1.456E-05
2019	2019Passenger Cars	Passenger Cars	LDA	1.625E-03	1.307E-04	2.814E-05	5.463E-06	3.338E-06	9.866E-05	3.069E-06	3.913E-05	5.449E-01	1.127E-05
2019	2019Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	4.173E-03	3.775E-04	8.391E-05	6.475E-06	6.195E-06	9.866E-05	5.699E-06	3.913E-05	6.418E-01	3.287E-05
2020	2020Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.956E-05	3.113E-02	3.727E-06	8.109E-05	2.565E-05	2.155E-04	2.454E-05	7.818E-05	8.500E+00	1.731E-07
2020	2020Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	5.391E-04	5.210E-03	1.490E-04	2.409E-05	6.702E-05	3.138E-04	6.412E-05	1.298E-04	2.525E+00	6.922E-06
2020	2020Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	1.297E-03	4.091E-04	4.545E-05	1.642E-05	1.881E-06	2.142E-04	1.730E-06	8.867E-05	1.643E+00	1.813E-05
2020	2020Light-Duty Trucks	Light-Duty Trucks	LDT2	1.868E-03	1.813E-04	3.204E-05	7.098E-06	3.252E-06	9.866E-05	2.991E-06	3.913E-05	7.082E-01	1.289E-05
2020	2020Passenger Cars	Passenger Cars	LDA	1.505E-03	1.180E-04	2.522E-05	5.311E-06	3.303E-06	9.866E-05	3.038E-06	3.913E-05	5.298E-01	1.012E-05
2020	2020Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	3.786E-03	3.395E-04	7.305E-05	6.316E-06	5.852E-06	9.866E-05	5.383E-06	3.913E-05	6.267E-01	2.923E-05
2021	2021Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.941E-05	3.083E-02	3.893E-06	8.102E-05	2.513E-05	2.155E-04	2.401E-05	7.818E-05	8.491E+00	1.808E-07
2021	2021Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.762E-04	4.032E-03	9.248E-05	2.406E-05	2.170E-05	3.138E-04	2.076E-05	1.298E-04	2.522E+00	4.296E-06
2021	2021Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	1.081E-03	3.568E-04	3.739E-05	1.631E-05	1.836E-06	2.142E-04	1.689E-06	8.867E-05	1.632E+00	1.511E-05
2021	2021Light-Duty Trucks	Light-Duty Trucks	LDT2	1.726E-03	1.616E-04	2.904E-05	6.863E-06	3.214E-06	9.866E-05	2.954E-06	3.913E-05	6.850E-01	1.170E-05
2021	2021Passenger Cars	Passenger Cars	LDA	1.410E-03	1.076E-04	2.283E-05	5.157E-06	3.239E-06	9.866E-05	2.976E-06	3.913E-05	5.144E-01	9.180E-06
2021	2021Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	3.458E-03	3.069E-04	6.564E-05	6.138E-06	5.514E-06	9.866E-05	5.071E-06	3.913E-05	6.093E-01	2.631E-05
2022	2022Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.950E-05	3.066E-02	4.023E-06	8.098E-05	2.492E-05	2.155E-04	2.384E-05	7.818E-05	8.488E+00	1.868E-07
2022	2022Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.727E-04	3.600E-03	8.918E-05	2.398E-05	1.935E-05	3.138E-04	1.852E-05	1.298E-04	2.513E+00	4.142E-06
2022	2022Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	9.106E-04	3.088E-04	3.070E-05	1.620E-05	1.812E-06	2.142E-04	1.666E-06	8.867E-05	1.622E+00	1.241E-05
2022	2022Light-Duty Trucks	Light-Duty Trucks	LDT2	1.616E-03	1.459E-04	2.656E-05	6.629E-06	3.194E-06	9.866E-05	2.937E-06	3.913E-05	6.616E-01	1.071E-05
2022	2022Passenger Cars	Passenger Cars	LDA	1.331E-03	9.870E-05	2.080E-05	5.004E-06	3.201E-06	9.866E-05	2.943E-06	3.913E-05	4.993E-01	8.375E-06
2022	2022Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	3.158E-03	2.774E-04	5.883E-05	5.954E-06	5.213E-06	9.866E-05	4.794E-06	3.913E-05	5.914E-01	2.363E-05
2023	2023Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.946E-05	3.044E-02	4.167E-06	8.092E-05	2.453E-05	2.155E-04	2.347E-05	7.818E-05	8.482E+00	1.936E-07
2023	2023Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.359E-04	2.167E-03	6.743E-05	2.383E-05	1.113E-05	3.138E-04	1.065E-05	1.298E-04	2.498E+00	3.132E-06
2023	2023Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	7.805E-04	2.694E-04	2.586E-05	1.611E-05	1.805E-06	2.142E-04	1.660E-06	8.867E-05	1.613E+00	1.045E-05
2023	2023Light-Duty Trucks	Light-Duty Trucks	LDT2	1.521E-03	1.321E-04	2.427E-05	6.392E-06	3.188E-06	9.866E-05	2.932E-06	3.913E-05	6.381E-01	9.800E-06
2023	2023Passenger Cars	Passenger Cars	LDA	1.256E-03	9.101E-05	1.899E-05	4.855E-06	3.180E-06	9.866E-05	2.924E-06	3.913E-05	4.844E-01	7.655E-06
2023	2023Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	2.864E-03	2.497E-04	5.224E-05	5.764E-06	4.935E-06	9.866E-05	4.538E-06	3.913E-05	5.729E-01	2.107E-05
2024	2024Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.943E-05	3.023E-02	4.304E-06	8.087E-05	2.416E-05	2.155E-04	2.311E-05	7.818E-05	8.476E+00	1.999E-07
2024	2024Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.378E-04	2.016E-03	6.737E-05	2.376E-05	1.055E-05	3.138E-04	1.010E-05	1.298E-04	2.491E+00	3.129E-06
2024	2024Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	6.813E-04	2.360E-04	2.217E-05	1.602E-05	1.812E-06	2.142E-04	1.666E-06	8.867E-05	1.604E+00	8.960E-06
2024	2024Light-Duty Trucks	Light-Duty Trucks	LDT2	1.447E-03	1.204E-04	2.227E-05	6.159E-06	3.189E-06	9.866E-05	2.932E-06	3.913E-05	6.149E-01	8.996E-06

lbs/VMT

1gram = 0.0022046 lbs

Year		Vehicle Category		CO	NOx	ROG	SOx	PM_{10}	PM_{10} (Fugitive)	$PM_{2.5}$	$PM^{2.5}$ (Fugitive)	CO2	CH4
				lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT
2024	2024Passenger Cars	Passenger Cars	LDA	1.182E-03	8.403E-05	1.730E-05	4.706E-06	3.167E-06	9.866E-05	2.912E-06	3.913E-05	4.697E-01	6.991E-06
2024	2024Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	2.633E-03	2.267E-04	4.704E-05	5.573E-06	4.701E-06	9.866E-05	4.322E-06	3.913E-05	5.542E-01	1.899E-05
2025	2025Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.943E-05	3.005E-02	4.427E-06	8.082E-05	2.383E-05	2.155E-04	2.279E-05	7.818E-05	8.471E+00	2.056E-07
2025	2025Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.389E-04	1.875E-03	6.720E-05	2.369E-05	1.003E-05	3.138E-04	9.592E-06	1.298E-04	2.483E+00	3.121E-06
2025	2025Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	6.084E-04	2.084E-04	1.951E-05	1.593E-05	1.828E-06	2.142E-04	1.682E-06	8.867E-05	1.595E+00	7.884E-06
2025	2025Light-Duty Trucks	Light-Duty Trucks	LDT2	1.371E-03	1.107E-04	2.056E-05	5.930E-06	3.197E-06	9.866E-05	2.939E-06	3.913E-05	5.921E-01	8.309E-06
2025	2025Passenger Cars	Passenger Cars	LDA	1.116E-03	7.847E-05	1.602E-05	4.557E-06	3.170E-06	9.866E-05	2.914E-06	3.913E-05	4.549E-01	6.475E-06
2025	2025Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	2.420E-03	2.064E-04	4.249E-05	5.384E-06	4.500E-06	9.866E-05	4.136E-06	3.913E-05	5.355E-01	1.717E-05
2026	2026Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.939E-05	2.987E-02	4.541E-06	8.077E-05	2.344E-05	2.155E-04	2.242E-05	7.818E-05	8.466E+00	2.109E-07
2026	2026Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.391E-04	1.740E-03	6.689E-05	2.362E-05	9.527E-06	3.138E-04	9.115E-06	1.298E-04	2.476E+00	3.107E-06
2026	2026Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	5.332E-04	1.829E-04	1.658E-05	1.585E-05	1.845E-06	2.142E-04	1.697E-06	8.867E-05	1.588E+00	6.699E-06
2026	2026Light-Duty Trucks	Light-Duty Trucks	LDT2	1.308E-03	1.026E-04	1.911E-05	5.731E-06	3.145E-06	9.866E-05	2.892E-06	3.913E-05	5.722E-01	7.722E-06
2026	2026Passenger Cars	Passenger Cars	LDA	1.062E-03	7.368E-05	1.493E-05	4.430E-06	3.108E-06	9.866E-05	2.858E-06	3.913E-05	4.422E-01	6.032E-06
2026	2026Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	2.234E-03	1.893E-04	3.854E-05	5.216E-06	4.302E-06	9.866E-05	3.955E-06	3.913E-05	5.190E-01	1.557E-05
2027	2027Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.940E-05	2.976E-02	4.626E-06	8.073E-05	2.317E-05	2.155E-04	2.217E-05	7.818E-05	8.462E+00	2.149E-07
2027	2027Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.383E-04	1.611E-03	6.643E-05	2.355E-05	9.071E-06	3.138E-04	8.678E-06	1.298E-04	2.468E+00	3.086E-06
2027	2027Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	4.728E-04	1.613E-04	1.426E-05	1.579E-05	1.866E-06	2.142E-04	1.716E-06	8.867E-05	1.581E+00	5.762E-06
2027	2027Light-Duty Trucks	Light-Duty Trucks	LDT2	1.254E-03	9.560E-05	1.784E-05	5.555E-06	3.022E-06	9.866E-05	2.779E-06	3.913E-05	5.547E-01	7.208E-06
2027	2027Passenger Cars	Passenger Cars	LDA	1.013E-03	6.930E-05	1.392E-05	4.315E-06	2.967E-06	9.866E-05	2.728E-06	3.913E-05	4.308E-01	5.625E-06
2027	2027Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	2.062E-03	1.735E-04	3.488E-05	5.064E-06	4.053E-06	9.866E-05	3.727E-06	3.913E-05	5.041E-01	1.410E-05
2028	2028Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.937E-05	2.966E-02	4.696E-06	8.069E-05	2.286E-05	2.155E-04	2.188E-05	7.818E-05	8.458E+00	2.181E-07
2028	2028Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.381E-04	1.507E-03	6.610E-05	2.349E-05	8.691E-06	3.138E-04	8.315E-06	1.298E-04	2.462E+00	3.070E-06
2028	2028Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	4.294E-04	1.439E-04	1.253E-05	1.572E-05	1.892E-06	2.142E-04	1.739E-06	8.867E-05	1.575E+00	5.062E-06
2028	2028Light-Duty Trucks	Light-Duty Trucks	LDT2	1.206E-03	8.944E-05	1.671E-05	5.399E-06	2.835E-06	9.866E-05	2.608E-06	3.913E-05	5.391E-01	6.750E-06
2028	2028Passenger Cars	Passenger Cars	LDA	9.690E-04	6.532E-05	1.300E-05	4.213E-06	2.760E-06	9.866E-05	2.537E-06	3.913E-05	4.207E-01	5.251E-06
2028	2028Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	1.912E-03	1.590E-04	3.188E-05	4.927E-06	3.768E-06	9.866E-05	3.466E-06	3.913E-05	4.906E-01	1.288E-05
2029	2029Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.913E-05	2.948E-02	4.775E-06	8.062E-05	2.226E-05	2.155E-04	2.129E-05	7.818E-05	8.450E+00	2.218E-07
2029	2029Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.376E-04	1.416E-03	6.577E-05	2.343E-05	8.352E-06	3.138E-04	7.990E-06	1.298E-04	2.456E+00	3.055E-06
2029	2029Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	3.938E-04	1.293E-04	1.117E-05	1.567E-05	1.914E-06	2.142E-04	1.759E-06	8.867E-05	1.570E+00	4.513E-06
2029	2029Light-Duty Trucks	Light-Duty Trucks	LDT2	1.162E-03	8.387E-05	1.564E-05	5.260E-06	2.665E-06	9.866E-05	2.452E-06	3.913E-05	5.253E-01	6.321E-06
2029	2029Passenger Cars	Passenger Cars	LDA	9.269E-04	6.157E-05	1.213E-05	4.123E-06	2.586E-06	9.866E-05	2.379E-06	3.913E-05	4.117E-01	4.899E-06
2029	2029Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	1.750E-03	1.433E-04	2.862E-05	4.802E-06	3.490E-06	9.866E-05	3.208E-06	3.913E-05	4.782E-01	1.157E-05
2030	2030Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.892E-05	2.936E-02	4.823E-06	8.055E-05	2.175E-05	2.155E-04	2.080E-05	7.818E-05	8.443E+00	2.240E-07
2030	2030Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.368E-04	1.334E-03	6.538E-05	2.338E-05	8.039E-06	3.138E-04	7.691E-06	1.298E-04	6.538E-05	3.037E-06
2030	2030Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	3.641E-04	1.168E-04	9.985E-06	1.562E-05	1.934E-06	2.142E-04	1.778E-06	8.867E-05	1.565E+00	4.035E-06
2030	2030Light-Duty Trucks	Light-Duty Trucks	LDT2	1.121E-03	7.893E-05	1.469E-05	5.137E-06	2.511E-06	9.866E-05	2.309E-06	3.913E-05	5.129E-01	5.935E-06
2030	2030Passenger Cars	Passenger Cars	LDA	8.886E-04	5.820E-05	1.134E-05	4.042E-06	2.435E-06	9.866E-05	2.239E-06	3.913E-05	4.036E-01	4.580E-06
2030	2030Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	1.596E-03	1.274E-04	2.551E-05	4.685E-06	3.219E-06	9.866E-05	2.960E-06	3.913E-05	4.669E-01	1.031E-05
2031	2031Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.862E-05	2.923E-02	4.858E-06	8.047E-05	2.115E-05	2.155E-04	2.023E-05	7.818E-05	8.435E+00	2.256E-07
2031	2031Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.358E-04	1.260E-03	6.499E-05	2.334E-05	7.754E-06	3.138E-04	7.419E-06	1.298E-04	2.446E+00	3.019E-06
2031	2031Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	3.325E-04	1.055E-04	8.719E-06	1.558E-05	1.950E-06	2.142E-04	1.793E-06	8.867E-05	1.561E+00	3.523E-06
2031	2031Light-Duty Trucks	Light-Duty Trucks	LDT2	1.082E-03	7.444E-05	1.381E-05	5.027E-06	2.366E-06	9.866E-05	2.176E-06	3.913E-05	5.020E-01	5.579E-06
2031	2031Passenger Cars	Passenger Cars	LDA	8.532E-04	5.516E-05	1.062E-05	3.971E-06	2.296E-06	9.866E-05	2.111E-06	3.913E-05	3.965E-01	4.290E-06
2031	2031Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	1.432E-03	1.098E-04	2.225E-05	4.578E-06	2.941E-06	9.866E-05	2.704E-06	3.913E-05	4.564E-01	8.989E-06
2032	2032Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.820E-05	2.905E-02	4.890E-06	8.038E-05	2.041E-05	2.155E-04	1.953E-05	7.818E-05	8.425E+00	2.271E-07
2032	2032Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.348E-04	1.192E-03	6.461E-05	2.330E-05	7.507E-06	3.138E-04	7.182E-06	1.298E-04	2.442E+00	3.001E-06

lbs/VMT

1gram = 0.0022046 lbs

Year		Vehicle Category		CO	NOx	ROG	SOx	PM_{10}	PM_{10} (Fugitive)	$PM_{2.5}$	$PM^{2.5}$ (Fugitive)	CO2	CH4
				lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT
2032	2032Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	3.052E-04	9.605E-05	7.576E-06	1.554E-05	1.966E-06	2.142E-04	1.807E-06	8.867E-05	1.557E+00	3.061E-06
2032	2032Light-Duty Trucks	Light-Duty Trucks	LDT2	1.045E-03	7.041E-05	1.300E-05	4.931E-06	2.229E-06	9.866E-05	2.049E-06	3.913E-05	4.924E-01	5.253E-06
2032	2032Passenger Cars	Passenger Cars	LDA	8.201E-04	5.239E-05	9.957E-06	3.908E-06	2.165E-06	9.866E-05	1.991E-06	3.913E-05	3.903E-01	4.024E-06
2032	2032Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	1.294E-03	9.502E-05	1.951E-05	4.481E-06	2.698E-06	9.866E-05	2.480E-06	3.913E-05	4.469E-01	7.884E-06
2033	2033Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.772E-05	2.888E-02	4.912E-06	8.027E-05	1.967E-05	2.155E-04	1.882E-05	7.818E-05	8.414E+00	2.282E-07
2033	2033Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.338E-04	1.132E-03	6.426E-05	2.326E-05	7.300E-06	3.138E-04	6.984E-06	1.298E-04	2.438E+00	2.985E-06
2033	2033Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.971E-04	8.973E-05	7.220E-06	1.551E-05	1.982E-06	2.142E-04	1.823E-06	8.867E-05	1.554E+00	2.919E-06
2033	2033Light-Duty Trucks	Light-Duty Trucks	LDT2	1.010E-03	6.669E-05	1.225E-05	4.846E-06	2.097E-06	9.866E-05	1.929E-06	3.913E-05	4.840E-01	4.952E-06
2033	2033Passenger Cars	Passenger Cars	LDA	7.895E-04	4.991E-05	9.363E-06	3.854E-06	2.041E-06	9.866E-05	1.878E-06	3.913E-05	3.849E-01	3.783E-06
2033	2033Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	1.184E-03	8.308E-05	1.732E-05	4.396E-06	2.487E-06	9.866E-05	2.286E-06	3.913E-05	4.385E-01	7.000E-06
2034	2034Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.702E-05	2.858E-02	4.964E-06	8.013E-05	1.863E-05	2.155E-04	1.783E-05	7.818E-05	8.399E+00	2.306E-07
2034	2034Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.326E-04	1.079E-03	6.391E-05	2.323E-05	7.116E-06	3.138E-04	6.808E-06	1.298E-04	2.435E+00	2.969E-06
2034	2034Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.888E-04	8.420E-05	6.868E-06	1.548E-05	1.995E-06	2.142E-04	1.835E-06	8.867E-05	1.551E+00	2.775E-06
2034	2034Light-Duty Trucks	Light-Duty Trucks	LDT2	9.772E-04	6.329E-05	1.156E-05	4.773E-06	1.972E-06	9.866E-05	1.813E-06	3.913E-05	4.767E-01	4.672E-06
2034	2034Passenger Cars	Passenger Cars	LDA	7.598E-04	4.772E-05	8.802E-06	3.806E-06	1.924E-06	9.866E-05	1.769E-06	3.913E-05	3.801E-01	3.557E-06
2034	2034Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	1.074E-03	7.358E-05	1.514E-05	4.316E-06	2.277E-06	9.866E-05	2.094E-06	3.913E-05	4.308E-01	6.120E-06
2035	2035Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.656E-05	2.838E-02	4.988E-06	8.003E-05	1.807E-05	2.155E-04	1.728E-05	7.818E-05	8.388E+00	2.317E-07
2035	2035Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.314E-04	1.030E-03	6.355E-05	2.320E-05	6.942E-06	3.138E-04	6.642E-06	1.298E-04	2.431E+00	2.952E-06
2035	2035Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.815E-04	7.942E-05	6.556E-06	1.545E-05	2.006E-06	2.142E-04	1.844E-06	8.867E-05	1.548E+00	2.649E-06
2035	2035Light-Duty Trucks	Light-Duty Trucks	LDT2	9.467E-04	6.023E-05	1.094E-05	4.710E-06	1.854E-06	9.866E-05	1.704E-06	3.913E-05	4.704E-01	4.420E-06
2035	2035Passenger Cars	Passenger Cars	LDA	7.312E-04	4.581E-05	8.274E-06	3.765E-06	1.813E-06	9.866E-05	1.667E-06	3.913E-05	3.761E-01	3.343E-06
2035	2035Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	9.950E-04	6.800E-05	1.358E-05	4.248E-06	2.112E-06	9.866E-05	1.942E-06	3.913E-05	4.241E-01	5.488E-06
2036	2036Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.634E-05	2.823E-02	5.018E-06	7.996E-05	1.801E-05	2.155E-04	1.723E-05	7.818E-05	8.381E+00	2.331E-07
2036	2036Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.301E-04	9.876E-04	6.322E-05	2.320E-05	6.811E-06	3.138E-04	6.516E-06	1.298E-04	2.431E+00	2.936E-06
2036	2036Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.761E-04	7.526E-05	6.321E-06	1.543E-05	2.017E-06	2.142E-04	1.855E-06	8.867E-05	1.546E+00	2.554E-06
2036	2036Light-Duty Trucks	Light-Duty Trucks	LDT2	9.171E-04	5.719E-05	1.033E-05	4.656E-06	1.747E-06	9.866E-05	1.606E-06	3.913E-05	4.651E-01	4.173E-06
2036	2036Passenger Cars	Passenger Cars	LDA	7.056E-04	4.417E-05	7.813E-06	3.730E-06	1.716E-06	9.866E-05	1.578E-06	3.913E-05	3.726E-01	3.157E-06
2036	2036Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	9.271E-04	6.310E-05	1.222E-05	4.188E-06	1.988E-06	9.866E-05	1.828E-06	3.913E-05	4.182E-01	4.939E-06
2037	2037Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.619E-05	2.809E-02	5.068E-06	7.993E-05	1.806E-05	2.155E-04	1.728E-05	7.818E-05	8.379E+00	2.354E-07
2037	2037Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.288E-04	9.497E-04	6.290E-05	2.317E-05	6.699E-06	3.138E-04	6.409E-06	1.298E-04	2.429E+00	2.922E-06
2037	2037Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.728E-04	7.198E-05	6.153E-06	1.542E-05	2.026E-06	2.142E-04	1.863E-06	8.867E-05	1.545E+00	2.487E-06
2037	2037Light-Duty Trucks	Light-Duty Trucks	LDT2	8.920E-04	5.471E-05	9.824E-06	4.612E-06	1.651E-06	9.866E-05	1.517E-06	3.913E-05	4.606E-01	3.970E-06
2037	2037Passenger Cars	Passenger Cars	LDA	6.839E-04	4.284E-05	7.436E-06	3.702E-06	1.629E-06	9.866E-05	1.497E-06	3.913E-05	3.698E-01	3.005E-06
2037	2037Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	8.747E-04	5.931E-05	1.119E-05	4.136E-06	1.881E-06	9.866E-05	1.728E-06	3.913E-05	4.131E-01	4.522E-06
2038	2038Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.614E-05	2.791E-02	5.192E-06	7.994E-05	1.826E-05	2.155E-04	1.746E-05	7.818E-05	8.379E+00	2.412E-07
2038	2038Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.278E-04	9.187E-04	6.264E-05	2.315E-05	6.605E-06	3.138E-04	6.319E-06	1.298E-04	2.427E+00	2.909E-06
2038	2038Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.695E-04	6.898E-05	5.994E-06	1.540E-05	2.035E-06	2.142E-04	1.872E-06	8.867E-05	1.543E+00	2.423E-06
2038	2038Light-Duty Trucks	Light-Duty Trucks	LDT2	8.708E-04	5.253E-05	9.400E-06	4.575E-06	1.565E-06	9.866E-05	1.440E-06	3.913E-05	4.570E-01	3.799E-06
2038	2038Passenger Cars	Passenger Cars	LDA	6.660E-04	4.176E-05	7.141E-06	3.677E-06	1.550E-06	9.866E-05	1.426E-06	3.913E-05	3.674E-01	2.886E-06
2038	2038Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	8.362E-04	5.587E-05	1.034E-05	4.092E-06	1.779E-06	9.866E-05	1.636E-06	3.913E-05	4.087E-01	4.180E-06
2039	2039Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.644E-05	2.777E-02	5.386E-06	8.009E-05	1.881E-05	2.155E-04	1.799E-05	7.818E-05	8.395E+00	2.502E-07
2039	2039Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.270E-04	8.942E-04	6.243E-05	2.313E-05	6.529E-06	3.138E-04	6.247E-06	1.298E-04	2.425E+00	2.900E-06
2039	2039Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.647E-04	6.599E-05	5.810E-06	1.539E-05	2.040E-06	2.142E-04	1.876E-06	8.867E-05	1.542E+00	2.348E-06
2039	2039Light-Duty Trucks	Light-Duty Trucks	LDT2	8.539E-04	5.077E-05	9.074E-06	4.544E-06	1.489E-06	9.866E-05	1.369E-06	3.913E-05	4.540E-01	3.667E-06
2039	2039Passenger Cars	Passenger Cars	LDA	6.521E-04	4.094E-05	6.932E-06	3.658E-06	1.481E-06	9.866E-05	1.362E-06	3.913E-05	3.655E-01	2.801E-06
2039	2039Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	8.055E-04	5.317E-05	9.662E-06	4.052E-06	1.684E-06	9.866E-05	1.549E-06	3.913E-05	4.047E-01	3.904E-06

lbs/VMT

1gram = 0.0022046 lbs

Year		Vehicle Category		CO	NOx	ROG	SOx	PM_{10}	PM_{10} (Fugitive)	$PM_{2.5}$	$PM^{2.5}$ (Fugitive)	CO2	CH4
				lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT
2040	2040Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.693E-05	2.754E-02	5.682E-06	8.027E-05	1.957E-05	2.155E-04	1.872E-05	7.818E-05	8.414E+00	2.639E-07
2040	2040Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.264E-04	8.739E-04	6.227E-05	2.312E-05	6.465E-06	3.138E-04	6.185E-06	1.298E-04	2.423E+00	2.892E-06
2040	2040Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.621E-04	6.373E-05	5.697E-06	1.538E-05	2.045E-06	2.142E-04	1.880E-06	8.867E-05	1.541E+00	2.302E-06
2040	2040Light-Duty Trucks	Light-Duty Trucks	LDT2	8.399E-04	4.943E-05	8.799E-06	4.520E-06	1.423E-06	9.866E-05	1.308E-06	3.913E-05	4.516E-01	3.556E-06
2040	2040Passenger Cars	Passenger Cars	LDA	6.408E-04	4.027E-05	6.769E-06	3.642E-06	1.419E-06	9.866E-05	1.305E-06	3.913E-05	3.639E-01	2.735E-06
2040	2040Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	7.810E-04	5.097E-05	9.138E-06	4.016E-06	1.601E-06	9.866E-05	1.472E-06	3.913E-05	4.012E-01	3.692E-06
2041	2041Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.759E-05	2.718E-02	6.052E-06	8.044E-05	2.047E-05	2.155E-04	1.958E-05	7.818E-05	8.431E+00	2.810E-07
2041	2041Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.259E-04	8.568E-04	6.213E-05	2.311E-05	6.412E-06	3.138E-04	6.135E-06	1.298E-04	2.422E+00	2.886E-06
2041	2041Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.617E-04	6.234E-05	5.639E-06	1.537E-05	2.050E-06	2.142E-04	1.885E-06	8.867E-05	1.540E+00	2.280E-06
2041	2041Light-Duty Trucks	Light-Duty Trucks	LDT2	8.286E-04	4.846E-05	8.598E-06	4.502E-06	1.371E-06	9.866E-05	1.261E-06	3.913E-05	4.498E-01	3.474E-06
2041	2041Passenger Cars	Passenger Cars	LDA	6.317E-04	3.977E-05	6.647E-06	3.629E-06	1.371E-06	9.866E-05	1.259E-06	3.913E-05	3.627E-01	2.685E-06
2041	2041Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	7.592E-04	4.926E-05	8.732E-06	3.986E-06	1.543E-06	9.866E-05	1.420E-06	3.913E-05	3.982E-01	3.530E-06
2042	2042Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.827E-05	2.669E-02	6.406E-06	8.050E-05	2.129E-05	2.155E-04	2.037E-05	7.818E-05	8.437E+00	2.976E-07
2042	2042Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.255E-04	8.418E-04	6.202E-05	2.310E-05	6.367E-06	3.138E-04	6.091E-06	1.298E-04	2.421E+00	2.881E-06
2042	2042Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.614E-04	6.123E-05	5.594E-06	1.537E-05	2.053E-06	2.142E-04	1.887E-06	8.867E-05	1.540E+00	2.260E-06
2042	2042Light-Duty Trucks	Light-Duty Trucks	LDT2	8.191E-04	4.764E-05	8.430E-06	4.486E-06	1.328E-06	9.866E-05	1.221E-06	3.913E-05	4.483E-01	3.406E-06
2042	2042Passenger Cars	Passenger Cars	LDA	6.241E-04	3.936E-05	6.547E-06	3.619E-06	1.329E-06	9.866E-05	1.222E-06	3.913E-05	3.617E-01	2.646E-06
2042	2042Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	7.386E-04	4.772E-05	8.361E-06	3.958E-06	1.491E-06	9.866E-05	1.371E-06	3.913E-05	3.955E-01	3.379E-06
2043	2043Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	2.939E-05	2.590E-02	6.953E-06	8.049E-05	2.238E-05	2.155E-04	2.142E-05	7.818E-05	8.437E+00	3.230E-07
2043	2043Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.252E-04	8.301E-04	6.194E-05	2.309E-05	6.331E-06	3.138E-04	6.057E-06	1.298E-04	2.420E+00	2.877E-06
2043	2043Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.612E-04	6.038E-05	5.557E-06	1.536E-05	2.055E-06	2.142E-04	1.890E-06	8.867E-05	1.539E+00	2.246E-06
2043	2043Light-Duty Trucks	Light-Duty Trucks	LDT2	8.114E-04	4.699E-05	8.302E-06	4.475E-06	1.293E-06	9.866E-05	1.189E-06	3.913E-05	4.471E-01	3.355E-06
2043	2043Passenger Cars	Passenger Cars	LDA	6.179E-04	3.904E-05	6.469E-06	3.612E-06	1.294E-06	9.866E-05	1.190E-06	3.913E-05	3.609E-01	2.614E-06
2043	2043Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	7.195E-04	4.637E-05	8.042E-06	3.934E-06	1.442E-06	9.866E-05	1.326E-06	3.913E-05	3.931E-01	3.250E-06
2044	2044Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	3.150E-05	2.436E-02	7.929E-06	8.040E-05	2.414E-05	2.155E-04	2.310E-05	7.818E-05	8.427E+00	3.683E-07
2044	2044Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.251E-04	8.202E-04	6.189E-05	2.308E-05	6.300E-06	3.138E-04	6.028E-06	1.298E-04	2.419E+00	2.875E-06
2044	2044Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.611E-04	5.964E-05	5.526E-06	1.536E-05	2.057E-06	2.142E-04	1.891E-06	8.867E-05	1.539E+00	2.233E-06
2044	2044Light-Duty Trucks	Light-Duty Trucks	LDT2	8.054E-04	4.650E-05	8.207E-06	4.465E-06	1.265E-06	9.866E-05	1.163E-06	3.913E-05	4.462E-01	3.316E-06
2044	2044Passenger Cars	Passenger Cars	LDA	6.129E-04	3.880E-05	6.409E-06	3.605E-06	1.266E-06	9.866E-05	1.164E-06	3.913E-05	3.603E-01	2.590E-06
2044	2044Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	7.043E-04	4.545E-05	7.827E-06	3.914E-06	1.401E-06	9.866E-05	1.288E-06	3.913E-05	3.911E-01	3.163E-06
2045	2045Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	3.435E-05	2.258E-02	9.205E-06	8.029E-05	2.611E-05	2.155E-04	2.498E-05	7.818E-05	8.415E+00	4.275E-07
2045	2045Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.250E-04	8.122E-04	6.185E-05	2.308E-05	6.275E-06	3.138E-04	6.004E-06	1.298E-04	2.419E+00	2.873E-06
2045	2045Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.609E-04	5.908E-05	5.502E-06	1.536E-05	2.059E-06	2.142E-04	1.893E-06	8.867E-05	1.539E+00	2.223E-06
2045	2045Light-Duty Trucks	Light-Duty Trucks	LDT2	8.003E-04	4.609E-05	8.134E-06	4.457E-06	1.242E-06	9.866E-05	1.142E-06	3.913E-05	4.454E-01	3.287E-06
2045	2045Passenger Cars	Passenger Cars	LDA	6.087E-04	3.860E-05	6.361E-06	3.600E-06	1.243E-06	9.866E-05	1.143E-06	3.913E-05	3.598E-01	2.570E-06
2045	2045Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	6.914E-04	4.476E-05	7.674E-06	3.895E-06	1.364E-06	9.866E-05	1.255E-06	3.913E-05	3.892E-01	3.101E-06
2046	2046Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	3.845E-05	2.049E-02	1.097E-05	8.015E-05	2.831E-05	2.155E-04	2.708E-05	7.818E-05	8.401E+00	5.097E-07
2046	2046Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	3.250E-04	8.057E-04	6.183E-05	2.307E-05	6.254E-06	3.138E-04	5.984E-06	1.298E-04	2.418E+00	2.872E-06
2046	2046Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	2.608E-04	5.858E-05	5.481E-06	1.536E-05	2.060E-06	2.142E-04	1.894E-06	8.867E-05	1.538E+00	2.215E-06
2046	2046Light-Duty Trucks	Light-Duty Trucks	LDT2	7.965E-04	4.577E-05	8.079E-06	4.451E-06	1.225E-06	9.866E-05	1.126E-06	3.913E-05	4.448E-01	3.265E-06
2046	2046Passenger Cars	Passenger Cars	LDA	6.054E-04	3.844E-05	6.323E-06	3.596E-06	1.225E-06	9.866E-05	1.127E-06	3.913E-05	3.594E-01	2.555E-06
2046	2046Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	6.797E-04	4.412E-05	7.534E-06	3.879E-06	1.332E-06	9.866E-05	1.225E-06	3.913E-05	3.876E-01	3.044E-06

Chiquita Canyon Landfill EIR

Conversion gram/lb: 1 gram = 0.002205 lb

EMFAC2014 Idling Emission Rates for HHDT

	CO	NOx	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
2017	0.0165	0.2316	0.0044	0.0001	0.0007	0.0007	15.2537	0.0002
2018	0.0165	0.2323	0.0043	0.0001	0.0007	0.0006	15.2719	0.0002
2019	0.0164	0.2336	0.0042	0.0001	0.0007	0.0006	15.2969	0.0002
2020	0.0163	0.2349	0.0042	0.0001	0.0006	0.0006	15.3222	0.0002
2021	0.0161	0.2367	0.0040	0.0001	0.0006	0.0006	15.3553	0.0002
2022	0.0161	0.2374	0.0040	0.0001	0.0006	0.0006	15.3713	0.0002
2023	0.0159	0.2387	0.0039	0.0001	0.0006	0.0005	15.3959	0.0002
2024	0.0159	0.2399	0.0038	0.0001	0.0006	0.0005	15.4188	0.0002
2025	0.0158	0.2410	0.0037	0.0001	0.0005	0.0005	15.4384	0.0002
2026	0.0157	0.2421	0.0037	0.0001	0.0005	0.0005	15.4584	0.0002
2027	0.0156	0.2428	0.0036	0.0001	0.0005	0.0005	15.4706	0.0002
2028	0.0156	0.2434	0.0036	0.0001	0.0005	0.0005	15.4817	0.0002
2029	0.0155	0.2448	0.0035	0.0001	0.0005	0.0005	15.5032	0.0002
2030	0.0154	0.2456	0.0034	0.0001	0.0005	0.0004	15.5164	0.0002
2031	0.0154	0.2464	0.0034	0.0001	0.0005	0.0004	15.5294	0.0002
2032	0.0153	0.2471	0.0033	0.0001	0.0004	0.0004	15.5427	0.0002
2033	0.0152	0.2479	0.0033	0.0001	0.0004	0.0004	15.5575	0.0002
2034	0.0151	0.2492	0.0032	0.0001	0.0004	0.0004	15.5827	0.0001
2035	0.0151	0.2501	0.0032	0.0001	0.0004	0.0004	15.6011	0.0001
2036	0.0150	0.2508	0.0031	0.0001	0.0004	0.0004	15.6171	0.0001
2037	0.0149	0.2515	0.0031	0.0001	0.0004	0.0004	15.6355	0.0001
2038	0.0148	0.2524	0.0030	0.0001	0.0004	0.0004	15.6623	0.0001
2039	0.0148	0.2532	0.0030	0.0001	0.0004	0.0004	15.6907	0.0001
2040	0.0146	0.2540	0.0029	0.0002	0.0004	0.0003	15.7271	0.0001
2041	0.0145	0.2547	0.0029	0.0002	0.0003	0.0003	15.7650	0.0001
2042	0.0145	0.2549	0.0028	0.0002	0.0003	0.0003	15.7900	0.0001
2043	0.0145	0.2545	0.0028	0.0002	0.0003	0.0003	15.8145	0.0001
2044	0.0144	0.2538	0.0028	0.0002	0.0003	0.0003	15.8550	0.0001
2045	0.0143	0.2527	0.0028	0.0002	0.0003	0.0003	15.9028	0.0001
2046	0.0143	0.2508	0.0028	0.0002	0.0003	0.0003	15.9613	0.0001

Source: EMFAC 2014: 2011 Vehicle Classes, T7 SWCV (Solid Waste Collection Truck); Diesel Fuel; Area: Los Angeles (SC); Annual Average Emission Rates; Temperature: 68F; Humidity: 55%; Speed: 0mph (idle).

	CO	NOx	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4
	g/hr	g/hr	g/hr	g/hr	g/hr	g/hr	g/hr	g/hr
_2017	7.49	105.01	1.99	0.07	0.31	0.30	6917.79	0.09
_2018	7.46	105.37	1.96	0.07	0.31	0.29	6926.03	0.09
_2019	7.42	105.93	1.92	0.07	0.30	0.28	6937.38	0.09
_2020	7.37	106.51	1.88	0.07	0.29	0.28	6948.86	0.09
_2021	7.31	107.33	1.83	0.07	0.28	0.26	6963.86	0.08
_2022	7.28	107.65	1.81	0.07	0.27	0.26	6971.10	0.08
_2023	7.23	108.24	1.77	0.07	0.26	0.25	6982.28	0.08
_2024	7.19	108.80	1.73	0.07	0.25	0.24	6992.66	0.08
_2025	7.15	109.28	1.70	0.07	0.24	0.23	7001.54	0.08
_2026	7.11	109.79	1.66	0.07	0.23	0.22	7010.62	0.08
_2027	7.09	110.10	1.64	0.07	0.23	0.22	7016.15	0.08
_2028	7.07	110.40	1.62	0.07	0.22	0.21	7021.17	0.08
_2029	7.02	111.01	1.58	0.07	0.21	0.21	7030.91	0.07
_2030	6.99	111.39	1.55	0.07	0.21	0.20	7036.92	0.07
_2031	6.97	111.75	1.53	0.07	0.20	0.20	7042.82	0.07
_2032	6.94	112.07	1.51	0.07	0.20	0.19	7048.87	0.07
_2033	6.91	112.43	1.49	0.07	0.20	0.19	7055.57	0.07
_2034	6.87	113.00	1.46	0.07	0.19	0.18	7067.00	0.07
_2035	6.83	113.42	1.44	0.07	0.19	0.18	7075.35	0.07
_2036	6.80	113.73	1.42	0.07	0.18	0.17	7082.59	0.07
_2037	6.77	114.07	1.40	0.07	0.18	0.17	7090.93	0.07
_2038	6.73	114.48	1.38	0.07	0.17	0.17	7103.08	0.06
_2039	6.69	114.82	1.36	0.07	0.17	0.16	7115.95	0.06
_2040	6.64	115.20	1.33	0.07	0.16	0.15	7132.46	0.06
_2041	6.59	115.52	1.30	0.07	0.16	0.15	7149.65	0.06
_2042	6.57	115.59	1.29	0.07	0.15	0.15	7160.98	0.06
_2043	6.55	115.43	1.28	0.07	0.15	0.14	7172.11	0.06
_2044	6.53	115.10	1.27	0.07	0.14	0.14	7190.46	0.06
_2045	6.51	114.58	1.26	0.07	0.14	0.13	7212.17	0.06
_2046	6.49	113.74	1.26	0.07	0.13	0.12	7238.70	0.06

Chiquita Canyon Landfill EIR

Fugitive PM_{10} Emission Factors for Roads

Assumptions:

Assume PM_{10} control efficiencies are the same for $PM_{2.5}$

Fugitive Emissions Used in Analysis [1]

Trucks:

	Uncontrolled / Unmitigated Fugitive Emission Factors (lb/VMT)				Mitigated Fugitive Emission Factors (lb/VMT)			
	Onsite PM_{10}	Offsite PM_{10}	Onsite $PM_{2.5}$	Offsite $PM_{2.5}$	Onsite PM_{10}	Offsite PM_{10}	Onsite $PM_{2.5}$	Offsite $PM_{2.5}$
Paved Roads	2.16E-01	1.21E-03	5.30E-02	2.98E-04	2.16E-01	1.21E-03	5.30E-02	2.98E-04
Unpaved Roads	1.06	NA	0.11	NA	4.77E-01	NA	4.77E-02	NA

Mitigation Measures:

Measure	Control Efficiency	Applicable Source	Reference
Watering 2x daily, use of gravel cover on all unpaved roads, paving as much as possible, and limiting the maximum vehicle speed to 15 miles per hour.	55%	Unpaved Roads	South Coast Air Quality Management District (SCAQMD). 2013c. SCAQMD CEQA Handbook Table XI-D: Unpaved Roads Rev 4/2007. Available online at: http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/MM_fugitive.html.

Chiquita Canyon Landfill EIR

Fugitive PM_{10} Emission Factors for Roads

Emission Factor Calculations

Travel On Paved Roads [2]

$EF^{(1)} = k\ [(sL)^{0.91}]\ [(W)^{1.02}]\ [1-P/4N]$ lb/vehicle mile traveled (vmt)

Parameter	*Description*	*Value*		
k	Constant used to calculate PM_{10}	0.0022		
k	Constant used to calculate $PM_{2.5}$	0.00054		
P	Number of Days > 0.1 in. Precipitation (Annual Ave. for Los Angeles - South Coast)[4]:	33		
N	Number of Days in Averaging Period:	365		
		Onsite SL (Paved Roads)	Offsite SL (Paved Roads)	
SL (Paved Roads)	Silt Loading (g/m2)[5]	7.4		0.2

Vehicle Travel on Unpaved Surfaces at Industrial Sites[3]

$EF^{(1)} = k\ [(s/12)^{a}]\ [(W/3)^{b}]\ [(365-P)/365]$ lb/vehicle mile traveled (vmt)

Parameter	*Description*	*Value*
s	Silt Loading (g/m2)[6]	4.0
P	Number of Days > 0.1 in. Precipitation (Annual Ave. for Los Angeles - South Coast)[4]:	33

	Constants: PM_{10}	Constants: $PM_{2.5}$
k	1.5	0.15
a	0.9	0.9
b	0.45	0.45

Vehicle Type	W: Mean Vehicle Weight (tons)	Vehicle Fleet Mix (Percent) [7]	Fugitive Emission Factors on Paved Roads (lb/VMT)			
			Onsite PM_{10}	Offsite PM_{10}	Onsite $PM_{2.5}$	Offsite $PM_{2.5}$
LDA	0.94	0.10	1.24E-02	4.65E-04	3.05E-03	1.14E-04
HHDT	23.25	0.52	3.29E-01	1.23E-02	8.08E-02	3.02E-03
MHDT	11.75	0.24	1.64E-01	6.14E-03	4.03E-02	1.51E-03
LHDT2	2.38	0.13	3.21E-02	1.20E-03	7.88E-03	2.95E-04
LDT2	6.00	0.00	8.26E-02	3.09E-03	2.03E-02	7.59E-04
LDT1	4.63	0.01	6.34E-02	2.37E-03	1.56E-02	5.82E-04
Average On-Site	15.39	-	2.16E-01	-	5.30E-02	-
Average Off-Site [8]	2.40	-	-	1.21E-03	-	0.000298001

Fugitive Emission Factors on Unpaved Roads (lb/VMT)	
Onsite PM_{10}	Onsite $PM_{2.5}$
0.30	0.03
1.28	0.13
0.94	0.09
0.46	0.05
0.69	0.07
0.62	0.06
1.06	0.11

Chiquita Canyon Landfill EIR

Fugitive PM_{10} Emission Factors for Roads

	Vehicle Weight Class (lbs)[9]			
Vehicle Class	Low	High	Median Weight (lbs)	Median Weight (tons)
LDA	0	3750	1875	0.94
HHDT	33001	60000	46500.5	23.25
MHDT	14001	33000	23500.5	11.75
LDT2	3751	5750	4750.5	2.38
LHD2	10001	14000	12000.5	6.00
LHD1	8501	10000	9250.5	4.63
LDT1	0	3750	1875	0.9375

Offsite SL Loading:				
ADT:	< 500	500 - 5,000	5,000 - 10,000	>10,000
SL Loading (g/m2)[5]:	0.6	0.2	0.06	.03 / 0.015 limited

[1]Emissions are based on average weight of vehicles on the roadway and are not calculated individually as per AP42 13.2.1. Emission factor calculations are not intended to be used to calculate a separate emission factor for each vehicle weight class, but only one EF to represent the "fleet" average weight of all vehicles traveling the road.

[2]Emission factors were calculated using EPA AP-42 13.2.1, Equation 2 to estimate emission factor on an annual basis. The hourly emission calculation was not used because hourly precipitation data are not available and the predictive analysis is more appropriate for this application. The daily emissions and hourly emissions are scaled based on the annual emission factors and operating scenario.

[3]Emission factors were calculated using EPA AP-42 13.2.2, Equations 1a and 2.

[4]Average Los Angeles - South Coast precipitation conditions were taken from CalEEMod Appendix D, Table 1.1.

[5]Silt content was obtained from EPA AP42 Table 13.2.1-3. The value for municipal solid waste landfill was used for onsite. The ubiquitous baseline value for road with 500 < ADT , 5,000 was used for offsite, since the project will generate at least 1,500 ADT.

[6]Silt content was obtained from SCAQMD CEQA Handbook, Table A9-9 in order to account for the gravel roads.

[7]Based on the existing fleet mix and the addition of vehicles from the proposed project. Calculated based on average vehicle totals in Table 2-5 of the Project Description dated 10/03/2016.

[8] Average weight of all vehicles traveling on public roads taken from Appendix A of CalEEMod Use Guide.

[9]Vehicle Weight Class taken from EMFAC2011 LDV User Guide Table 3.1 for LDV vehicles and EMFAC2007 User Guide Table 1 for HD vehicles. Assume that passenger cars have the same median weight as light duty trucks (LDT1).

Appendix H3
SCS Cover Conversion

Environmental Consultants
and Contractors

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SCS ENGINEERS

September 28, 2016
File No. 01204123.13

MEMORANDUM

TO: Tom Reilly (Chiquita Canyon Landfill)

FROM: John Henkelman (SCS)

SUBJECT: Impact of Cover Changes on Landfill Gas Collection Efficiency at Chiquita Canyon Landfill

At the request of Chiquita Canyon Landfill (Chiquita or Site), SCS Engineers (SCS) has evaluated the potential benefits of changing cover at the Site. Chiquita has proposed these changes with the objective of improving the landfill gas (LFG) collection efficiency at the Site, with the benefit of reducing fugitive emissions of greenhouse gases (GHGs) and toxic air contaminants (TACs).

Because each cover type has an associated LFG collection efficiency, changing one cover type to another cover type can affect the overall site-wide collection efficiency. Changing lower collection efficiency areas to higher collection efficiency areas can have a positive impact on the overall site-wide collection efficiency. And likewise, changing higher collection efficiency areas to lower collection efficiency areas can have a negative impact on the overall site-wide collection efficiency.

There are three different cover types currently used at the Site: daily cover, intermediate cover and final cover. The approximate area of each cover type is 36 acres of daily cover, 146 acres of intermediate cover, and 69 acres of final cover. The United States Environmental Protection Agency (EPA) in its Mandatory Reporting Regulation (MRR) for GHG provides estimated average LFG collection efficiency for these cover types: 65 percent for daily cover with LFG collection (cover type A3), 75 percent for intermediate cover with LFG collection (cover type A4), and 95 percent for final cover with LFG collection (cover type A5).

Using MRR methodology, the acres and the estimated average LFG collection efficiency of the site cover types, a weighted site-wide average collection efficiency for GHG emissions of 78% can be calculated. Because the 78 percent is lower than the calculated site specific site-wide LFG collection efficiency of 81.7[1]percent, SCS increased the collection efficiency of the three cover types by 4.2 percent to reconcile the difference between the two values. This approach is consistent with the methodology developed by the Solid Waste Industry for Climate Solutions (SWICS) an its *Current MSW Industry Position and State-of-the-Practice on LFG Collection*

[1] Previous assessment of the LFG collection efficiency at Chiquita by Golder and Associates (Golder) and the South Coast Air Quality Management District (SCAQMD) based on a LFG generation modeling and measured LFG recovery

Efficiency, Methane Oxidation, and Carbon Sequestration in Landfills document (SWICS 2009), The collection efficiency by cover type before and after this adjustment type is shown in ***Table 1***.

Table 1 – Collection Efficiency by Area Type

Cover Type	Collection efficiency (base)	Collection efficiency (adjusted)	SWICS Range
A3 (daily cover)	60%	63%	50%-70%
A4 (intermediate cover)	75%	78%	54%-95%
A5 (final cover or membrane)	95%	99%	90%-99%

One of the options being considered by Chiquita is using an impermeable membrane to cover side slopes, which are currently intermediate cover (cover type A4). SCS agrees that this type of membrane covering would be considered cover type A5 under the MRR. Type A5 cover is described in Table HH-3 of the MMR as:

> "Area with a final soil cover of 3 feet or thicker of clay and/or geomembrane cover system and active gas collection"

The estimated benefits of converting intermediate cover (A4) to final cover (A5) are shown in ***Table 2*** for different combinations of cover and rates of conversion. This conversion from intermediate cover to final cover is expected to be achieved by adding an impermeable membrane to side slopes, but could be achieved by converting any of the landfill areas with intermediate cover to final cover.

Table 2 – Collection Efficiency with Conversion of Intermediate Cover to Final Cover

Area Converted to Final Cover	2015 Value	10 acres converted	20 acres converted	30 acres converted	40 acres converted	50 acres converted	60 acres converted	70 acres converted
A3 (daily cover) (acres)	36	36	36	36	36	36	36	36
A4 (intermediate cover) (acres)	146	136	126	116	106	96	86	76
A5 (final cover or membrane) (acres)	69	79	89	99	109	119	129	139
Collection Efficiency	**81.7%**	**82.5%**	**83.4%**	**84.2%**	**85.0%**	**85.9%**	**86.7%**	**87.5%**

As the amount of intermediate cover (A4) converted to final cover (A5) increases, the collection efficiency increases. This evaluation indicates that by converting 40 acres of existing intermediate cover to final cover, WCI should achieve a collection efficiency of 85 percent.

References

EPA, 40 Code of Federal Regulations Part 98 Subpart HH, November 2013

Golder Associates, *Landfill Gas Model, Chiquita Canyon Landfill, Los Angeles County, California,* April 2016

SWICS, *Current MSW Industry Position and State-of-the-Practice on LFG Collection Efficiency, Methane Oxidation, and Carbon Sequestration in Landfills*, 2009

Appendix H4
Golder LFG Report

October 3, 2016 Project No. 093-9747304

Mr. Steve Cassulo
General Manager
Chiquita Canyon Landfill
29201 Henry Mayo Drive
Castaic, California 91384

RE: LANDFILL GAS MODEL, CHIQUITA CANYON LANDFILL, LOS ANGELES COUNTY, CALIFORNIA

Dear Steve:

This letter report updates previous landfill gas modeling performed by Golder and summarized in letter reports dated April 18, 2011 and March 10, 2015.

1.0 INTRODUCTION

The Chiquita Canyon Landfill (CCL) is a permitted Class III landfill. The landfill has a currently permitted air space of approximately 62.9 million cubic yards (cy). Chiquita is proposing to revise the master plan, increasing the air space by approximately 72.9 million cy to a total of approximately 134.8 million cy. CCL is also proposing to increase the permitted disposal rate for municipal solid waste (MSW) from 30,000 tons per week to 60,000 tons per week.

CCL currently has a landfill gas (LFG) collection system consisting of vertical collection wells and horizontal collectors. There are two 120 million Btu per hour LFG combustion flares. In November 2010, a 9.4 megawatt LFG-fueled electrical generation facility became operational.

As part of the approval process for the proposed landfill expansion, an environmental impact report is being prepared. For the air quality impact analysis in the Draft Environmental Impact Report, Chiquita Canyon Landfill Master Plan Revision (DEIR), an average LFG collection efficiency of 85% was used based on Golder's 2011 and 2015 reports. The 85% average LFG collection efficiency was determined from LFG collection information compiled for CCL by SCS Engineers and reported to the South Coast Air Quality Management District (SCAQMD).

The SCAQMD in its review of the DEIR recommended using a default 75% collection efficiency. Based on the SCAQMD's questions, Golder reviewed and updated its previous reports. This letter report presents the update.

2.0 LANDFILL GAS MODEL

Golder prepared estimates of annual LFG generation using the U.S. Environmental Protection Agency (USEPA) Landfill Gas Emissions Model (LandGEM, Version 3.02, May 2005). The model is recommended by USEPA as documented in the Climate Leader Greenhouse Gas Inventory Protocol "Direct Emissions from Municipal Solid Waste Landfilling October 2004."

The LandGEM model is based on a first-order decomposition rate equation and provides a simple approach to estimating annual gas generation. The model assumes that a fixed fraction of the MSW available in a given year will degrade. The main parameters used by the model are MSW disposal rates, methane

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generation constant (k), and potential methane generation capacity (L_o). The k factor represents the amount of MSW that degrades over a given amount of time, which determines how fast the MSW decays based on the assumed moisture content of the MSW. The k factor selection is primarily controlled by MSW type (organic waste degradability) and moisture content based on the average site precipitation.

The potential methane generation capacity, L_o, depends on the type and composition of MSW placed in the landfill. The higher the cellulose content of the MSW (degradable organic carbon), the higher the value of L_o.

The LandGEM model, like most models, has inherent limitations. For example, the LandGEM model assumes unchanging MSW and landfill conditions in predicting LFG generation. However, the LandGEM model is generally considered to be the regulatory standard and is regularly used to predict LFG generation throughout California and the US.

3.0 LANDGEM MODEL INPUT PARAMETERS

The LandGEM model provides a limited number of default values for k and L_o. The default values for k and L_o used are discussed below.

3.1 K Value

The default k value used for the modeling was based on the annual rainfall at CCL. Based on the semi-arid conditions at CCL and an average annual rainfall of less than 20 inches per year, a k value of 0.02 $year^{-1}$ was used, which is the LandGEM default value for semi-arid areas. However, California has experienced a record-setting drought over the last several years, which likely decreased the moisture content of the MSW and the resulting methane generation. The LandGEM model cannot reflect such temporal changes in precipitation or the resulting moisture content of the MSW.

3.2 L_o Value

A L_o default value of 100 cubic meters of methane per megagram (m^3/Mg) of MSW was used for the modeling. The L_o default value was developed by USEPA using national MSW characteristics. However, as a result of California's changing waste stream over the last 20 years, the L_o value for California MSW has decreased from a peak of 97 m^3/Mg for the 1993 to 1995 period to 77 m^3/Mg for the 1996 to 2002 period to 60 m^3/Mg for 2003 to the present[1]. The LandGEM model cannot handle a variable L_o. As a result, the LandGEM model conservatively assumes more LFG generation than what actually occurs.

3.3 Waste Acceptance Rate

The waste acceptance rate used for the modeling was based on historic and estimated future waste inflow rates. The annual waste inflow rates were based on the following:

- 1972 to 1987: LFG generation model prepared by Shaw EMCON/OWT Inc., dated July 16, 2004
- 1988 to 2009: Table 4, *Joint Technical Document, Chiquita Canyon Landfill, Los Angeles County, California* (Golder, April 2010, Revised July 2010)
- 2010 to 2015: Site records of MSW disposed

[1] Derived from "Local Government Operations Protocol for the Quantification and Reporting of Greenhouse Gas Emission Inventories," May 2010

- 2016: Currently permitted maximum MSW inflow rate, based on the existing Conditional Use Permit, of 30,000 tons/week [~1.56 million tons per year (MMton)/year]
- 2017 to 2023: Assumed linear increase from the currently permitted maximum MSW inflow rate of 30,000 tons/week to the proposed 60,000 tons/week
- 2024 to 2039: Proposed MSW inflow rate of 60,000 tons/week (~3.12 MMtons/year)
- 2016 to 2039: Assumed beneficial use waste inflow rate of 20,000 tons/week (~1.04 MMtons/year), which is assumed to be inert and non-LFG generating

Based on the above, the remaining landfill capacity (~1.04 MMcy as of January 1, 2016), is estimated to be reached in 2039. At that time, approximately 98 million tons of MSW will have been disposed over the landfill's operating life.

4.0 LANDGEM MODEL RESULTS

The LandGEM model output for CCL is provided in Attachment A. The peak methane generation (8.292 x 10^4 megagrams) is predicted to occur in 2039. Assuming the LFG is comprised of 50 percent methane, the average LFG flow in the peak year is 16,455 standard cubic feet per minute (scfm).

The LandGEM model results are based on standard conditions of 68° F and 14.7 pounds per square inch absolute (psia) pressure. AB-32 and SCAQMD Rule 1150.1 require reporting LFG volumes and flow rates based on standard conditions of 60° F and 14.7 psia. Therefore, in order to compare LandGEM model results with actual LFG volumes and flow rates reported to the SCAQMD by CCL, it is necessary to adjust the LandGEM model results to standard conditions of 60° F and 14.7 psia. The conversion factor of 99.220616 standard cubic feet per minute per giga-gram (scfm/Gg-yr) of methane contained in AB-32[2] was used. Although the temperature adjustment is minor, it does affect the results. (Golder's previous reports did not include the temperature adjustment, since it is relatively minor.)

Table 1 includes both the LFG flow rate from the LandGEM model and the LandGEM LFG flow rate adjusted to 60° F and 14.7 psia standard conditions.

5.0 LANDFILL GAS COLLECTION EFFICIENCIES

For purposes of estimating LFG flare capacity requirements and future greenhouse gas emissions associated with the revised master plan, the annual and average LFG collection efficiencies were estimated. Table 1 presents LandGEM model results and LFG flow rates derived from data reported to the SCAQMD by CCL. The LandGEM model results have been adjusted to 60°F to conform to the SCAQMD reporting requirements. CCL LFG flow meters are calibrated to 60°F consistent with SCAQMD reporting requirements and are certified by the meter manufacturer.

The LandGEM model results assume a methane content of 50 percent. The actual LFG flow rate data has been normalized to 50 percent methane for comparison to the adjusted LandGEM model results. The actual LFG flow rate is normalized by determining the total methane volume collected based on the total LFG collected and the average methane content of the LFG, averaged over a year (365 days and 1,440 minutes per day). The normalized LFG flow rate is then equal to the methane flow rate divided by 50 percent.

The average LFG collection efficiency over the 11-year period, shown in Table 1, is 83.5 percent compared to the previously determined 85%. This average collection efficiency is supportable based on the lack of

[2] Title 17, California Code of Regulations (AB-32), Appendix I

exceedances of methane concentration thresholds for surface emission monitoring and perimeter monitoring, and the methane concentrations of the collected LFG, as well as the many references described below.

Although a LFG collection efficiency of 75 percent is often used, this rate was based on surveys of industry estimates (Leatherwood, 2002). A number of field investigations to quantify collection efficiency have been performed (e.g., Huitric and Kong, 2006; Huitric, et al., 2007; Spokas, et al., 2006). In Leatherwood (2002), Pacific Energy measured collection efficiencies at 85, 90, and 95 percent at three landfills with energy generation facilities. LFG collection efficiencies in California greater than the 75 percent rate are also supported by other studies and various governmental and professional entities (e.g., ARF, 2007; Bentley et al., 2005; CARB, 2009, 2011; Michels and Hamblin, 2006; SCS, 2007; SWANA, 2010; USEPA, 2009). A weighted average LFG collection efficiency of 89.7 percent has been reported for the Los Angeles County Sanitation District's landfills (Case et al., 2010). In its technical analyses, CARB (2009, 2011) used LFG collection efficiencies of 87 and 83 percent, respectively, to be representative of California landfills.

As can be seen from Table 1, the LFG collection efficiency has varied from year to year for the 11 years of data shown. As described previously, the LandGEM model assumes unchanging conditions in predicting LFG generation. However, a landfill is constantly changing with California's record-setting drought and changing MSW stream as examples. Operational variables, such as annual downtime, collection field tuning, and methane content changes that affect gas density, can also affect reported volumes of collected LFG and, thus, the calculated collection efficiency.

LFG collection efficiency is rarely constant from year to year. Given the variables described and their potential impact on LFG collection volumes, using the collection efficiency averaged over an extended period is more likely to reflect longer-term collection efficiency than a collection efficiency based on a shorter time period that could be affected by a variable, such as the drought. Accordingly, for forecasting future collection efficiency, an average collection efficiency based on a longer record period is more appropriate than using the collection efficiency from a single year or a few number of years.

6.0 DISCUSSION

The above information was provided to the SCAQMD for review. After reviewing the revised 83.5% average collection efficiency calculation and other information provided in responses to its comments, the SCAQMD indicated that there was another approach to calculating the overall average collection efficiency that should be considered and, if used, would generate an average collection efficiency of 81.7% ("Alternate Approach"). The Alternate Approach sums all the annual LFG collected volumes and divides that sum by the sum of all the annual forecasted LFG generation volumes, thus calculating the percentage of LFG collected for the period under consideration, as shown in Table 2. The SCAQMD indicated that both approaches to calculating the average LFG collection efficiency are mathematically acceptable.

The SCAQMD also commented that Los Angeles County, as the lead agency for CEQA, should consider the information and determine the appropriate LFG collection efficiency for use in the DEIR, and ensure that there was evidence in the record to support its determination.

During a meeting with the Los Angeles County Department of Public Works, the above information was presented. Additionally, the difference between the two methods of determining average LFG collection efficiency was discussed. In our opinion, only the Golder Approach represents average collection efficiency. The Alternate Approach, by contrast, calculates the percentage of LFG collected over a period of time and not the average collection efficiency. The Alternate Approach would yield the average collection efficiency if the same amount of LFG was generated each year, but that is not the case. Each year is unique and should be treated as a unique event. Because of this, we believe the approach of averaging

the annual collection efficiencies yields a more representative value for average collection efficiency. Table 3 illustrates this point.

Example 1 in Table 3 shows a hypothetical 10 years of constant LFG generation with the quantity of LFG collected varying for each year. As can be seen, the percentage of total LFG collected (Alternate Approach) is the same as the overall average collection efficiency based on the annual collection efficiencies (Golder Approach).

In Example 2, the annual LFG generation is increasing each year, as would be predicted by the LandGEM model. The overall average collection efficiency (Golder Approach) is the same as in Example 1. However, the percentage of the total LFG collected (Alternate Approach) is greater than in Example 1.

In Example 3, the same annual LFG generation as in Example 2 is assumed. However, the annual collection efficiencies are reversed, e.g., the Example 3 Year 1 collection efficiency is the same as the Example 2 Year 10 efficiency. Although the overall collection efficiency (Golder Approach) in Example 3 is the same as Example 2, the percentage of total LFG collected (Alternate Approach) is less.

These examples illustrate that the percentage of total LFG collected (Alternate Approach) is highly variable and is not the same as the average collection efficiency (Golder Approach). The Alternate Approach is more of a weighted average giving more weight to years with more LFG predicted and collected. As a result, use of the Alternate Approach to determine the overall average collection efficiency can understate (or overstate) the overall average collection efficiency when calculated over a multi-year period with variable annual predicted LFG generation rates.

Despite the advantages of the Golder Approach over the Alternate Approach, Los Angeles County indicated that it would prefer the more conservative LFG collection efficiency of 81.7%, based on the Alternate Approach.

Golder continues to believe that its approach to determining the average LFG collection efficiency is the most appropriate. An average LFG collection efficiency of 83.5%, as determined for CCL, is consistent with studies of LFG collection efficiencies at other California landfills and is considerably lower than some average LFG collection efficiencies, including landfills operated by the Los Angeles County Sanitation District. However, Los Angeles County, as the lead agency, is requiring that a more conservative approach be employed using an average LFG collection efficiency of 81.7%.

7.0 REFERENCES

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8.0 CLOSING

If you have any questions or need any other information, please contact me.

Sincerely,

GOLDER ASSOCIATES INC.



Richard D. Haughey, PE
Associate / Practice Leader

cc: Mike Dean, Waste Connections, Inc.
Tom Reilly, Waste Connections, Inc.
Brenda Eells, CH2M

Attachment: LandGEM Model Results

Table 1
Chiquita Canyon Landfill
Landfill Gas Collection Efficiency

Year	LandGEM [1] (standard cubic feet per minute)	Adjusted LandGEM [2] (standard cubic feet per minute)	Actual Flow (standard cubic feet per minute) [3]	Collection Efficiency (%)
2001 – 2002 [4]	2,913	2,870	2,748	96
2002 – 2003 [4]	3,216	3,169	3,348	106
2006 [4]	4,133	4,071	3,955	97
2007 [4]	4,423	4,358	3,851	88
2008 [4]	4,710	4,640	3,631	78
2009 [5]	4,981	4,907	3,769	77
2010 [4]	5,049	4,974	3,784	76
2011 [6]	5,212	5,135	3,968	77
2012 [6]	5,431	5,351	4,161	78
2013 [6]	5,548	5,466	4,098	75
2014 [6]	5,688	5,603	3,983	71
			Average	**83.5**

[1] Average annual flow rate from LandGEM model results (see Attachment 1)

[2] LandGEM model average annual flow rates adjusted to 60°F standard conditions using the AB-32 conversion factor of 99.220616 scfm/Gg-yr

[3] Average annual flow rate based on 365 days per year and normalized to 50% methane

[4] Actual flow rate determined from *Site Specific Characteristic* and *Calendar Year Operating and Compliance Report Summary*, SCS Engineers

[5] Actual flow rate determined from *Heat Input Capacity Report for Chiquita Canyon, Castaic, California*, SCS Engineers

[6] Actual flow rate determined from *Annual Rule 1150.1 Compliance Plan Report for Chiquita Canyon Landfill, Castaic, California*, SCS Engineers

Table 2
Chiquita Canyon Landfill
Landfill Gas Collection Efficiency
Alternate Approach

Year	LandGEM LFG Generation (standard cubic foot per minute)	LFG Collection (standard cubic foot per minute)	Collection Efficiency (%)
2001 - 2002	2,870	2,748	N/A
2002 – 2003	3,169	3,348	N/A
2006	4,071	3,955	N/A
2007	4,358	3,851	N/A
2008	4,640	3,631	N/A
2009	4,907	3,769	N/A
2010	4.974	3,784	N/A
2011	5,135	3,968	N/A
2012	5,351	4,161	N/A
2013	5,466	4,098	N/A
2014	5,603	3,983	N/A
2001-2014 (11 years)	50,544	41,296	**81.7 (Average of Total LFG Collected Over 11 Years)**

Table 3
Chiquita Canyon Landfill
Landfill Gas Collection Efficiency
Comparison of Approaches

	Example 1			Example 2			Example 3		
Year	**LFG Generated**	**LFG Collected**	**Collection Efficiency**	**LFG Generated**	**LFG Collected**	**Collection Efficiency**	**LFG Generated**	**LFG Collected**	**Collection Efficiency**
1	100	55	55.0	100	55	55.0	100	98	98.0
2	100	61	61.0	120	73	60.8	120	110	91.9
3	100	67	67.0	160	107	66.9	160	143	89.1
4	100	69	69.0	210	145	69.0	210	164	78.1
5	100	72	72.0	240	173	72.1	240	180	75.2
6	100	75	75.0	290	218	75.2	290	209	72.1
7	100	78	78.0	310	242	78.1	310	214	69.0
8	100	89	89.0	350	312	89.1	350	234	66.9
9	100	92	92.0	370	340	91.9	370	225	60.8
10	100	98	98.0	440	431	98.0	440	242	55.0
	Average Annual LFG Collection Efficiency (Golder Approach)		**75.6**			**75.6**			**75.6**
Total	1,000	756		2,590	2,096		2,590	1,819	
	Percentage Total LFG Collected Over 10 Years (Alternate Approach)		**75.6**			**80.9**			**70.2**

ATTACHMENT 1
LANDGEM MODEL RESULTS



Summary Report

Landfill Name or Identifier: Chiquita Canyon Landfill

Date: Tuesday, March 15, 2016

Description/Comments:

About LandGEM:

First-Order Decomposition Rate Equation:

$$Q_{CH_4} = \sum_{i=1}^{n} \sum_{j=0.1}^{1} kL_o \left(\frac{M_i}{10} \right) e^{-kt_{ij}}$$

Where,

Q_{CH4} = annual methane generation in the year of the calculation ($m^3/year$)
i = 1-year time increment
n = (year of the calculation) - (initial year of waste acceptance)
j = 0.1-year time increment
k = methane generation rate ($year^{-1}$)
L_o = potential methane generation capacity (m^3/Mg)
M_i = mass of waste accepted in the i^{th} year (Mg)
t_{ij} = age of the j^{th} section of waste mass M_i accepted in the i^{th} year (*decimal years*, e.g., 3.2 years)

LandGEM is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills. Field test data can also be used in place of model defaults when available. Further guidance on EPA test methods, Clean Air Act (CAA) regulations, and other guidance regarding landfill gas emissions and control technology requirements can be found at http://www.epa.gov/ttnatw01/landfill/landflpg.html.

LandGEM is considered a screening tool — the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate. Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for convential landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to the Web site identified above for future updates.

Input Review

LANDFILL CHARACTERISTICS

Landfill Open Year	**1972**	
Landfill Closure Year (with 80-year limit)	**2039**	
Actual Closure Year (without limit)	***2039***	
Have Model Calculate Closure Year?	**No**	
Waste Design Capacity	**97,985,512**	*short tons*

MODEL PARAMETERS

Methane Generation Rate, k	**0.020**	$year^{-1}$
Potential Methane Generation Capacity, L_o	**100**	m^3/Mg
NMOC Concentration	**4,000**	*ppmv as hexane*
Methane Content	**50**	*% by volume*

GASES / POLLUTANTS SELECTED

Gas / Pollutant #1:	**Total landfill gas**
Gas / Pollutant #2:	**Methane**
Gas / Pollutant #3:	**Carbon dioxide**
Gas / Pollutant #4:	**NMOC**

WASTE ACCEPTANCE RATES

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
1972	135,159	148,675	0	0
1973	135,159	148,675	135,159	148,675
1974	135,159	148,675	270,318	297,350
1975	135,159	148,675	405,477	446,025
1976	135,159	148,675	540,636	594,700
1977	135,159	148,675	675,795	743,375
1978	146,178	160,796	810,955	892,050
1979	146,178	160,796	957,133	1,052,846
1980	146,178	160,796	1,103,311	1,213,642
1981	146,178	160,796	1,249,489	1,374,438
1982	146,178	160,796	1,395,667	1,535,234
1983	146,178	160,796	1,541,845	1,696,030
1984	146,178	160,796	1,688,024	1,856,826
1985	146,178	160,796	1,834,202	2,017,622
1986	146,178	160,796	1,980,380	2,178,418
1987	146,178	160,796	2,126,558	2,339,214
1988	1,417,697	1,559,467	2,272,736	2,500,010
1989	420,184	462,202	3,690,434	4,059,477
1990	509,735	560,709	4,110,617	4,521,679
1991	659,835	725,819	4,620,353	5,082,388
1992	542,202	596,422	5,280,188	5,808,207
1993	360,609	396,670	5,822,390	6,404,629
1994	479,124	527,036	6,182,999	6,801,299
1995	393,677	433,045	6,662,123	7,328,335
1996	405,285	445,814	7,055,800	7,761,380
1997	724,025	796,428	7,461,085	8,207,194
1998	1,031,471	1,134,618	8,185,111	9,003,622
1999	1,172,200	1,289,420	9,216,582	10,138,240
2000	1,154,355	1,269,790	10,388,782	11,427,660
2001	1,284,887	1,413,376	11,543,136	12,697,450
2002	1,355,419	1,490,961	12,828,024	14,110,826
2003	1,401,165	1,541,282	14,183,443	15,601,787
2004	1,416,686	1,558,355	15,584,608	17,143,069
2005	1,408,262	1,549,088	17,001,295	18,701,424
2006	1,399,063	1,538,969	18,409,556	20,250,512
2007	1,402,853	1,543,138	19,808,619	21,789,481
2008	1,367,784	1,504,562	21,211,472	23,332,619
2009	625,194	687,713	22,579,255	24,837,181
2010	990,725	1,089,797	23,204,449	25,524,894
2011	1,209,375	1,330,312	24,195,174	26,614,691

WASTE ACCEPTANCE RATES (Continued)

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
2012	842,605	926,866	25,404,548	27,945,003
2013	935,751	1,029,326	26,247,154	28,871,869
2014	1,009,278	1,110,206	27,182,905	29,901,195
2015	977,637	1,075,401	28,192,183	31,011,401
2016	1,418,182	1,560,000	29,169,820	32,086,802
2017	1,519,481	1,671,429	30,588,002	33,646,802
2018	1,722,078	1,894,286	32,107,482	35,318,231
2019	1,924,675	2,117,143	33,829,560	37,212,516
2020	2,127,273	2,340,000	35,754,236	39,329,659
2021	2,329,870	2,562,857	37,881,508	41,669,659
2022	2,532,468	2,785,714	40,211,378	44,232,516
2023	2,735,065	3,008,571	42,743,846	47,018,231
2024	2,836,364	3,120,000	45,478,911	50,026,802
2025	2,836,364	3,120,000	48,315,275	53,146,802
2026	2,836,364	3,120,000	51,151,638	56,266,802
2027	2,836,364	3,120,000	53,988,002	59,386,802
2028	2,836,364	3,120,000	56,824,365	62,506,802
2029	2,836,364	3,120,000	59,660,729	65,626,802
2030	2,836,364	3,120,000	62,497,093	68,746,802
2031	2,836,364	3,120,000	65,333,456	71,866,802
2032	2,836,364	3,120,000	68,169,820	74,986,802
2033	2,836,364	3,120,000	71,006,184	78,106,802
2034	2,836,364	3,120,000	73,842,547	81,226,802
2035	2,836,364	3,120,000	76,678,911	84,346,802
2036	2,836,364	3,120,000	79,515,275	87,466,802
2037	2,836,364	3,120,000	82,351,638	90,586,802
2038	2,836,364	3,120,000	85,188,002	93,706,802
2039	1,053,372	1,158,710	88,024,365	96,826,802
2040	0	0	89,077,738	97,985,512
2041	0	0	89,077,738	97,985,512
2042	0	0	89,077,738	97,985,512
2043	0	0	89,077,738	97,985,512
2044	0	0	89,077,738	97,985,512
2045	0	0	89,077,738	97,985,512
2046	0	0	89,077,738	97,985,512
2047	0	0	89,077,738	97,985,512
2048	0	0	89,077,738	97,985,512
2049	0	0	89,077,738	97,985,512
2050	0	0	89,077,738	97,985,512
2051	0	0	89,077,738	97,985,512

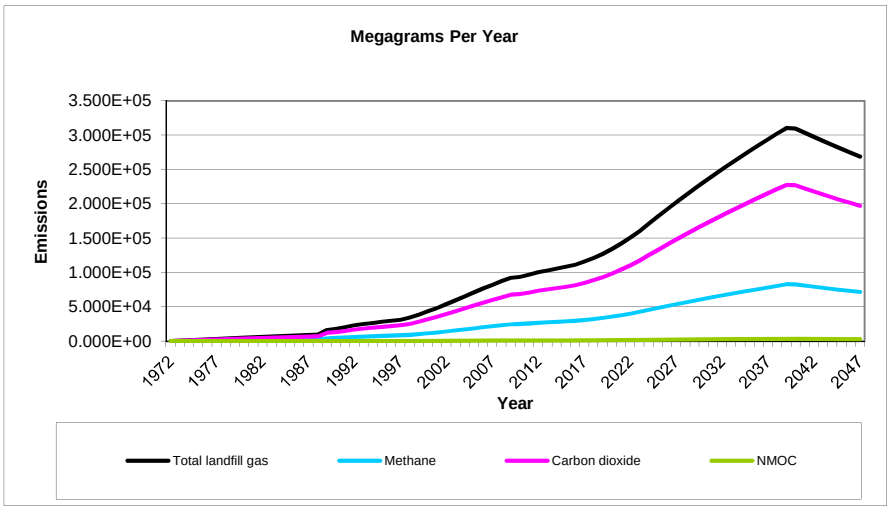
Pollutant Parameters

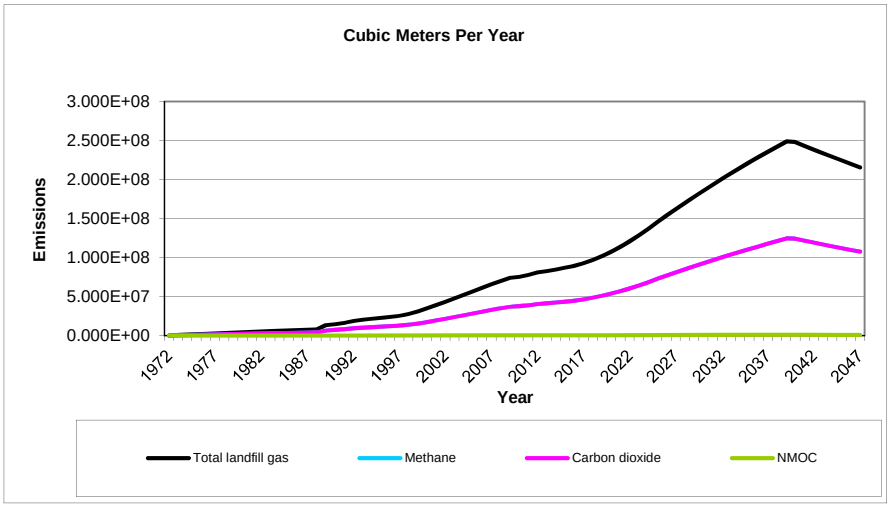
		Gas / Pollutant Default Parameters:		*User-specified Pollutant Parameters:*	
	Compound	Concentration (*ppmv*)	Molecular Weight	Concentration (*ppmv*)	Molecular Weight
Gases	Total landfill gas		0.00		
	Methane		16.04		
	Carbon dioxide		44.01		
	NMOC	4,000	86.18		
Pollutants	1,1,1-Trichloroethane (methyl chloroform) - HAP	0.48	133.41		
	1,1,2,2-Tetrachloroethane - HAP/VOC	1.1	167.85		
	1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	2.4	98.97		
	1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	0.20	96.94		
	1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	0.41	98.96		
	1,2-Dichloropropane (propylene dichloride) - HAP/VOC	0.18	112.99		
	2-Propanol (isopropyl alcohol) - VOC	50	60.11		
	Acetone	7.0	58.08		
	Acrylonitrile - HAP/VOC	6.3	53.06		
	Benzene - No or Unknown Co-disposal - HAP/VOC	1.9	78.11		
	Benzene - Co-disposal - HAP/VOC	11	78.11		
	Bromodichloromethane - VOC	3.1	163.83		
	Butane - VOC	5.0	58.12		
	Carbon disulfide - HAP/VOC	0.58	76.13		
	Carbon monoxide	140	28.01		
	Carbon tetrachloride - HAP/VOC	4.0E-03	153.84		
	Carbonyl sulfide - HAP/VOC	0.49	60.07		
	Chlorobenzene - HAP/VOC	0.25	112.56		
	Chlorodifluoromethane	1.3	86.47		
	Chloroethane (ethyl chloride) - HAP/VOC	1.3	64.52		
	Chloroform - HAP/VOC	0.03	119.39		
	Chloromethane - VOC	1.2	50.49		
	Dichlorobenzene - (HAP for para isomer/VOC)	0.21	147		
	Dichlorodifluoromethane	16	120.91		
	Dichlorofluoromethane - VOC	2.6	102.92		
	Dichloromethane (methylene chloride) - HAP	14	84.94		
	Dimethyl sulfide (methyl sulfide) - VOC	7.8	62.13		
	Ethane	890	30.07		
	Ethanol - VOC	27	46.08		

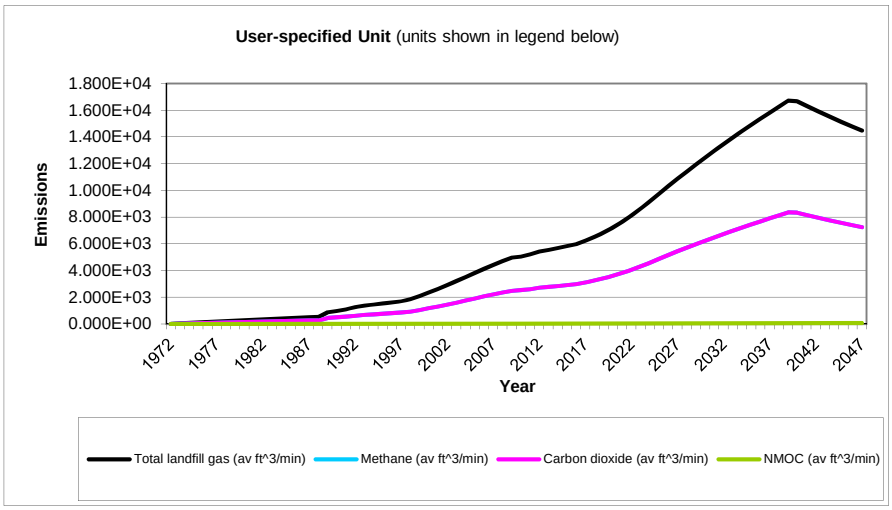
Pollutant Parameters (Continued)

		Gas / Pollutant Default Parameters:		***User-specified Pollutant Parameters:***	
	Compound	Concentration (*ppmv*)	Molecular Weight	Concentration (*ppmv*)	Molecular Weight
Pollutants	Ethyl mercaptan (ethanethiol) - VOC	2.3	62.13		
	Ethylbenzene - HAP/VOC	4.6	106.16		
	Ethylene dibromide - HAP/VOC	1.0E-03	187.88		
	Fluorotrichloromethane - VOC	0.76	137.38		
	Hexane - HAP/VOC	6.6	86.18		
	Hydrogen sulfide	36	34.08		
	Mercury (total) - HAP	2.9E-04	200.61		
	Methyl ethyl ketone - HAP/VOC	7.1	72.11		
	Methyl isobutyl ketone - HAP/VOC	1.9	100.16		
	Methyl mercaptan - VOC	2.5	48.11		
	Pentane - VOC	3.3	72.15		
	Perchloroethylene (tetrachloroethylene) - HAP	3.7	165.83		
	Propane - VOC	11	44.09		
	t-1,2-Dichloroethene - VOC	2.8	96.94		
	Toluene - No or Unknown Co-disposal - HAP/VOC	39	92.13		
	Toluene - Co-disposal - HAP/VOC	170	92.13		
	Trichloroethylene (trichloroethene) - HAP/VOC	2.8	131.40		
	Vinyl chloride - HAP/VOC	7.3	62.50		
	Xylenes - HAP/VOC	12	106.16		

Graphs


Megagrams Per Year
Emissions
3.500E+05
3.000E+05
2.500E+05
2.000E+05
1.500E+05
1.000E+05
5.000E+04
0.000E+00
1972 1977 1982 1987 1992 1997 2002 2007 2012 2017 2022 2027 2032 2037 2042 2047
Year
Total landfill gas
Methane
Carbon dioxide
NMOC


Cubic Meters Per Year
Emissions
3.000E+08
2.500E+08
2.000E+08
1.500E+08
1.000E+08
5.000E+07
0.000E+00
1972 1977 1982 1987 1992 1997 2002 2007 2012 2017 2022 2027 2032 2037 2042 2047
Year
Total landfill gas
Methane
Carbon dioxide
NMOC


User-specified Unit (units shown in legend below)
Emissions
1.800E+04
1.600E+04
1.400E+04
1.200E+04
1.000E+04
8.000E+03
6.000E+03
4.000E+03
2.000E+03
0.000E+00
1972 1977 1982 1987 1992 1997 2002 2007 2012 2017 2022 2027 2032 2037 2042 2047
Year
Total landfill gas (av ft^3/min)
Methane (av ft^3/min)
Carbon dioxide (av ft^3/min)
NMOC (av ft^3/min)

Results

Year	Total landfill gas			Methane		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
1972	0	0	0	0	0	0
1973	6.691E+02	5.358E+05	3.600E+01	1.787E+02	2.679E+05	1.800E+01
1974	1.325E+03	1.061E+06	7.129E+01	3.539E+02	5.305E+05	3.564E+01
1975	1.968E+03	1.576E+06	1.059E+02	5.256E+02	7.879E+05	5.294E+01
1976	2.598E+03	2.080E+06	1.398E+02	6.940E+02	1.040E+06	6.989E+01
1977	3.216E+03	2.575E+06	1.730E+02	8.590E+02	1.287E+06	8.651E+01
1978	3.821E+03	3.060E+06	2.056E+02	1.021E+03	1.530E+06	1.028E+02
1979	4.469E+03	3.579E+06	2.405E+02	1.194E+03	1.789E+06	1.202E+02
1980	5.104E+03	4.087E+06	2.746E+02	1.363E+03	2.044E+06	1.373E+02
1981	5.727E+03	4.586E+06	3.081E+02	1.530E+03	2.293E+06	1.541E+02
1982	6.337E+03	5.075E+06	3.410E+02	1.693E+03	2.537E+06	1.705E+02
1983	6.935E+03	5.554E+06	3.731E+02	1.853E+03	2.777E+06	1.866E+02
1984	7.522E+03	6.023E+06	4.047E+02	2.009E+03	3.012E+06	2.023E+02
1985	8.096E+03	6.483E+06	4.356E+02	2.163E+03	3.242E+06	2.178E+02
1986	8.660E+03	6.934E+06	4.659E+02	2.313E+03	3.467E+06	2.330E+02
1987	9.212E+03	7.377E+06	4.956E+02	2.461E+03	3.688E+06	2.478E+02
1988	9.753E+03	7.810E+06	5.248E+02	2.605E+03	3.905E+06	2.624E+02
1989	1.658E+04	1.328E+07	8.920E+02	4.428E+03	6.638E+06	4.460E+02
1990	1.833E+04	1.468E+07	9.862E+02	4.896E+03	7.339E+06	4.931E+02
1991	2.049E+04	1.641E+07	1.102E+03	5.473E+03	8.204E+06	5.512E+02
1992	2.335E+04	1.870E+07	1.256E+03	6.238E+03	9.350E+06	6.282E+02
1993	2.557E+04	2.048E+07	1.376E+03	6.831E+03	1.024E+07	6.880E+02
1994	2.685E+04	2.150E+07	1.445E+03	7.173E+03	1.075E+07	7.224E+02
1995	2.869E+04	2.298E+07	1.544E+03	7.664E+03	1.149E+07	7.719E+02
1996	3.007E+04	2.408E+07	1.618E+03	8.033E+03	1.204E+07	8.090E+02
1997	3.148E+04	2.521E+07	1.694E+03	8.410E+03	1.261E+07	8.470E+02
1998	3.445E+04	2.758E+07	1.853E+03	9.201E+03	1.379E+07	9.266E+02
1999	3.887E+04	3.113E+07	2.091E+03	1.038E+04	1.556E+07	1.046E+03
2000	4.390E+04	3.516E+07	2.362E+03	1.173E+04	1.758E+07	1.181E+03
2001	4.875E+04	3.904E+07	2.623E+03	1.302E+04	1.952E+07	1.311E+03
2002	5.414E+04	4.336E+07	2.913E+03	1.446E+04	2.168E+07	1.457E+03
2003	5.978E+04	4.787E+07	3.216E+03	1.597E+04	2.394E+07	1.608E+03
2004	6.554E+04	5.248E+07	3.526E+03	1.751E+04	2.624E+07	1.763E+03
2005	7.125E+04	5.705E+07	3.833E+03	1.903E+04	2.853E+07	1.917E+03
2006	7.681E+04	6.151E+07	4.133E+03	2.052E+04	3.075E+07	2.066E+03
2007	8.222E+04	6.584E+07	4.423E+03	2.196E+04	3.292E+07	2.212E+03
2008	8.753E+04	7.009E+07	4.710E+03	2.338E+04	3.505E+07	2.355E+03
2009	9.257E+04	7.413E+07	4.981E+03	2.473E+04	3.706E+07	2.490E+03
2010	9.383E+04	7.514E+07	5.049E+03	2.506E+04	3.757E+07	2.524E+03
2011	9.688E+04	7.758E+07	5.212E+03	2.588E+04	3.879E+07	2.606E+03
2012	1.009E+05	8.084E+07	5.431E+03	2.696E+04	4.042E+07	2.716E+03
2013	1.031E+05	8.258E+07	5.548E+03	2.755E+04	4.129E+07	2.774E+03
2014	1.057E+05	8.465E+07	5.688E+03	2.824E+04	4.232E+07	2.844E+03
2015	1.086E+05	8.697E+07	5.844E+03	2.901E+04	4.349E+07	2.922E+03
2016	1.113E+05	8.913E+07	5.989E+03	2.973E+04	4.456E+07	2.994E+03
2017	1.161E+05	9.299E+07	6.248E+03	3.102E+04	4.649E+07	3.124E+03
2018	1.213E+05	9.717E+07	6.529E+03	3.241E+04	4.858E+07	3.264E+03
2019	1.275E+05	1.021E+08	6.858E+03	3.405E+04	5.104E+07	3.429E+03
2020	1.345E+05	1.077E+08	7.235E+03	3.592E+04	5.384E+07	3.617E+03
2021	1.423E+05	1.140E+08	7.658E+03	3.802E+04	5.699E+07	3.829E+03

Results (Continued)

Year	Total landfill gas			Methane		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2022	1.511E+05	1.210E+08	8.127E+03	4.035E+04	6.048E+07	4.064E+03
2023	1.606E+05	1.286E+08	8.641E+03	4.290E+04	6.430E+07	4.320E+03
2024	1.710E+05	1.369E+08	9.198E+03	4.567E+04	6.845E+07	4.599E+03
2025	1.816E+05	1.454E+08	9.772E+03	4.851E+04	7.272E+07	4.886E+03
2026	1.921E+05	1.538E+08	1.033E+04	5.130E+04	7.690E+07	5.167E+03
2027	2.023E+05	1.620E+08	1.088E+04	5.404E+04	8.100E+07	5.442E+03
2028	2.123E+05	1.700E+08	1.142E+04	5.672E+04	8.502E+07	5.712E+03
2029	2.222E+05	1.779E+08	1.195E+04	5.935E+04	8.895E+07	5.977E+03
2030	2.318E+05	1.856E+08	1.247E+04	6.192E+04	9.281E+07	6.236E+03
2031	2.413E+05	1.932E+08	1.298E+04	6.445E+04	9.660E+07	6.490E+03
2032	2.505E+05	2.006E+08	1.348E+04	6.692E+04	1.003E+08	6.740E+03
2033	2.596E+05	2.079E+08	1.397E+04	6.935E+04	1.039E+08	6.984E+03
2034	2.685E+05	2.150E+08	1.445E+04	7.172E+04	1.075E+08	7.223E+03
2035	2.772E+05	2.220E+08	1.492E+04	7.405E+04	1.110E+08	7.458E+03
2036	2.858E+05	2.288E+08	1.538E+04	7.634E+04	1.144E+08	7.688E+03
2037	2.942E+05	2.356E+08	1.583E+04	7.858E+04	1.178E+08	7.914E+03
2038	3.024E+05	2.421E+08	1.627E+04	8.077E+04	1.211E+08	8.135E+03
2039	3.104E+05	2.486E+08	1.670E+04	8.292E+04	1.243E+08	8.351E+03
2040	3.095E+05	2.478E+08	1.665E+04	8.267E+04	1.239E+08	8.326E+03
2041	3.034E+05	2.429E+08	1.632E+04	8.104E+04	1.215E+08	8.161E+03
2042	2.974E+05	2.381E+08	1.600E+04	7.943E+04	1.191E+08	8.000E+03
2043	2.915E+05	2.334E+08	1.568E+04	7.786E+04	1.167E+08	7.841E+03
2044	2.857E+05	2.288E+08	1.537E+04	7.632E+04	1.144E+08	7.686E+03
2045	2.801E+05	2.243E+08	1.507E+04	7.481E+04	1.121E+08	7.534E+03
2046	2.745E+05	2.198E+08	1.477E+04	7.333E+04	1.099E+08	7.385E+03
2047	2.691E+05	2.155E+08	1.448E+04	7.187E+04	1.077E+08	7.239E+03
2048	2.638E+05	2.112E+08	1.419E+04	7.045E+04	1.056E+08	7.095E+03
2049	2.585E+05	2.070E+08	1.391E+04	6.906E+04	1.035E+08	6.955E+03
2050	2.534E+05	2.029E+08	1.363E+04	6.769E+04	1.015E+08	6.817E+03
2051	2.484E+05	1.989E+08	1.336E+04	6.635E+04	9.945E+07	6.682E+03
2052	2.435E+05	1.950E+08	1.310E+04	6.503E+04	9.748E+07	6.550E+03
2053	2.387E+05	1.911E+08	1.284E+04	6.375E+04	9.555E+07	6.420E+03
2054	2.339E+05	1.873E+08	1.259E+04	6.248E+04	9.366E+07	6.293E+03
2055	2.293E+05	1.836E+08	1.234E+04	6.125E+04	9.180E+07	6.168E+03
2056	2.248E+05	1.800E+08	1.209E+04	6.003E+04	8.999E+07	6.046E+03
2057	2.203E+05	1.764E+08	1.185E+04	5.885E+04	8.820E+07	5.926E+03
2058	2.159E+05	1.729E+08	1.162E+04	5.768E+04	8.646E+07	5.809E+03
2059	2.117E+05	1.695E+08	1.139E+04	5.654E+04	8.475E+07	5.694E+03
2060	2.075E+05	1.661E+08	1.116E+04	5.542E+04	8.307E+07	5.581E+03
2061	2.034E+05	1.628E+08	1.094E+04	5.432E+04	8.142E+07	5.471E+03
2062	1.993E+05	1.596E+08	1.072E+04	5.325E+04	7.981E+07	5.362E+03
2063	1.954E+05	1.565E+08	1.051E+04	5.219E+04	7.823E+07	5.256E+03
2064	1.915E+05	1.534E+08	1.030E+04	5.116E+04	7.668E+07	5.152E+03
2065	1.877E+05	1.503E+08	1.010E+04	5.014E+04	7.516E+07	5.050E+03
2066	1.840E+05	1.473E+08	9.900E+03	4.915E+04	7.367E+07	4.950E+03
2067	1.804E+05	1.444E+08	9.704E+03	4.818E+04	7.222E+07	4.852E+03
2068	1.768E+05	1.416E+08	9.512E+03	4.722E+04	7.079E+07	4.756E+03
2069	1.733E+05	1.388E+08	9.324E+03	4.629E+04	6.938E+07	4.662E+03
2070	1.699E+05	1.360E+08	9.139E+03	4.537E+04	6.801E+07	4.570E+03
2071	1.665E+05	1.333E+08	8.958E+03	4.447E+04	6.666E+07	4.479E+03
2072	1.632E+05	1.307E+08	8.781E+03	4.359E+04	6.534E+07	4.390E+03

Results (Continued)

Year	Total landfill gas			Methane		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2073	1.600E+05	1.281E+08	8.607E+03	4.273E+04	6.405E+07	4.303E+03
2074	1.568E+05	1.256E+08	8.437E+03	4.188E+04	6.278E+07	4.218E+03
2075	1.537E+05	1.231E+08	8.269E+03	4.105E+04	6.154E+07	4.135E+03
2076	1.507E+05	1.206E+08	8.106E+03	4.024E+04	6.032E+07	4.053E+03
2077	1.477E+05	1.183E+08	7.945E+03	3.945E+04	5.913E+07	3.973E+03
2078	1.447E+05	1.159E+08	7.788E+03	3.866E+04	5.795E+07	3.894E+03
2079	1.419E+05	1.136E+08	7.634E+03	3.790E+04	5.681E+07	3.817E+03
2080	1.391E+05	1.114E+08	7.483E+03	3.715E+04	5.568E+07	3.741E+03
2081	1.363E+05	1.092E+08	7.334E+03	3.641E+04	5.458E+07	3.667E+03
2082	1.336E+05	1.070E+08	7.189E+03	3.569E+04	5.350E+07	3.595E+03
2083	1.310E+05	1.049E+08	7.047E+03	3.498E+04	5.244E+07	3.523E+03
2084	1.284E+05	1.028E+08	6.907E+03	3.429E+04	5.140E+07	3.454E+03
2085	1.258E+05	1.008E+08	6.770E+03	3.361E+04	5.038E+07	3.385E+03
2086	1.233E+05	9.877E+07	6.636E+03	3.295E+04	4.939E+07	3.318E+03
2087	1.209E+05	9.681E+07	6.505E+03	3.229E+04	4.841E+07	3.252E+03
2088	1.185E+05	9.490E+07	6.376E+03	3.166E+04	4.745E+07	3.188E+03
2089	1.162E+05	9.302E+07	6.250E+03	3.103E+04	4.651E+07	3.125E+03
2090	1.139E+05	9.118E+07	6.126E+03	3.041E+04	4.559E+07	3.063E+03
2091	1.116E+05	8.937E+07	6.005E+03	2.981E+04	4.469E+07	3.002E+03
2092	1.094E+05	8.760E+07	5.886E+03	2.922E+04	4.380E+07	2.943E+03
2093	1.072E+05	8.587E+07	5.769E+03	2.864E+04	4.293E+07	2.885E+03
2094	1.051E+05	8.417E+07	5.655E+03	2.808E+04	4.208E+07	2.828E+03
2095	1.030E+05	8.250E+07	5.543E+03	2.752E+04	4.125E+07	2.772E+03
2096	1.010E+05	8.087E+07	5.433E+03	2.698E+04	4.043E+07	2.717E+03
2097	9.899E+04	7.927E+07	5.326E+03	2.644E+04	3.963E+07	2.663E+03
2098	9.703E+04	7.770E+07	5.220E+03	2.592E+04	3.885E+07	2.610E+03
2099	9.511E+04	7.616E+07	5.117E+03	2.540E+04	3.808E+07	2.559E+03
2100	9.322E+04	7.465E+07	5.016E+03	2.490E+04	3.732E+07	2.508E+03
2101	9.138E+04	7.317E+07	4.916E+03	2.441E+04	3.659E+07	2.458E+03
2102	8.957E+04	7.172E+07	4.819E+03	2.392E+04	3.586E+07	2.410E+03
2103	8.779E+04	7.030E+07	4.724E+03	2.345E+04	3.515E+07	2.362E+03
2104	8.606E+04	6.891E+07	4.630E+03	2.299E+04	3.446E+07	2.315E+03
2105	8.435E+04	6.755E+07	4.538E+03	2.253E+04	3.377E+07	2.269E+03
2106	8.268E+04	6.621E+07	4.449E+03	2.209E+04	3.310E+07	2.224E+03
2107	8.104E+04	6.490E+07	4.360E+03	2.165E+04	3.245E+07	2.180E+03
2108	7.944E+04	6.361E+07	4.274E+03	2.122E+04	3.181E+07	2.137E+03
2109	7.787E+04	6.235E+07	4.189E+03	2.080E+04	3.118E+07	2.095E+03
2110	7.633E+04	6.112E+07	4.106E+03	2.039E+04	3.056E+07	2.053E+03
2111	7.481E+04	5.991E+07	4.025E+03	1.998E+04	2.995E+07	2.013E+03
2112	7.333E+04	5.872E+07	3.945E+03	1.959E+04	2.936E+07	1.973E+03

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
1972	0	0	0	0	0	0
1973	4.904E+02	2.679E+05	1.800E+01	7.682E+00	2.143E+03	1.440E-01
1974	9.711E+02	5.305E+05	3.564E+01	1.521E+01	4.244E+03	2.852E-01
1975	1.442E+03	7.879E+05	5.294E+01	2.259E+01	6.303E+03	4.235E-01
1976	1.904E+03	1.040E+06	6.989E+01	2.983E+01	8.322E+03	5.591E-01
1977	2.357E+03	1.287E+06	8.651E+01	3.692E+01	1.030E+04	6.921E-01
1978	2.800E+03	1.530E+06	1.028E+02	4.387E+01	1.224E+04	8.224E-01
1979	3.275E+03	1.789E+06	1.202E+02	5.131E+01	1.431E+04	9.618E-01
1980	3.741E+03	2.044E+06	1.373E+02	5.860E+01	1.635E+04	1.099E+00
1981	4.197E+03	2.293E+06	1.541E+02	6.575E+01	1.834E+04	1.232E+00
1982	4.644E+03	2.537E+06	1.705E+02	7.276E+01	2.030E+04	1.364E+00
1983	5.083E+03	2.777E+06	1.866E+02	7.963E+01	2.221E+04	1.493E+00
1984	5.513E+03	3.012E+06	2.023E+02	8.636E+01	2.409E+04	1.619E+00
1985	5.934E+03	3.242E+06	2.178E+02	9.296E+01	2.593E+04	1.742E+00
1986	6.347E+03	3.467E+06	2.330E+02	9.942E+01	2.774E+04	1.864E+00
1987	6.751E+03	3.688E+06	2.478E+02	1.058E+02	2.951E+04	1.983E+00
1988	7.148E+03	3.905E+06	2.624E+02	1.120E+02	3.124E+04	2.099E+00
1989	1.215E+04	6.638E+06	4.460E+02	1.903E+02	5.310E+04	3.568E+00
1990	1.343E+04	7.339E+06	4.931E+02	2.105E+02	5.871E+04	3.945E+00
1991	1.502E+04	8.204E+06	5.512E+02	2.353E+02	6.563E+04	4.410E+00
1992	1.711E+04	9.350E+06	6.282E+02	2.681E+02	7.480E+04	5.026E+00
1993	1.874E+04	1.024E+07	6.880E+02	2.936E+02	8.191E+04	5.504E+00
1994	1.968E+04	1.075E+07	7.224E+02	3.083E+02	8.601E+04	5.779E+00
1995	2.103E+04	1.149E+07	7.719E+02	3.294E+02	9.190E+04	6.175E+00
1996	2.204E+04	1.204E+07	8.090E+02	3.453E+02	9.633E+04	6.472E+00
1997	2.307E+04	1.261E+07	8.470E+02	3.615E+02	1.008E+05	6.776E+00
1998	2.524E+04	1.379E+07	9.266E+02	3.955E+02	1.103E+05	7.413E+00
1999	2.849E+04	1.556E+07	1.046E+03	4.463E+02	1.245E+05	8.365E+00
2000	3.218E+04	1.758E+07	1.181E+03	5.041E+02	1.406E+05	9.448E+00
2001	3.573E+04	1.952E+07	1.311E+03	5.597E+02	1.561E+05	1.049E+01
2002	3.968E+04	2.168E+07	1.457E+03	6.216E+02	1.734E+05	1.165E+01
2003	4.381E+04	2.394E+07	1.608E+03	6.864E+02	1.915E+05	1.287E+01
2004	4.803E+04	2.624E+07	1.763E+03	7.524E+02	2.099E+05	1.410E+01
2005	5.222E+04	2.853E+07	1.917E+03	8.180E+02	2.282E+05	1.533E+01
2006	5.629E+04	3.075E+07	2.066E+03	8.819E+02	2.460E+05	1.653E+01
2007	6.026E+04	3.292E+07	2.212E+03	9.439E+02	2.633E+05	1.769E+01
2008	6.415E+04	3.505E+07	2.355E+03	1.005E+03	2.804E+05	1.884E+01
2009	6.785E+04	3.706E+07	2.490E+03	1.063E+03	2.965E+05	1.992E+01
2010	6.877E+04	3.757E+07	2.524E+03	1.077E+03	3.006E+05	2.019E+01
2011	7.100E+04	3.879E+07	2.606E+03	1.112E+03	3.103E+05	2.085E+01
2012	7.399E+04	4.042E+07	2.716E+03	1.159E+03	3.233E+05	2.173E+01
2013	7.558E+04	4.129E+07	2.774E+03	1.184E+03	3.303E+05	2.219E+01
2014	7.748E+04	4.232E+07	2.844E+03	1.214E+03	3.386E+05	2.275E+01
2015	7.960E+04	4.349E+07	2.922E+03	1.247E+03	3.479E+05	2.338E+01
2016	8.157E+04	4.456E+07	2.994E+03	1.278E+03	3.565E+05	2.395E+01
2017	8.510E+04	4.649E+07	3.124E+03	1.333E+03	3.719E+05	2.499E+01
2018	8.893E+04	4.858E+07	3.264E+03	1.393E+03	3.887E+05	2.611E+01
2019	9.342E+04	5.104E+07	3.429E+03	1.463E+03	4.083E+05	2.743E+01
2020	9.855E+04	5.384E+07	3.617E+03	1.544E+03	4.307E+05	2.894E+01
2021	1.043E+05	5.699E+07	3.829E+03	1.634E+03	4.559E+05	3.063E+01

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2022	1.107E+05	6.048E+07	4.064E+03	1.734E+03	4.838E+05	3.251E+01
2023	1.177E+05	6.430E+07	4.320E+03	1.844E+03	5.144E+05	3.456E+01
2024	1.253E+05	6.845E+07	4.599E+03	1.963E+03	5.476E+05	3.679E+01
2025	1.331E+05	7.272E+07	4.886E+03	2.085E+03	5.817E+05	3.909E+01
2026	1.408E+05	7.690E+07	5.167E+03	2.205E+03	6.152E+05	4.133E+01
2027	1.483E+05	8.100E+07	5.442E+03	2.323E+03	6.480E+05	4.354E+01
2028	1.556E+05	8.502E+07	5.712E+03	2.438E+03	6.801E+05	4.570E+01
2029	1.628E+05	8.895E+07	5.977E+03	2.551E+03	7.116E+05	4.781E+01
2030	1.699E+05	9.281E+07	6.236E+03	2.662E+03	7.425E+05	4.989E+01
2031	1.768E+05	9.660E+07	6.490E+03	2.770E+03	7.728E+05	5.192E+01
2032	1.836E+05	1.003E+08	6.740E+03	2.876E+03	8.025E+05	5.392E+01
2033	1.903E+05	1.039E+08	6.984E+03	2.981E+03	8.316E+05	5.587E+01
2034	1.968E+05	1.075E+08	7.223E+03	3.083E+03	8.601E+05	5.779E+01
2035	2.032E+05	1.110E+08	7.458E+03	3.183E+03	8.880E+05	5.967E+01
2036	2.095E+05	1.144E+08	7.688E+03	3.281E+03	9.154E+05	6.151E+01
2037	2.156E+05	1.178E+08	7.914E+03	3.377E+03	9.422E+05	6.331E+01
2038	2.216E+05	1.211E+08	8.135E+03	3.472E+03	9.686E+05	6.508E+01
2039	2.275E+05	1.243E+08	8.351E+03	3.564E+03	9.944E+05	6.681E+01
2040	2.268E+05	1.239E+08	8.326E+03	3.554E+03	9.914E+05	6.661E+01
2041	2.223E+05	1.215E+08	8.161E+03	3.483E+03	9.717E+05	6.529E+01
2042	2.179E+05	1.191E+08	8.000E+03	3.414E+03	9.525E+05	6.400E+01
2043	2.136E+05	1.167E+08	7.841E+03	3.347E+03	9.336E+05	6.273E+01
2044	2.094E+05	1.144E+08	7.686E+03	3.280E+03	9.152E+05	6.149E+01
2045	2.053E+05	1.121E+08	7.534E+03	3.215E+03	8.970E+05	6.027E+01
2046	2.012E+05	1.099E+08	7.385E+03	3.152E+03	8.793E+05	5.908E+01
2047	1.972E+05	1.077E+08	7.239E+03	3.089E+03	8.619E+05	5.791E+01
2048	1.933E+05	1.056E+08	7.095E+03	3.028E+03	8.448E+05	5.676E+01
2049	1.895E+05	1.035E+08	6.955E+03	2.968E+03	8.281E+05	5.564E+01
2050	1.857E+05	1.015E+08	6.817E+03	2.909E+03	8.117E+05	5.454E+01
2051	1.820E+05	9.945E+07	6.682E+03	2.852E+03	7.956E+05	5.346E+01
2052	1.784E+05	9.748E+07	6.550E+03	2.795E+03	7.798E+05	5.240E+01
2053	1.749E+05	9.555E+07	6.420E+03	2.740E+03	7.644E+05	5.136E+01
2054	1.714E+05	9.366E+07	6.293E+03	2.686E+03	7.493E+05	5.034E+01
2055	1.680E+05	9.180E+07	6.168E+03	2.633E+03	7.344E+05	4.935E+01
2056	1.647E+05	8.999E+07	6.046E+03	2.580E+03	7.199E+05	4.837E+01
2057	1.615E+05	8.820E+07	5.926E+03	2.529E+03	7.056E+05	4.741E+01
2058	1.583E+05	8.646E+07	5.809E+03	2.479E+03	6.917E+05	4.647E+01
2059	1.551E+05	8.475E+07	5.694E+03	2.430E+03	6.780E+05	4.555E+01
2060	1.521E+05	8.307E+07	5.581E+03	2.382E+03	6.645E+05	4.465E+01
2061	1.490E+05	8.142E+07	5.471E+03	2.335E+03	6.514E+05	4.377E+01
2062	1.461E+05	7.981E+07	5.362E+03	2.289E+03	6.385E+05	4.290E+01
2063	1.432E+05	7.823E+07	5.256E+03	2.243E+03	6.258E+05	4.205E+01
2064	1.404E+05	7.668E+07	5.152E+03	2.199E+03	6.134E+05	4.122E+01
2065	1.376E+05	7.516E+07	5.050E+03	2.155E+03	6.013E+05	4.040E+01
2066	1.349E+05	7.367E+07	4.950E+03	2.113E+03	5.894E+05	3.960E+01
2067	1.322E+05	7.222E+07	4.852E+03	2.071E+03	5.777E+05	3.882E+01
2068	1.296E+05	7.079E+07	4.756E+03	2.030E+03	5.663E+05	3.805E+01
2069	1.270E+05	6.938E+07	4.662E+03	1.990E+03	5.551E+05	3.730E+01
2070	1.245E+05	6.801E+07	4.570E+03	1.950E+03	5.441E+05	3.656E+01
2071	1.220E+05	6.666E+07	4.479E+03	1.912E+03	5.333E+05	3.583E+01
2072	1.196E+05	6.534E+07	4.390E+03	1.874E+03	5.227E+05	3.512E+01

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2073	1.172E+05	6.405E+07	4.303E+03	1.837E+03	5.124E+05	3.443E+01
2074	1.149E+05	6.278E+07	4.218E+03	1.800E+03	5.022E+05	3.375E+01
2075	1.126E+05	6.154E+07	4.135E+03	1.765E+03	4.923E+05	3.308E+01
2076	1.104E+05	6.032E+07	4.053E+03	1.730E+03	4.826E+05	3.242E+01
2077	1.082E+05	5.913E+07	3.973E+03	1.695E+03	4.730E+05	3.178E+01
2078	1.061E+05	5.795E+07	3.894E+03	1.662E+03	4.636E+05	3.115E+01
2079	1.040E+05	5.681E+07	3.817E+03	1.629E+03	4.545E+05	3.053E+01
2080	1.019E+05	5.568E+07	3.741E+03	1.597E+03	4.455E+05	2.993E+01
2081	9.991E+04	5.458E+07	3.667E+03	1.565E+03	4.366E+05	2.934E+01
2082	9.793E+04	5.350E+07	3.595E+03	1.534E+03	4.280E+05	2.876E+01
2083	9.599E+04	5.244E+07	3.523E+03	1.504E+03	4.195E+05	2.819E+01
2084	9.409E+04	5.140E+07	3.454E+03	1.474E+03	4.112E+05	2.763E+01
2085	9.223E+04	5.038E+07	3.385E+03	1.445E+03	4.031E+05	2.708E+01
2086	9.040E+04	4.939E+07	3.318E+03	1.416E+03	3.951E+05	2.655E+01
2087	8.861E+04	4.841E+07	3.252E+03	1.388E+03	3.873E+05	2.602E+01
2088	8.686E+04	4.745E+07	3.188E+03	1.361E+03	3.796E+05	2.550E+01
2089	8.514E+04	4.651E+07	3.125E+03	1.334E+03	3.721E+05	2.500E+01
2090	8.345E+04	4.559E+07	3.063E+03	1.307E+03	3.647E+05	2.450E+01
2091	8.180E+04	4.469E+07	3.002E+03	1.281E+03	3.575E+05	2.402E+01
2092	8.018E+04	4.380E+07	2.943E+03	1.256E+03	3.504E+05	2.354E+01
2093	7.859E+04	4.293E+07	2.885E+03	1.231E+03	3.435E+05	2.308E+01
2094	7.703E+04	4.208E+07	2.828E+03	1.207E+03	3.367E+05	2.262E+01
2095	7.551E+04	4.125E+07	2.772E+03	1.183E+03	3.300E+05	2.217E+01
2096	7.401E+04	4.043E+07	2.717E+03	1.159E+03	3.235E+05	2.173E+01
2097	7.255E+04	3.963E+07	2.663E+03	1.136E+03	3.171E+05	2.130E+01
2098	7.111E+04	3.885E+07	2.610E+03	1.114E+03	3.108E+05	2.088E+01
2099	6.970E+04	3.808E+07	2.559E+03	1.092E+03	3.046E+05	2.047E+01
2100	6.832E+04	3.732E+07	2.508E+03	1.070E+03	2.986E+05	2.006E+01
2101	6.697E+04	3.659E+07	2.458E+03	1.049E+03	2.927E+05	1.967E+01
2102	6.564E+04	3.586E+07	2.410E+03	1.028E+03	2.869E+05	1.928E+01
2103	6.434E+04	3.515E+07	2.362E+03	1.008E+03	2.812E+05	1.889E+01
2104	6.307E+04	3.446E+07	2.315E+03	9.880E+02	2.756E+05	1.852E+01
2105	6.182E+04	3.377E+07	2.269E+03	9.685E+02	2.702E+05	1.815E+01
2106	6.060E+04	3.310E+07	2.224E+03	9.493E+02	2.648E+05	1.779E+01
2107	5.940E+04	3.245E+07	2.180E+03	9.305E+02	2.596E+05	1.744E+01
2108	5.822E+04	3.181E+07	2.137E+03	9.121E+02	2.544E+05	1.710E+01
2109	5.707E+04	3.118E+07	2.095E+03	8.940E+02	2.494E+05	1.676E+01
2110	5.594E+04	3.056E+07	2.053E+03	8.763E+02	2.445E+05	1.643E+01
2111	5.483E+04	2.995E+07	2.013E+03	8.589E+02	2.396E+05	1.610E+01
2112	5.374E+04	2.936E+07	1.973E+03	8.419E+02	2.349E+05	1.578E+01

Appendix H5
SWAPE Report

CHIQUITA CANYON LANDFILL
ODOR SURVEY REPORT

Prepared for:

Mike Dean
Chiquita Canyon Sanitary Landfill
29201 Henry Mayo Drive
Castaic, CA 91384

Prepared by:

Soil / Water / Air Protection Enterprise
2656 29th Street, Suite 201
Santa Monica, CA 90405

November 24, 2015

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

CHIQUITA CANYON LANDFILL
ODOR SURVEY REPORT



Odor Sampling Using Nasal Ranger at Chiquita Canyon Landfill, Castaic, CA.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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November 24, 2015

Mike Dean
Chiquita Canyon Sanitary Landfill
29201 Henry Mayo Drive
Castaic, CA 91384

Subject: Report of Chiquita Canyon Landfill Odor Survey

Dear Mr. Dean:

Soil Water Air Protection Enterprise is pleased to present you with the enclosed Chiquita Canyon Landfill Odor Survey Report. If you should have any questions regarding the above, please call me at (310) 795-2335.

Very truly yours,



Paul E. Rosenfeld, Ph.D.

EXECUTIVE SUMMARY

SWAPE conducted an Odor Survey at the Chiquita Canyon Landfill, located at 29201 Henry Mayo Dr, Castaic, CA 91384. SWAPE measured the odors in and around the landfill as well as the Val Verde community. The odor survey was conducted over 25 sampling trips with 3 samplers per trip. 51 locations were sampled each time, subject to accessibility. In total, 3,789 data points were collected. Sampling trips occurred in the morning, when, based on the landfill's historical complaint log and typical expected atmospheric conditions, odors are more likely to be detected.

Locations were selected to give a thorough geographic distribution of sampling points, as well as focusing on receptors such as the Val Verde community. Locations were grouped into 14 location groups inside the landfill and offsite in the surrounding community.

Odors were described using the following methods: (1) Dilution to Threshold values to quantify the strength; (2) Hedonic Tone to quantify the pleasantness; (3) Odor Descriptors to describe the odor; and (4) Suspected Odor Source to describe whether the odor came from the landfill or elsewhere. Analysis of these parameters showed that the landfill working face had the strongest and most unpleasant odors. Offsite, odors were much weaker and were generally neutral in hedonic tone.

Few odors were detected outside of the landfill. Landfill related odors were confirmed only once within the Val Verde community, and were detected on a limited number of occasions at other offsite locations. Even within the landfill itself, trash odors were only detected very close to the working face. Because of the very small amount of landfill related odors detected offsite, based on this study, the landfill does not create significant odor impacts to the surrounding community.

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1 INTRODUCTION

1.1 PURPOSE AND SCOPE

SWAPE conducted an Odor Survey at the Chiquita Canyon Landfill, located at 29201 Henry Mayo Dr, Castaic, CA 91384. SWAPE measured the odors in and around the landfill as well as the Val Verde Community and surrounding area. The odor survey was conducted over 25 sampling trips with 3 samplers per trip. 50 to 51 locations were sampled each time, for a total of 3,789 data points. Sampling trips occurred in the morning, when odor complaints were believed to be most common based on the landfill complaint log as well as the tendency for odors to accumulate at night during stable conditions before being blown away from the landfill in the morning when heating causes winds to pick up.

The Nasal Ranger produced by St. Croix Sensory was used to determine the strength of odor. Other parameters were recorded as well. A description of sampling methods and locations and analysis methods is included in **Section 2**. The results of sampling are presented in **Section 3**. Conclusions are presented in **Section 4**. Additional graphs and figures are included at the end of the report.

1.2 QUALIFICATIONS

I received a B.A. in Environmental Studies from the University of California at Santa Barbara in 1991, an M.S. in Environmental Science from the University of California at Berkeley in 1995, and a Ph.D. in Soil Chemistry from the University of Washington in 1999.

I am a founder and principal environmental consulting scientist at SWAPE. In addition to my education, I have extensive experience in evaluating the fate and transport of environmental contaminants, risk and exposure assessment of contaminants released from pollution sources, and monitoring and modeling of pollution sources that may cause impacts on human health and ecological systems. I use my education, experience, knowledge and expertise to conduct field investigations and prepare risk assessments. I have performed investigation and assessment for both governmental and private entities concerning risks to human health and properties due to contamination from pesticides, polychlorinated biphenyls, petroleum hydrocarbons, polycyclic aromatic hydrocarbons, dioxins/furans, volatile organics, chlorinated solvents, perchlorate, heavy metals, asbestos, perfluorooctanoic acid, and other hazardous substances.

I have extensive experience as an odor expert. For my Doctorate I evaluated biosolids and related odors, and have modeled odors from area sources. I was retained by Sanimax to evaluate odor in a rendering facility. At Republic Waste Services in St. Louis I was retained by the Attorney General to evaluate odor from a landfill that is smoldering and radioactive. I developed the urban odor wheel and authored papers on its applications.

I obtained much of my experience in evaluating contaminated sites while working for the United States Navy. I served as a Remedial Project Manager for the Navy Base Realignment and Closure (“BRAC”)

Team, South West Division on Treasure Island, California. While working for BRAC, I managed many sites with environmental contamination concerns, closed a landfill in California on the MCAS Tustin, and evaluated the failure of a test landfill cap in Orote, Guam.

I have taught on the subject of environmental health at the University of California at Los Angeles ("UCLA") for many years. I also regularly attend and speak at professional environmental conferences on various subjects involving environmental contamination and mitigation/remediation.
I have recently co-authored several books concerning environmental contamination and best practices in the chemical industry. These publications include "The Risks of Hazardous Waste" (2011), "Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry" (2011), "Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries" (2010), and "Handbook of Pollution Prevention and Cleaner Production, Best Practices in The Petroleum Industry" (2009). I have also published extensively on other scientific studies of contaminant fate and transport and treatment technologies.

I have testified at deposition and/or at trial as an expert witness on numerous cases involving environmental contamination and exposure assessment and human health risk assessment associated with chemical emissions and odor exposure. My testimony experience is provided in my Curriculum Vitae.

1.3 GENERAL LIMITATIONS

This Report and all associated opinions are based on documents and information that was reasonably accessible at the time of investigation. Documents and information include CH2MHill's July 2014 Draft Environmental Impact Report and weather data from Weather Underground. This analysis may be updated if additional documents become available.

2 METHODS

2.1 SAMPLING LOCATIONS

In order to characterize and understand the various odors in and around the Chiquita Canyon Landfill, 51 representative sampling locations were selected for odor sampling. These locations consisted of 24 locations within the landfill boundary and 27 offsite locations in the communities, industrial areas, and roads surrounding the landfill. These locations were further assigned to location groups. Outside of the landfill, location groups are listed and described below:

- Chiquito Canyon
  - 2 locations along Chiquito Canyon Road
  - West of the landfill
  - Rural/Open/Highway setting with lots of dust and tall grass
- South Val Verde Community
  - 9 locations in the South Val Verde community (referred to as "Val Verde South" in figures and tables)
  - Northwest of landfill, South of Taylor Street and a small mountain ridge
  - Residential setting, few yards, dusty
- North Val Verde Community
  - 5 locations in the North Val Verde community (referred to as "Val Verde North" in figures and tables)
  - Northwest of landfill, North of Taylor Street and a small mountain ridge
  - Residential setting, few yards, dusty
- Del Valle
  - 3 locations on Del Valle Road
  - North of landfill
  - Rural/Open/Highway setting with lots of dust and tall grass
- North Community
  - 2 locations in the community to the Northeast of the landfill
  - Modern tract houses, high density, small grass yards
- Industrial Area
  - 2 locations in industrial area, northeast of landfill
  - Industrial buildings and warehouses, wide paved roads
- Southeast Roads
  - 4 locations near post office, Franklin Road, and Wolcott Road
  - East and southeast of landfill
  - Open/Highway/Industrial setting

Within the landfill, location groups include:

- Landfill Entrance

2 locations near entrance of landfill at South end of landfill
Paved setting, lots of truck traffic

- South Landfill
  3 locations south and southwest of landfill working face
  Paved and dirt roads, grass, trees, hills
- North Landfill Perimeter
  4 locations north of working face, south of mountain range
  Dirt and gravel roads, chaparral, grass, odor control misters
- Northeast Ridgeline
  2 locations on mountain ridges at north end of landfill, overlooking industrial area
  Dirt roads, chaparral, grass
- East Landfill
  4 locations east of working face
  Near mountains, post office and capped landfill sections
  Tall grass, chaparral, dirt and gravel roads
- Southeast Landfill Perimeter
  3 locations southeast of working face on perimeter road
  Close to working face, gravel and paved roads, by landfill gas flare
- The Working Face of the Landfill
  6 locations on or very near working face of landfill
  Dirt and gravel roads, dirt fill, mulch

Locations were selected to provide a broad geographic distribution, while emphasizing receptors, such as the Val Verde community. See **Figure 2.1** and **Appendix A** for maps of sampling locations. The locations are discussed in further detail in **Appendix B**

Odor sampling was conducted on 25 mornings by 3 trained odor specialists. Sampling generally occurred between the hours of 6 a.m. and 10 a.m. when odors have been reported to be the most common. Sampling events took place on Tuesdays, Wednesdays, Thursdays, and Fridays between April 7, 2015 and July 16, 2015. Occasionally, spots had to be skipped because they were inaccessible. Sample location 36, "North Landfill Perimeter," was skipped on the first sampling trip because it was blocked by a large truck. Sample location 47, "Green Waste," was skipped on 11 occasions because no green waste was apparent on the landfill during those sampling occasions. In total, 3,789 data points were collected over the entire survey. The sampling events are discussed in detail in **Appendix C**.

2.2 PARAMETERS

Four methods were used to describe the odors at each location:

1. Dilution to threshold values acquired via use of the Nasal Ranger (St. Croix Sensory, St. Croix Minnesota) ranging from 0 to 60+,
2. Hedonic (pleasantness) tone (scale of -10 to +10),
3. Modified Urban Odor Wheel (Rosenfeld et al, 2006) descriptors, and
4. Suspected Odor Source.

2.2.1 NASAL RANGER

The Nasal Ranger is a portable odor measuring device. The Nasal Ranger allows the user to test odorous air using six dilution ratios (60, 30, 15, 7, 4, and 2) which correspond to the dilution to threshold (D/T) measurement. For example, an odor detected at 60 D/T means that the odor in the ambient air is detected at a dilution factor of 60, meaning that one part odorous air is detectable when mixed with 60 parts clean, carbon-filtered air. A higher D/T value indicates a more odorous sample. In some instances there are odors which cannot be detected by the Nasal Ranger, but can be detected by the human nose. For these cases, the D/T level is recorded as <2, and assumed to equal 1 for calculation purposes.

2.2.2 HEDONIC TONE

The hedonic tone scale, developed by Hatayama (1999) characterizes the pleasantness of an odor. The scale is subjective with -10 being the worst imaginable smell and +10 being the best possible smell in the opinion of the detector. A zero indicates that no odor was detected.

2.2.3 ODOR DESCRIPTORS

A modified urban odor wheel was used to describe the odors. The scent was initially recorded and described by the observer, but for the purposes of analysis was then grouped into an odor descriptor category. These odor descriptor categories were obtained from Dr. Rosenfeld's Urban Odor Wheel (2006)[1], but were modified slightly to remove categories that were not detected, and to create more precise categories for certain smells. While hundreds of different smells were recorded, they were grouped into 13 descriptor categories shown in **Table 2.2.3** below.

Table 2.2.3

Odor Descriptors

Number	Descriptor Category	Example Descriptors
1	Fragrant/Fruity	Fruity, Citrus, Floral
2	Parks and Fields/Nature	Grass, Hay, Herbal, Tree
3	Coffee Shop/Pleasant Flavors	Honey, Berry, Roast, Burnt, Vanilla, Banana
4	Bakery	Toasted, Bread, Smokey, Malty, Buttery
5	Dusty/Earthy	Earthy, Dusty, Wet Dirt
6	Musty/Moldy Compost	Woody, Musty, Moldy, Mulch, Green Waste
7	Fecal	Fecal, Manure, Sewery
8	Sulfur/Cabbage/Garlic	Rotten Egg, Rotten Vegetable, Skunk, Garlic, Canned Corn, Cabbage
9	Fishy/Ammonia	Fishy, Urine, Ammonia
10	Spoiled Food/Decomposition	Yeasty, Rancid, Sour Milk, Vinegar, Putrid, Decayed, Sour Cheese, Sweaty, Sharp, Sour
11	Auto Exhaust	Gasoline, Faint and Sharp, Sweet, Exhaust
12	Cleaning Solvents	Nail Polish, Sweet, Solvent, Cleaner, Air Freshener
13	Soapy	Soap, Detergent, Shampoo

[1] Suffet, I.H., Rosenfeld, P., The Anatomy of Odor Wheels for Odors of Drinking Water, Wastewater, Compost, and the Urban Environment, 2007, Water Science & Technology, Vol 55 No 5, pp335-334.

2.2.4 SUSPECTED ODOR SOURCES

The source of the odor is useful for its characterization. Since a concern in this project is odors emanating from the landfill traveling offsite, it important to clarify whether an offensive odor was caused by the landfill or some other source. Suspected odor sources were assigned to each odor. Four odor sources were used, including:

1. "Landfill" (emanating from landfill trash, green waste, or odor control mister systems),
2. "Other" (any source that is clearly not the landfill, such as vehicles, grass, or dust),
3. "Unknown" (odors that have characteristics similar to those detected in the landfill, but difficult to describe, such as sour smells, or trash or compost smells with another possible source), and
4. "None" (when no odor was detected).

2.3 ANALYSIS

All sampling data was collected in the field and recorded on paper forms, indicating the time, location, D/T, hedonic tone, descriptors, and comments. Weather observations were recorded as well. Sampling forms were then transcribed to a database and corrected for analysis. Odor descriptor categories and suspected odor sources were added at this stage. This allowed a consistent judgment to be made for all the data.

Various forms of statistical analysis were performed to analyze the data. The average D/T and Hedonic Tone values were calculated by taking the arithmetic mean of the three samplers' results for each location and each day. From this the minimum, average, and maximum of these averages was calculated to compare the relative odor levels of each location. These values are depicted in **Figures 3.1a-f** in the figures section and **Table 3.1b** in the results section.

The average D/T and Hedonic Tone values were calculated for each location group for each day as well, in order to determine the most odorous days. This is depicted in **Table 3.1a** in the results section.

Box and whisker plots were created to compare each location group and demonstrate the odor trends of each area. These are shown in the graphs section as **Graphs 3.1a** and **3.1b**. The "box" is composed of the first and third (25^{th} and 75^{th} percentile) and median, which are the ends of the box and the vertical line in the interior of the box, respectively. The ends of the lines or "whiskers" are the minimum and maximum values. Values that are considered to fall out of the range of values, called outliers, are depicted by dots that fall outside of the box-and-whisker plot.

Pie charts were created for each location group to show how often certain odor descriptors were detected in each area. Pie charts were also created depicting the relative frequency of odor sources for each location group to understand what types of odors impact each area. These are depicted in **Appendix D**.

3 RESULTS

3.1 SUMMARY

Offsite, the average dilution to threshold value (measurement of odor intensity) for each location group was less than or equal to 1, with the exception of the Industrial area, which averaged 1.2 D/T. The average hedonic tone (measurement of pleasantness from -10 to +10) ranged between -0.2 and 0.6. The most common odor descriptors were "No Odor" and "Parks and Fields/Nature." Between 0 and 3% of odors were suspected to emanate from the Landfill at offsite location groups, with the exception of the lower Chiquito Canyon Road locations, where 9% of odors were suspected to have originated from the landfill. Additionally, between 2% and 9% of odors were from unknown sources. The lowest hedonic tone (worst smell) associated with any odor in the Val Verde community detected was -5 at the Jackson Gate location. This odor was described as fecal and believed to originate from farming or animal related activities on private property behind the gate.

Odors potentially related to the landfill were detected offsite 34 times out of 2,025 offsite sampling data points, or 1.68% of the time. Out of these 34 data points, 17 were detected through the Nasal Ranger, while the remaining were too faint to detect when diluted. 4 of these 17 Nasal Ranger detections occurred at the Livingston/Watertank sampling location (in the Industrial Area location group), where non-landfill, confounding sources of odor were believed to exist. Accordingly, it is believed that those detections were likely not related to the landfill, however for graphical analysis; the suspected source of "landfill" is retained for these detections. Out of the remaining 13 Nasal Ranger detections, 7 detections occurred at the Chiquito Canyon Road sampling locations, 1 occurred on Del Valle Road, and 5 occurred in the Val Verde community. The lowest hedonic tone associated with landfill odors detected with the Nasal Ranger or nose alone in the Val Verde community was -2, recorded 8 times on 2 dates, July 15 and 16, at 4 Val Verde locations.

Within the landfill, the average D/T values ranged from 0.4 to 2.2, with the exception of the working face, where freshly dumped trash is exposed until buried, which averaged 28.9. The average hedonic tone ranged from -1.1 to 0.7, with the exception of the working face, which averaged -4.0. The most common odor descriptors were "Spoiled Food/ Decomposition," "No Odor," and "Parks and Fields/ Nature." Between only 1% and 2% of odors were suspected to originate from the landfill at the East Landfill and Northeast Ridgeline location groups. Between 35% and 49% of odors were attributed to the landfill at the remaining locations within the landfill, except for the working face, where 96% of odors were caused by the landfill. Between 0 and 4% of odors on the landfill came from unknown sources. See **Tables 3.1a-b** and **Figures 3.1a-f** for more detail.

Table 3.1a

Summary of Sampling Results

Landfill or Offsite	Location Group	Average D/T	Average Hedonic Tone	Most Common Descriptor	2nd Most Common Descriptor	Percent of Odors Attributed to Landfill	Percent of Odors Suspected Unknown Sources
Offsite	Chiquito Canyon	0.8	-0.2	No Odor	Parks and Fields/ Nature	9%	7%
	Val Verde South	0.8	-0.1	No Odor	Parks and Fields/ Nature	1%	5%
	Val Verde North	1.0	0.2	Parks and Fields/ Nature	No Odor	1%	9%
	Del Valle	0.7	-0.2	No Odor	Parks and Fields/ Nature	1%	5%
	North Community	0.9	0.6	No Odor	Fragrant/ Fruity	0%	2%
	Industrial	1.2	0.3	No Odor	Soapy	3%	8%
	Southeast Roads	0.6	0.2	No Odor	Parks and Fields/ Nature	1%	5%
Landfill	Landfill Entrance	1.1	-1.0	Spoiled Food/ Decomposition	No Odor	49%	2%
	South Landfill	1.6	-0.8	No Odor	Spoiled Food/ Decomposition	36%	4%
	Southeast Landfill Perimeter	2.2	-1.1	No Odor	Spoiled Food/ Decomposition	37%	0%
	North Landfill Perimeter	1.9	-0.4	No Odor	Spoiled Food/ Decomposition	35%	0.3%
	Northeast Ridgeline	1.3	0.7	Parks and Fields/ Nature	No Odor	2%	3%
	East Landfill	0.4	0.2	No Odor	Parks and Fields/ Nature	1%	1%
	Working Face	28.9	-4.0	Spoiled Food/ Decomposition	Musty/ Moldy Compost	96%	0%

Table 3.1b

Minimum, Average, and Maximum of the Average of Three Samplers' Dilution to Threshold and Hedonic Tone Measurements per Event Over 25 Events

			Dilution to Threshold			Hedonic Tone		
Sample Number	Location Name	Location Group	Min of Average D/T	Average D/T	Max of Average D/T	Min of Average Hedonic	Average Hedonic	Max of Average Hedonic
1	Chiquito Cyn S	Chiquito Canyon	0.0	0.9	5.3	-2.7	-0.1	2.3
2	Fire Center Road	Chiquito Canyon	0.0	0.7	7.0	-2.0	-0.3	0.7
3	Entrance to Community	Val Verde South	0.0	0.7	1.7	-1.7	0.0	2.0
4	Lincoln Ave South Turn	Val Verde South	0.0	0.7	1.0	-1.3	0.1	2.0
5	Jackson Gate	Val Verde South	0.0	1.9	4.3	-4.0	-1.8	0.3
6	Monroe/Lincoln	Val Verde South	0.0	0.8	1.7	-2.0	0.1	1.7
7	Madison/Lincoln	Val Verde South	0.0	0.6	1.3	-2.0	-0.1	2.0
8	Taylor/Lincoln	Val Verde South	0.0	0.5	1.7	-1.3	0.0	1.3
9	Harding Lot	Val Verde South	0.0	0.7	1.7	-2.0	0.3	3.0
10	Harding South Turn	Val Verde South	0.0	0.7	1.3	-2.0	0.2	1.7
11	Chiquito Cyn/Madison	Val Verde South	0.0	0.6	2.0	-0.3	0.4	1.3
12	San Martinez/Lincoln	Val Verde North	0.0	0.7	1.7	-1.7	-0.1	1.0
13	Chiquito Cyn/Central	Val Verde North	0.0	1.0	4.0	-0.7	0.5	2.0
14	Central East	Val Verde North	0.0	0.7	2.3	-1.7	0.0	2.0
15	Hunstock/Lincoln	Val Verde North	0.0	1.3	4.3	-1.0	0.3	2.3
16	Cromwell/Hunstock	Val Verde North	0.3	1.3	4.0	-1.3	0.6	3.7
17	Del Valle 1	Del Valle	0.0	0.6	2.7	-2.3	-0.2	1.3
18	Del Valle 2	Del Valle	0.0	0.6	4.3	-1.0	0.1	1.0
19	Del Valle/Halsey Cyn	Del Valle	0.0	0.9	3.3	-2.7	-0.4	3.3
20	Liverpool Ct	North Community	0.0	1.4	7.0	-0.7	1.5	6.0
21	Picford Pl	North Community	0.0	0.4	2.0	-3.0	-0.2	1.3
22	Industry Drive	Industrial	0.0	1.0	2.7	-2.0	0.0	1.3
23	Livingston/Watertank	Industrial	0.0	1.5	5.3	-3.0	0.7	4.3
24	Post Office	Southeast Roads	0.0	0.9	8.7	-2.0	0.2	2.0
25	Franklin	Southeast Roads	0.0	0.3	1.3	-0.3	0.3	2.0
26	Wolcott Turn	Southeast Roads	0.0	0.5	1.7	-1.0	0.2	1.0
27	Wolcott Light	Southeast Roads	0.0	0.6	1.3	-2.0	0.1	1.3
28	CCLF Entrance	Landfill Entrance	0.0	0.9	2.0	-2.3	-0.9	0.7
29	Turnout Tank	Landfill Entrance	0.0	1.4	5.3	-3.3	-1.0	0.3
30	White tanks	South Landfill	0.0	1.3	5.0	-4.0	-1.3	0.0
31	South Ridgeline Bend	South Landfill	0.0	1.0	6.0	-2.0	-0.2	2.0
32	Fire Center Overlook	South Landfill	0.0	2.4	17.3	-4.3	-1.0	1.0
33	Perimeter West	Working Face	1.3	23.8	60.0	-7.7	-3.7	0.0
34	Odor System	North Landfill Perimeter	0.0	5.3	50.0	-5.0	-1.1	1.3
35	Perimeter North	North Landfill Perimeter	0.0	0.9	6.0	-3.3	-0.6	1.3
36	Perimeter NNE	North Landfill Perimeter	0.0	1.0	5.0	-1.7	0.0	1.0
37	Perimeter Junc. NE	North Landfill Perimeter	0.0	0.5	2.0	-2.3	0.2	2.3
38	Ridgeline North	Northeast Ridgeline	0.0	1.4	11.7	-0.7	0.7	3.3
39	Ridgeline East	Northeast Ridgeline	0.3	1.2	3.3	-1.7	0.7	2.7
40	Pipe Piles	East Landfill	0.0	0.7	1.3	-1.7	0.2	1.7
41	Concrete Berm	East Landfill	0.0	0.4	1.3	0.0	0.3	1.7
42	Post Office Overlook	East Landfill	0.0	0.2	1.0	0.0	0.2	1.7
43	Energy Plant	Southeast Landfill Perimeter	0.0	0.7	3.7	-2.7	-0.3	0.7
44	Capped Prim. Cyn LF	East Landfill	0.0	0.3	1.3	-1.0	0.1	1.0
45	Condensate	Southeast Landfill Perimeter	0.0	5.1	50.0	-6.0	-2.1	0.0
46	Lot Near Face	Southeast Landfill Perimeter	0.0	1.0	7.0	-3.7	-0.8	0.3
47	Green Waste	Working Face	1.3	36.8	60.0	-7.0	-4.0	-1.3
48	Face 1	Working Face	0.0	27.4	60.0	-7.3	-4.0	0.0
49	Face 2	Working Face	1.3	22.6	60.0	-7.7	-3.8	-1.3
50	Face 3	Working Face	0.0	33.5	60.0	-6.3	-4.3	0.0
51	Face 4	Working Face	2.0	32.7	60.0	-9.0	-4.5	0.3

3.2 DISCUSSION

Odors were strongest and most offensive within the landfill property, specifically at or near the working face. The most common odors detected within the landfill were smells of grass, sage, and other plants, the sweet air freshener smell of the odor control system, rotten and sour trash odors, and musty mulch odors. Trash odors were only detected within the landfill at locations other than the working face when weather conditions were hot with low or calm winds. However, even during these conditions, trash odors were only rarely detected.

Outside of the landfill, odors (regardless of source) were often not detected. In fact, 40% of offsite sampling data points contained no odors. Odors detected offsite varied, including bakery, sweet flavoring, floral, and soapy smells as well as omnipresent grass and hay smells. Dust was frequently smelled at many locations where dirt or dust was present. Manure odors were frequently detected near one property in the South Val Verde Community at the Jackson Gate location, which are believed to emanate from a farm or barnyard on private property. Sweet and pleasant flavoring type smells like cherry or berry were sometimes detected near the industrial area and North Val Verde locations. A business in the industrial area is believed to be the source of these odors. This explains some of the higher D/T values and hedonic tones reported. Floral odors were detected at several locations such as Chiquito Canyon Road/Central Ave, Liverpool Court, and Livingston Ave/Watertank. At these locations, flowers were observed and were believed to be the source of strong, pleasant floral odors.

Trash odors were very rarely detected outside of the landfill. Trash odors were occasionally smelled in the North community locations (Picford Place and Liverpool Court), but these only were detected on garbage pickup days (Wednesdays) when trash cans were nearby. Trash odors were also occasionally detected in the industrial area at the Livingston Ave/Watertank location, however these were believed to originate from several large dumpsters in the neighboring building's parking lot. On one occasion, strong trash odors were detected at this location, however no trash odors were found upwind, meaning this was likely a localized odor, rather than one coming down from the north landfill ridgeline.

Landfill odors were detected on lower Chiquito Canyon Road through the Nasal Ranger on 4 sampling trips. These locations were the closest offsite locations to the open face of the landfill. While sour or trash-like odors were occasionally, but rarely detected in the Val Verde community, it is difficult to tell if they came from the Landfill, given the amount of natural sour smells, trash cans, and decaying organic material such as leaves and wood within the community. Landfill sourced odors were clearly identifiable in the community on only one occasion, July 15, 2015. The presence of these odors was surprising to the samplers, since no clear landfill odor had been detected in the Val Verde community during the prior 23 sampling trips. The odors on July 15 were similar in description to those smelled on the landfill, but were lower in intensity. While these odors were unpleasant, they did not last more than a few hours, and were not detected only a few hours later that morning.

Additionally, faint trash odors, believed to have possibly originated from the landfill, were detected in the community at Madison/Lincoln and Harding Lot locations during the sampling trip on July 16, 2015. These trash odors were much fainter and more difficult to describe than those on July 15 and could not definitively be attributed to the landfill like those on the previous day; nevertheless "landfill" is retained as their suspected source for graphical analysis.

4 CONCLUSION

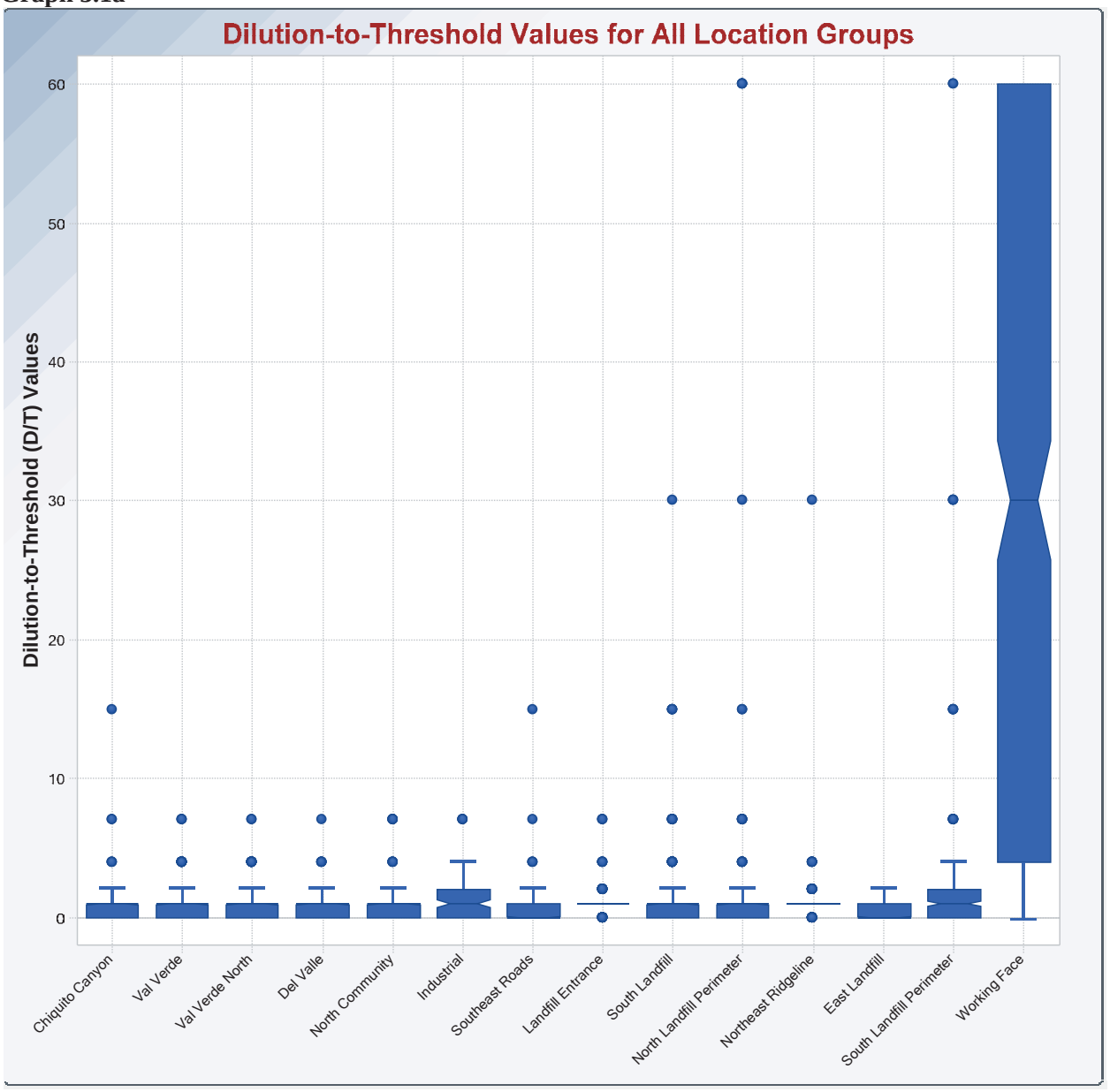
During SWAPE's sampling, very few odors believed to originate from the landfill were detected outside of the landfill boundaries. Landfill related odors were only confirmed once within the Val Verde community. Even within the boundaries of the landfill itself, trash odors were only regularly detected very close to the active working face. Because of the very small amount of landfill related odors detected offsite, it is unlikely that the landfill creates significant odor impacts to the surrounding community.

SWAPE's odor survey supports CH2MHill's conclusion in their 2014 Chiquita Canyon Landfill Master Plan Revision Draft Environmental Impact Report that odor impacts from the landfill are less than significant.[2]

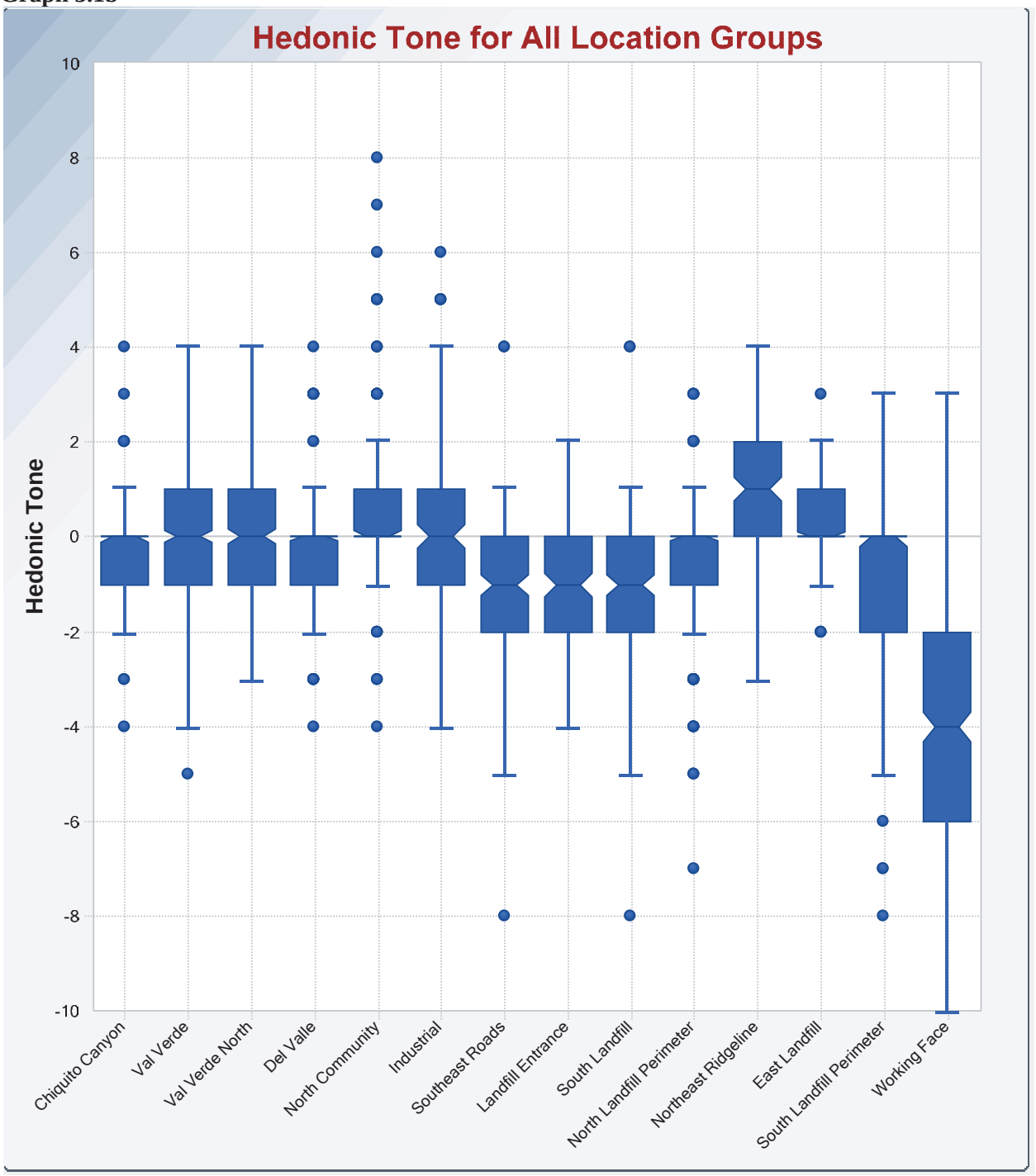
[2] CH2MHill, 2014, Chiquita Canyon Landfill Master Plan Revision Draft Environmental Impact Report.

Graphs

Graph 3.1a


Dilution-to-Threshold Values for All Location Groups
Dilution-to-Threshold (D/T) Values
60
50
40
30
20
10
0
Chiquito Canyon
Val Verde
Val Verde North
Del Valle
North Community
Industrial
Southeast Roads
Landfill Entrance
South Landfill
North Landfill Perimeter
Northeast Ridgeline
East Landfill
South Landfill Perimeter
Working Face

Graph 3.1b


Hedonic Tone for All Location Groups
Hedonic Tone
10
8
6
4
2
0
-2
-4
-6
-8
-10
Chiquito Canyon
Val Verde
Val Verde North
Del Valle
North Community
Industrial
Southeast Roads
Landfill Entrance
South Landfill
North Landfill Perimeter
Northeast Ridgeline
East Landfill
South Landfill Perimeter
Working Face

Figures



Odor Sampling Locations

- **Sampling Location**

NOTES:

1. All locations are approximate.

N

0 0.25 0.5 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Odor Sampling Locations

DRAFT	Drawn by: LME	Project No.: 835	Figure: 2.1
SWAPE	Approved: PER	Date: 07.21.2015	



Odor Sampling Locations

Location Group

- Chiquito Canyon
- Del Valle
- East Landfill
- Industrial
- Landfill Entrance
- North Community
- North Landfill Perimeter
- Northeast Ridgeline
- South Landfill
- Southeast Landfill Perimeter
- Southeast Roads
- Val Verde South
- Val Verde North
- Working Face

NOTES:

1. All locations are approximate.

N

0 0.25 0.5 Miles

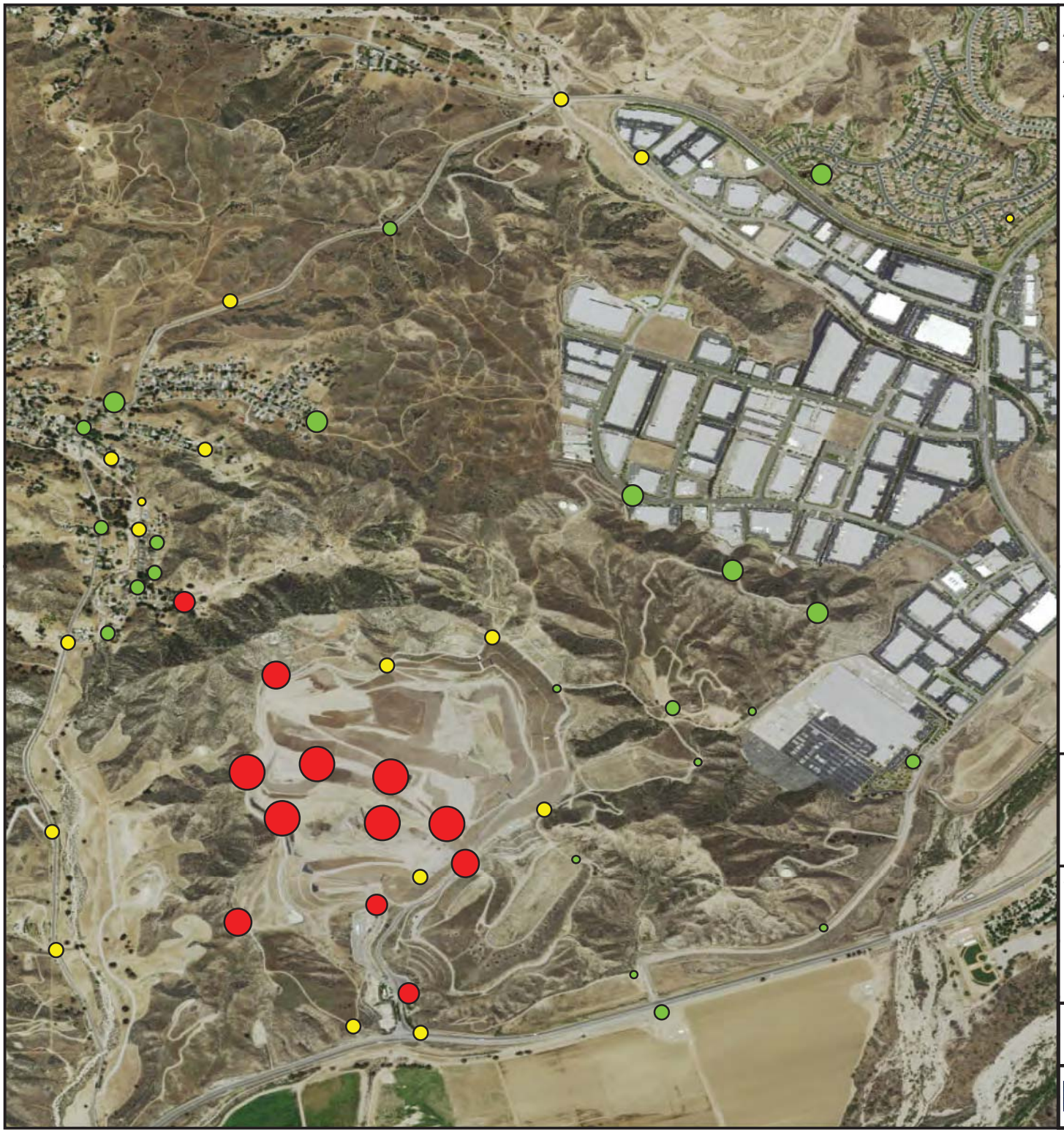
Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Odor Sampling Location Groups

DRAFT	Drawn by: LME	Project No.: 835	Figure: 2.1a
SWAPE	Approved: PER	Date: 07.21.2015	



Average Dilution to Threshold Values And Hedonic Tone Values

Average D/T

- **0.2 - 0.5**
- **0.6 - 1**
- **2**
- **3 - 7**
- **8 - 60**

Average Hedonic Tone

- -4.5 - -1.0
- -0.9 - 0.0
- 0.1 - 1.5

NOTES:

1. All locations are approximate.
2. Values were averaged for each sampling event and then averaged over all 25 events.

N

0 0.25 0.5 Miles

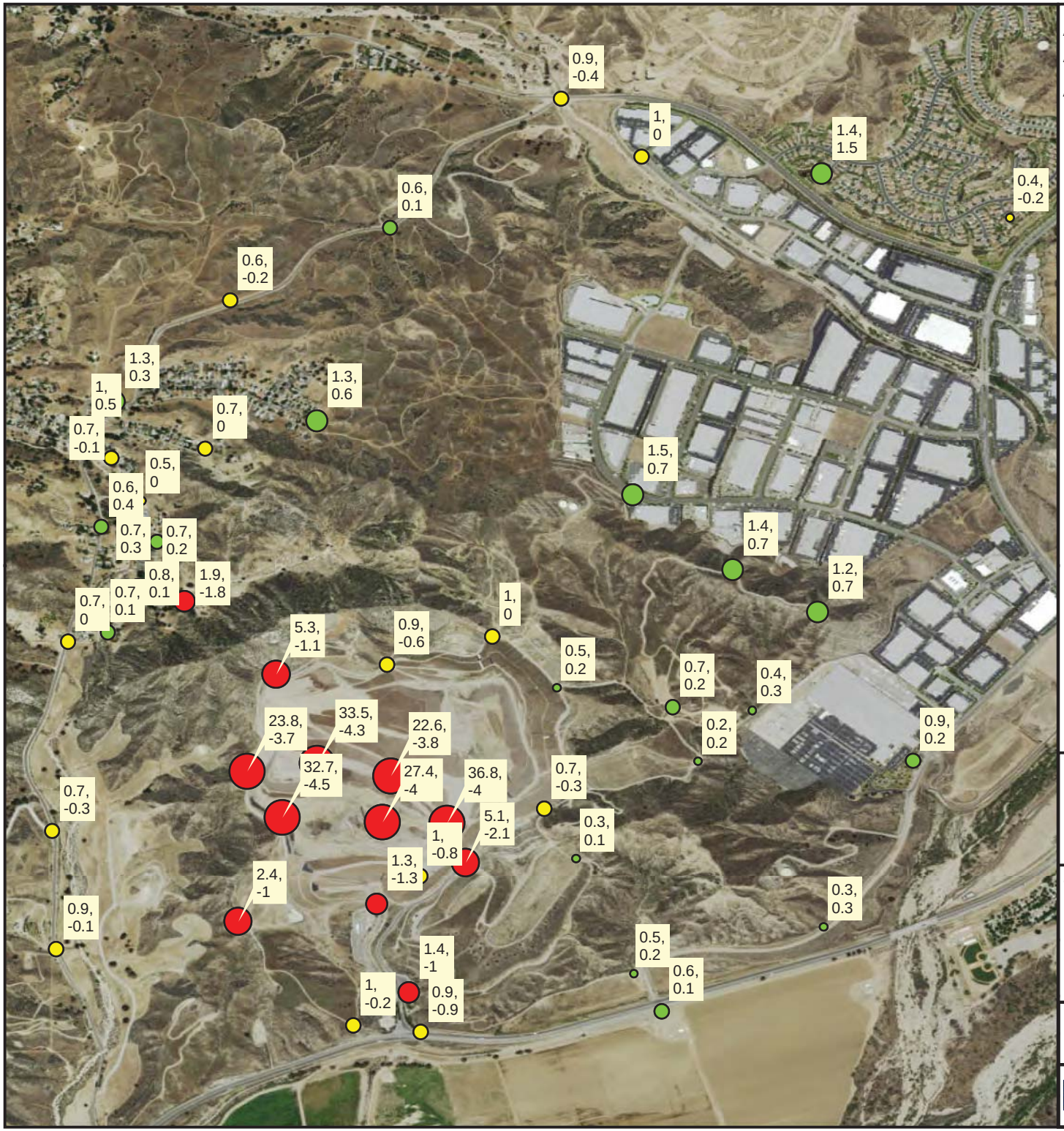
Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Average Dilution to Threshold Values
And Average Hedonic Tone Values

DRAFT	Drawn by: LME	Project No.: 835	Figure: 3.1
SWAPE	Approved: PER	Date: 07.21.2015	



Average Dilution to Threshold Values And Hedonic Tone Values

Average D/T

- **0.2 - 0.5**
- **0.6 - 1**
- **2**
- **3 - 7**
- **8 - 60**

Average Hedonic Tone

- -4.5 - -1.0
- -0.9 - 0.0
- 0.1 - 1.5

Labeling Convention

D/T,
Hedonic Tone

NOTES:

1. All locations are approximate.
2. Values were averaged for each sampling event and then averaged over all 25 events.

N

0 0.25 0.5 Miles

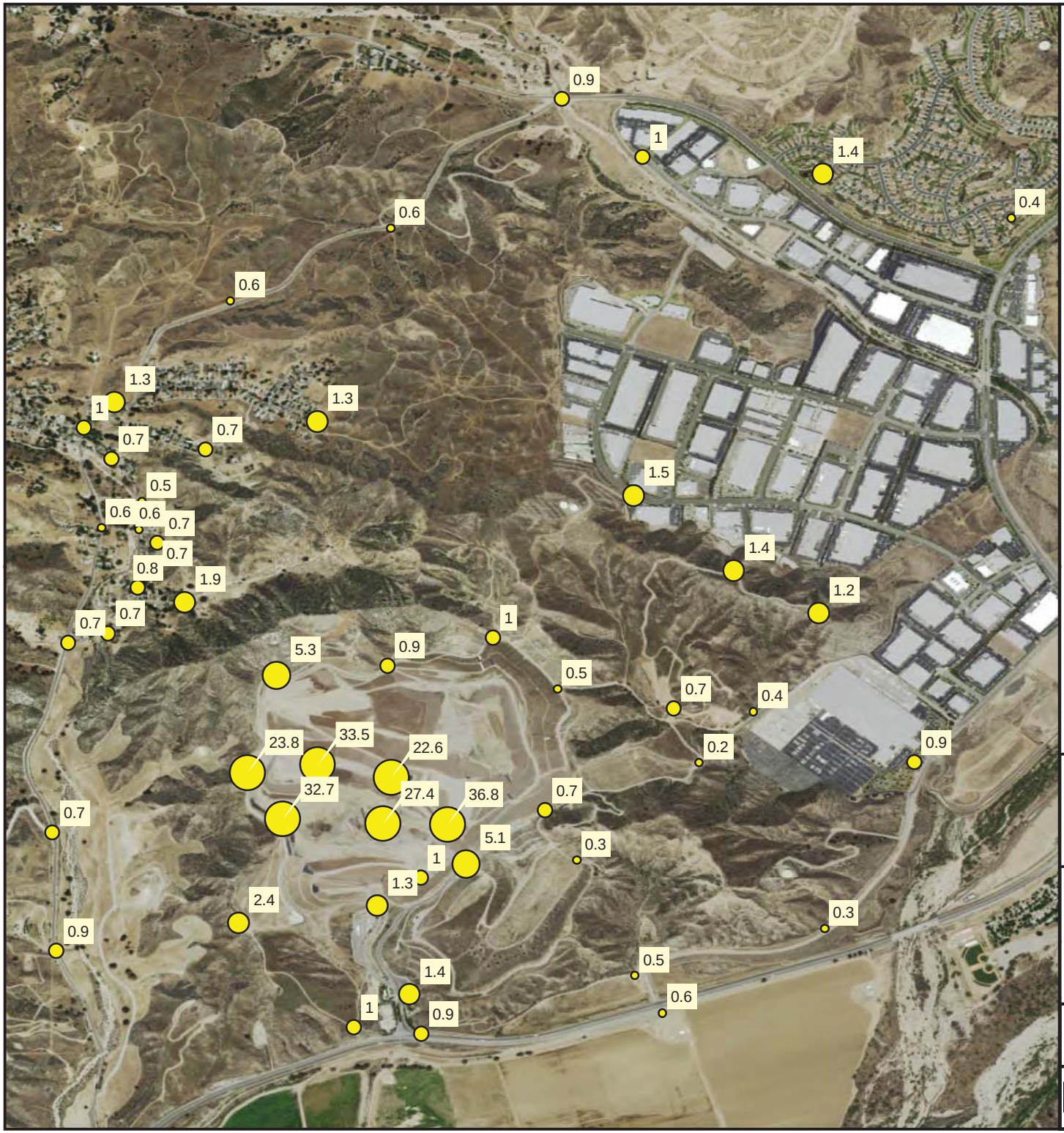
Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Average Dilution to Threshold Values
And Average Hedonic Tone Values

DRAFT	Drawn by: LME	Project No.: 835	Figure: 3.1alt
SWAPE	Approved: PER	Date: 07.21.2015	



Average Dilution to Threshold Values

Average D/T

- 0.2 - 0.6
- 0.7 - 1.0
- 1.1 - 2.4
- 2.5 - 5.3
- 5.4 - 36.8

NOTES:

1. All locations are approximate.
2. Values were averaged for each sampling event and then averaged over all 25 events.

N

0 0.25 0.5 Miles

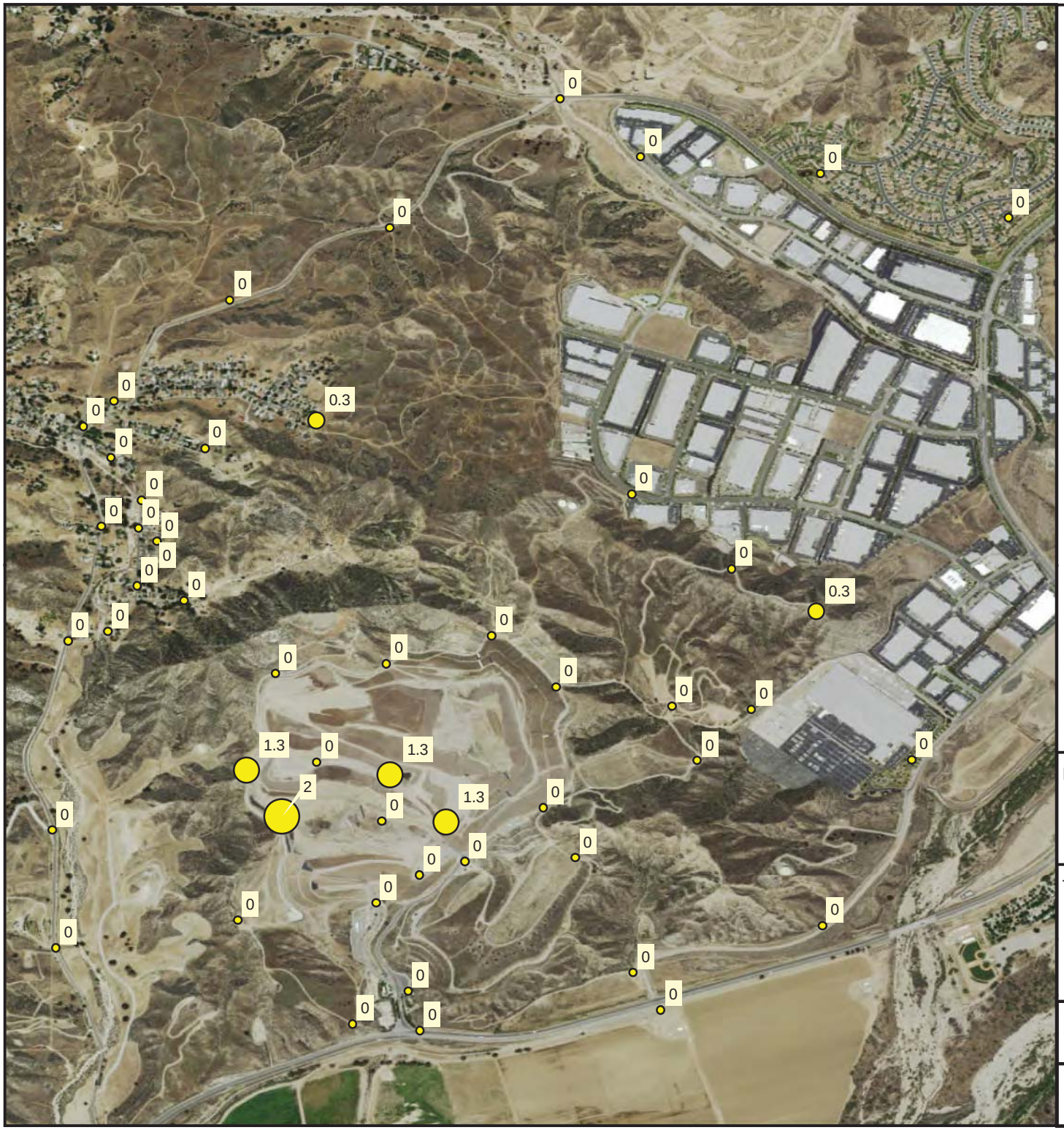
Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Average Dilution to Threshold Values

DRAFT	Drawn by: LME	Project No.: 835	Figure: 3.1a
SWAPE	Approved: PER	Date: 07.21.2015	



Minimum Dilution to Threshold Values

Minimum D/T

- 0.0
- 0.1 - 0.3
- 0.4 - 1.3
- 1.4 - 2.0

NOTES:

1. All locations are approximate.
2. Values were averaged for each sampling event and then the minimum average value was reported for each location from all 25 sampling events.

N

0 0.25 0.5 Miles

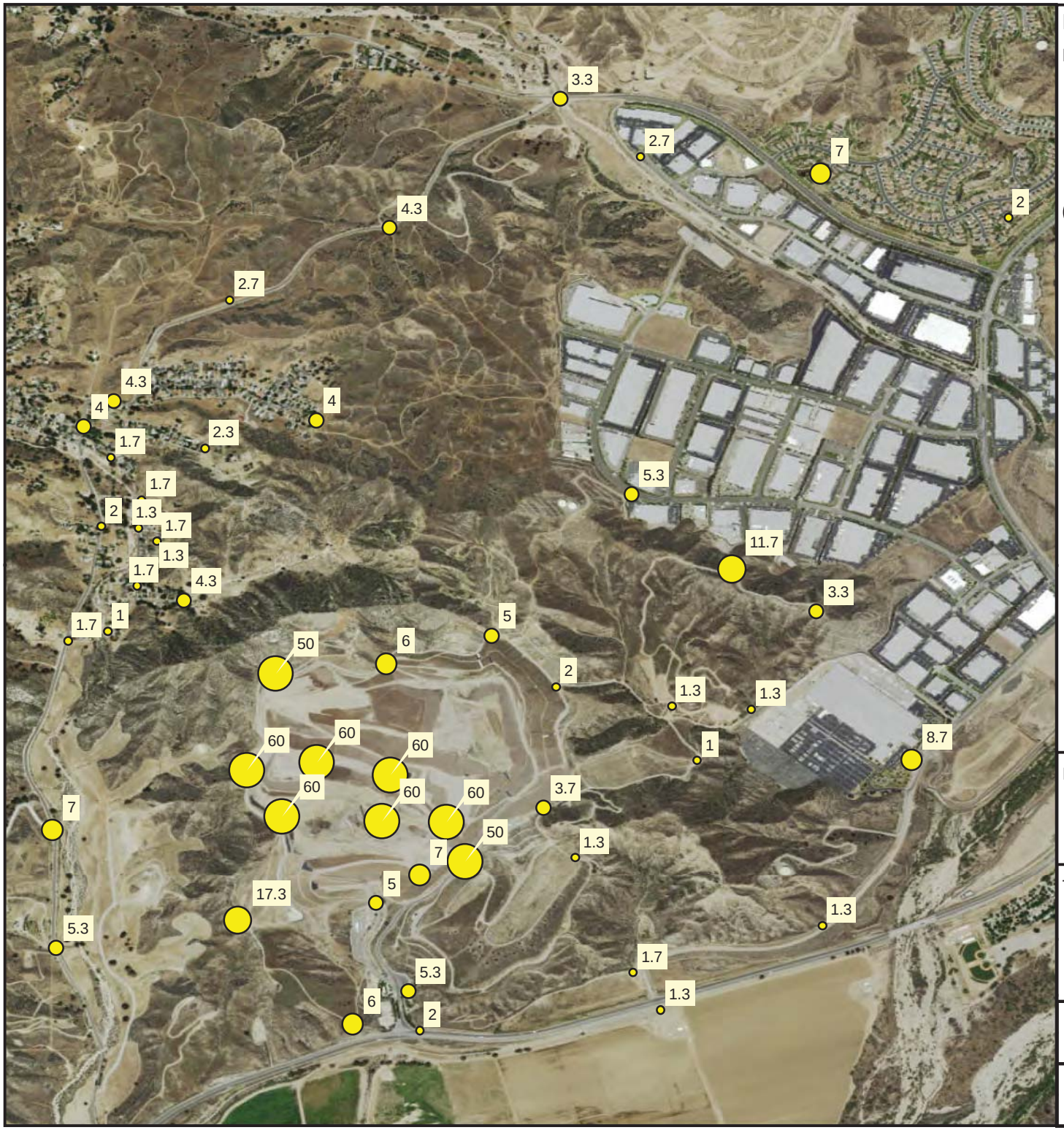
Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Minimum Dilution to Threshold Values

DRAFT	Drawn by: LME	Project No.: 835	Figure: 3.1b
SWAPE	Approved: PER	Date: 07.21.2015	



Maximum Dilution to Threshold Values

Maximum D/T

- 1.0 - 2.7
- 2.8 - 5.3
- 5.4 - 8.7
- 8.8 - 17.3
- 17.4 - 60.0

NOTES:

1. All locations are approximate.
2. Values were averaged for each sampling event and then the maximum average value was reported for each locaiton from all 25 sampling events.

N

0 0.25 0.5 Miles

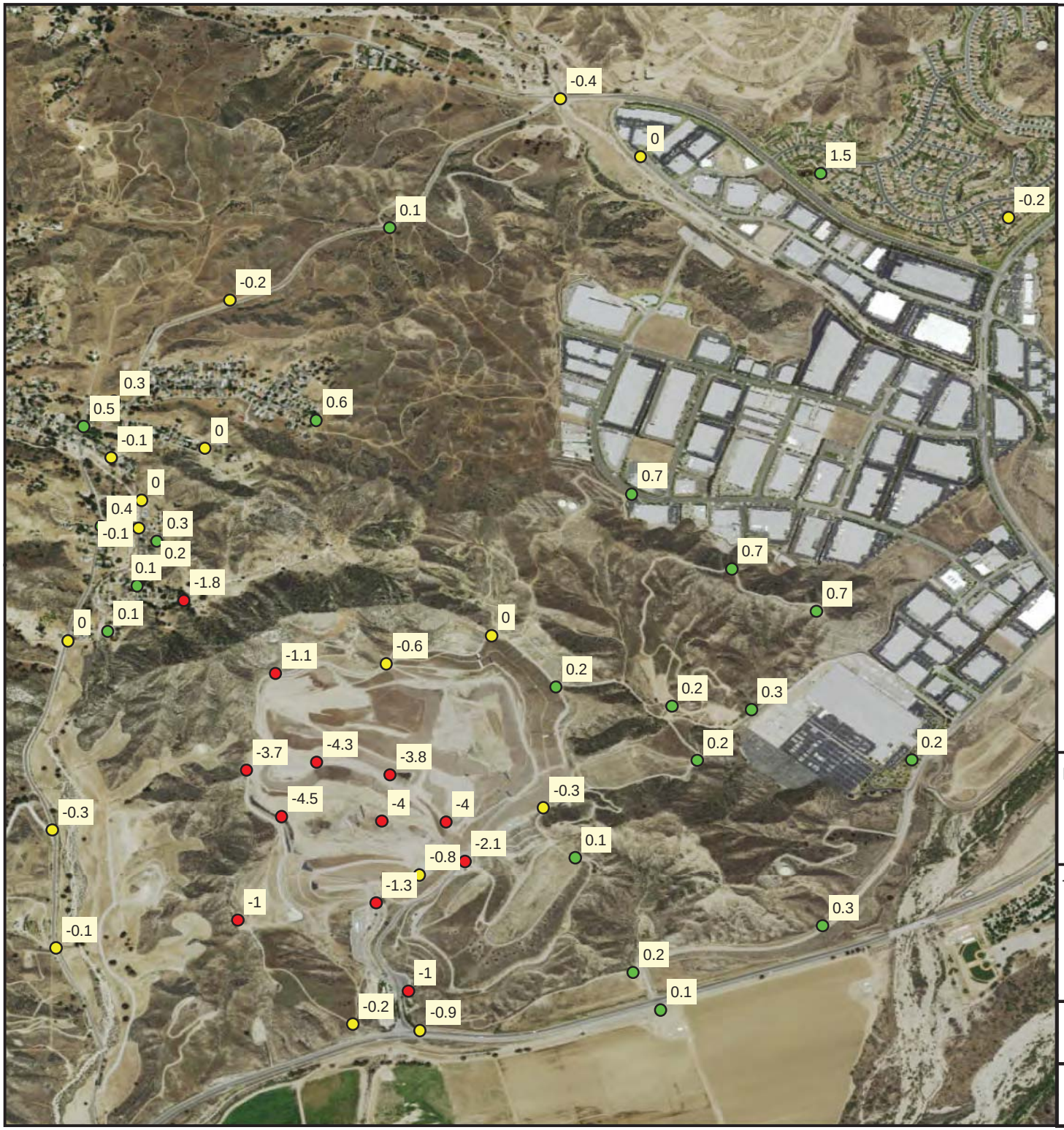
Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Maximum Dilution to Threshold Values

DRAFT	Drawn by: LME	Project No.: 835	Figure: 3.1c
SWAPE	Approved: PER	Date: 07.21.2015	



Average Hedonic Tone Values

Average Hedonic Tone

- **-4.5 - -1.0**
- **-0.9 - 0.0**
- **0.1 - 1.5**

NOTES:

1. All locations are approximate.
2. Values were averaged for each sampling event and then averaged over all 25 events.

N

0 0.25 0.5 Miles

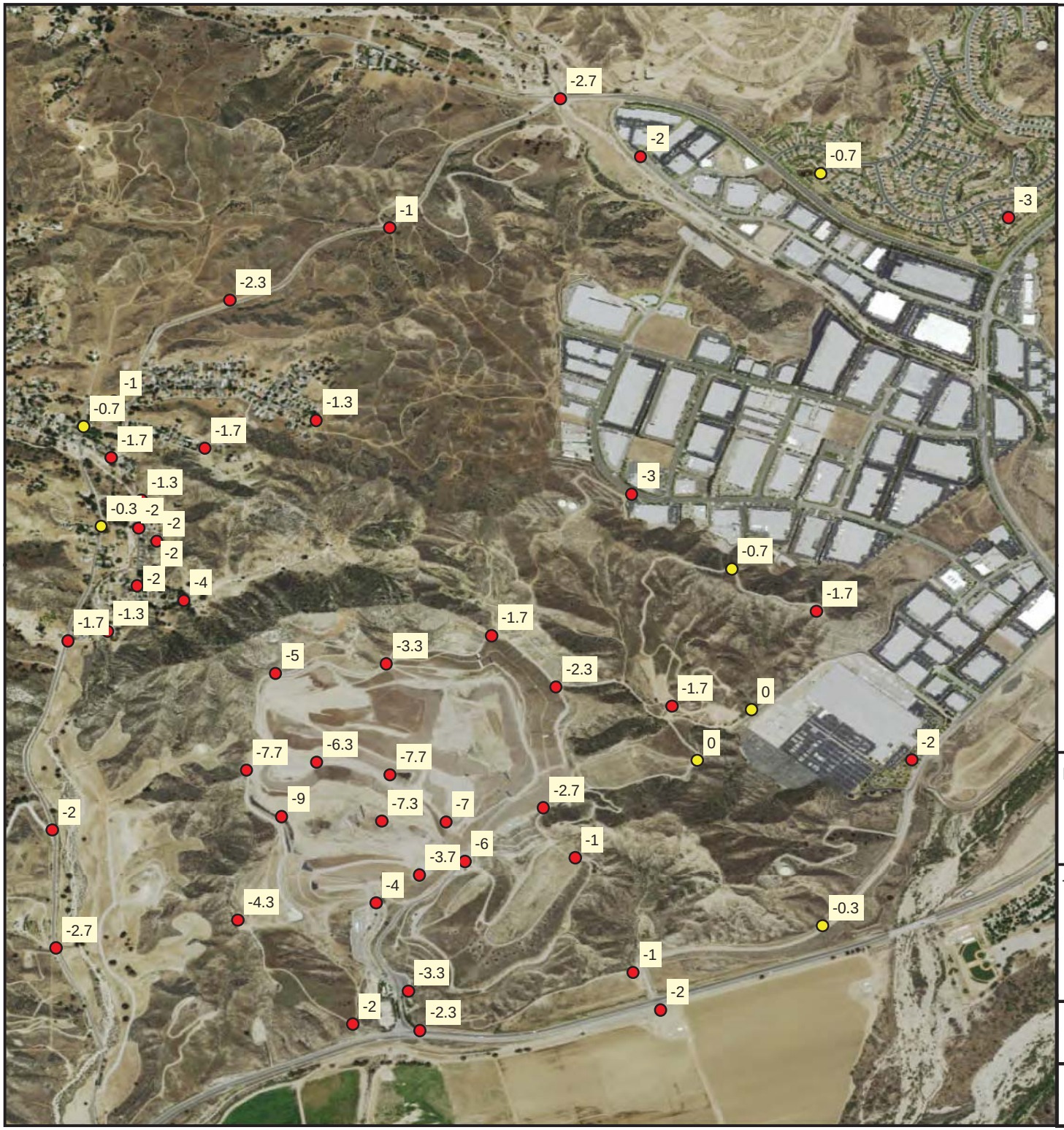
Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Average Hedonic Tone Values

DRAFT	Drawn by: LME	Project No.: 835	Figure: 3.1d
SWAPE	Approved: PER	Date: 07.21.2015	



Minimum Hedonic Tone Values

Minimum Hedonic Tone

- -9.0 - -1.0
- -0.9 - 0.0
- 0.1 - 0.0

NOTES:

1. All locations are approximate.
2. Values were averaged for each sampling event and then the minimum average value was reported for each location from all 25 sampling events.

N

0 0.25 0.5 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Minimum Hedonic Tone Values

DRAFT	Drawn by: LME	Project No.: 835	Figure: 3.1e
SWAPE	Approved: PER	Date: 07.21.2015	



Maximum Hedonic Tone Values

Maximum Hedonic Tone

- **-1.3 - -1.0**
- **-0.9 - 0.0**
- **0.1 - 6.0**

NOTES:

1. All locations are approximate.
2. Values were averaged for each sampling event and then the maximum average value was reported for each location from all 25 sampling events.

N

0 0.25 0.5 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Maximum Hedonic Tone Values

DRAFT	Drawn by: LME	Project No.: 835	Figure: 3.1f
SWAPE	Approved: PER	Date: 07.21.2015	

Appendix A
Sampling Location Maps



Odor Sampling Locations

- Chiquito Canyon Road Sampling Locations

NOTE:

1. All locations are approximate.

N

0 0.0375 0.075 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Odor Sampling Locations
Chiquito Canyon Road

DRAFT	Drawn by: LME	Project No.: 835	Figure: A1
SWAPE	Approved: PER	Date: 07.21.2015	



Odor Sampling Locations

- Val Verde South Sampling Locations

NOTE:

1. All locations are approximate.

N

0 0.0375 0.075 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Odor Sampling Locations
Val Verde South

DRAFT	Drawn by: LME	Project No.: 835	Figure: A2
SWAPE	Approved: PER	Date: 07.21.2015	



Odor Sampling Locations

- Val Verde North Sampling Locations

NOTE:

1. All locations are approximate.

N

0 0.05 0.1 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Odor Sampling Locations
Val Verde North

DRAFT	Drawn by: LME	Project No.: 835	Figure: A3
SWAPE	Approved: PER	Date: 07.21.2015	



Odor Sampling Locations

- Del Valle Sampling Locations

NOTE:

1. All locations are approximate.

N

0 0.1 0.2 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Odor Sampling Locations
Del Valle

DRAFT	Drawn by: LME	Project No.: 835	Figure: A4
SWAPE	Approved: PER	Date: 07.21.2015	



Odor Sampling Locations

- North Community Sampling Locations

NOTE:

1. All locations are approximate.

N

0 0.05 0.1 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Odor Sampling Locations
North Community

DRAFT	Drawn by: LME	Project No.: 835	Figure: A5
SWAPE	Approved: PER	Date: 07.21.2015	



Odor Sampling Locations

- Industrial Sampling Locations

NOTE:

1. All locations are approximate.

N

0 0.1 0.2 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Odor Sampling Locations
Industrial

DRAFT	Drawn by: LME	Project No.: 835	Figure: A6
SWAPE	Approved: PER	Date: 07.21.2015	



Odor Sampling Locations

- Southeast Roads Sampling Locations

NOTE:

1. All locations are approximate.

N

0 0.1 0.2 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Odor Sampling Locations
Southeast Roads

DRAFT	Drawn by: LME	Project No.: 835	Figure: A7
SWAPE	Approved: PER	Date: 07.21.2015	



Odor Sampling Locations

- Landfill Entrance Sampling Locations

NOTE:

1. All locations are approximate.

N

0 0.02 0.04 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Odor Sampling Locations
Landfill Entrance

DRAFT	Drawn by: LME	Project No.: 835	Figure: A8
SWAPE	Approved: PER	Date: 07.21.2015	



Odor Sampling Locations

- South Landfill Sampling Locations

NOTE:

1. All locations are approximate.

N

0 0.05 0.1 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Odor Sampling Locations
South Landfill

DRAFT	Drawn by: LME	Project No.: 835	Figure: A9
SWAPE	Approved: PER	Date: 07.21.2015	



Odor Sampling Locations

- Southeast Landfill Perimeter Sampling Locations

NOTE:

1. All locations are approximate.

N

0 0.0375 0.075 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Odor Sampling Locations
Southeast Landfill Perimeter

DRAFT	Drawn by: LME	Project No.: 835	Figure: A10
SWAPE	Approved: PER	Date: 07.21.2015	



Odor Sampling Locations

- North Landfill Perimeter Sampling Locations

NOTE:

1. All locations are approximate.

N

0 0.1 0.2 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Odor Sampling Locations
North Landfill Perimeter

DRAFT	Drawn by: LME	Project No.: 835	Figure: A11
SWAPE	Approved: PER	Date: 07.21.2015	



Odor Sampling Locations

- Northeast Ridgeline Sampling Locations

NOTE:

1. All locations are approximate.

N

0 0.0375 0.075 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Odor Sampling Locations
Northeast Ridgeline

DRAFT	Drawn by: LME	Project No.: 835	Figure: A12
SWAPE	Approved: PER	Date: 07.21.2015	



Odor Sampling Locations

East Landfill Sampling Locations

NOTE:

1. All locations are approximate.

N

0 0.0375 0.075 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Odor Sampling Locations
East Landfill

DRAFT	Drawn by: LME	Project No.: 835	Figure: A13
SWAPE	Approved: PER	Date: 07.21.2015	



Odor Sampling Locations

- Working Face Sampling Locations

NOTES:

1. All locations are approximate.
2. Sampling Locations around the Working Face varied between Sampling Events due to daily changes in Landfill filling activities.

N

0 0.05 0.1 Miles

Project:

Chiquita Canyon Landfill
Odor Survey

Title:

Chiquita Canyon Landfill
Odor Sampling Locations
Working Face

DRAFT	Drawn by: LME	Project No.: 835	Figure: A14
SWAPE	Approved: PER	Date: 07.21.2015	

Appendix B
Description of Sampling Locations

Location 1: Chiquito Canyon South



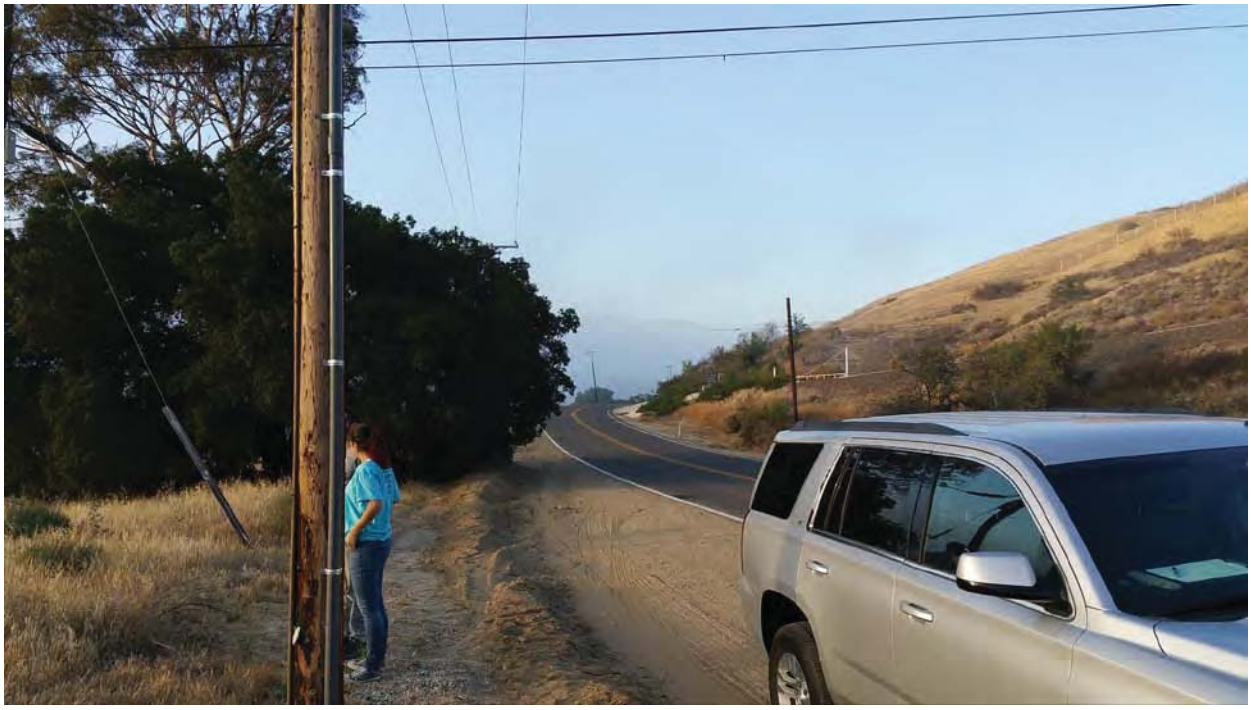
Location Description

Sampling location #1 is on the right shoulder of Chiquito Canyon Road at an elevation of approximately 1000 feet and approximately 0.2 miles north of the intersection of Chiquito Canyon Road and Henry Mayo Drive. This road is the main route taken to access the Val Verde community from the South. It is located slightly northwest of the Chiquita Canyon Landfill ("CCLF") entrance and is within approximately 0.45 to 0.55 miles from the open face of the landfill. The location is among open fields with dirt, grass, shrubbery, and trees with surrounding hills and mountains.

Odor

Sampling Location #1 generally had odors described as hay, grass, dirt, and earthy. There were four separate occasions, out of twenty-five, where there were odors described as faint, sour, and stale trash believed to have originated from the landfill.

Location 2: Fire Center Road



Location Description

Sampling location #2 is on the right shoulder of Chiquito Canyon Road approximately 0.85 miles north of the intersection of Chiquito Canyon Road and Henry Mayo Drive and is right across from a fire department training center. Chiquito Canyon Road is the main route taken to access the Val Verde community from the South and is located at an elevation of 1070 feet. It is located slightly northwest of the Chiquita Canyon Landfill ("CCLF") entrance and is within approximately 0.45 to 0.55 miles west of the open face of the landfill. The location is among open fields with dirt, grass, shrubbery, and trees with surrounding hills and mountains.

Odor

Sampling Location #2 generally had odors described as hay, grass, dirt, and earthy. There were three separate occasions where there were odors detected described as faint, sour, and stale trash believed to have originated from the landfill.

Location 3: Entrance to Community



Location Description

Sampling location #3 is on the right shoulder of Chiquito Canyon Road approximately 1.3 miles north of the intersection of Chiquito Canyon Road and Henry Mayo Drive at an elevation of approximately 1130 feet. This location is placed directly before the entrance to the Val Verde community. It is located northwest of the Chiquita Canyon Landfill ("CCLF") entrance and is within approximately 0.55 to 0.65 miles west of the open face of the landfill. The location is among open fields with dirt, grass, shrubbery, and trees with surrounding hills and mountains and residential homes.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Location 4: Lincoln Avenue South Turn



Location Description

Sampling location #4 is approximately 0.1 miles from the entrance to the community and is at an elevation of approximately 1120 feet. It is located northwest of the Chiquita Canyon Landfill ("CCLF") entrance and is within approximately 0.55 to 0.65 miles northwest of the open face of the landfill. The location is among open fields of dirt, grass, shrubbery, trees, residential homes and properties, and motor vehicles.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Location 5: Jackson Gate



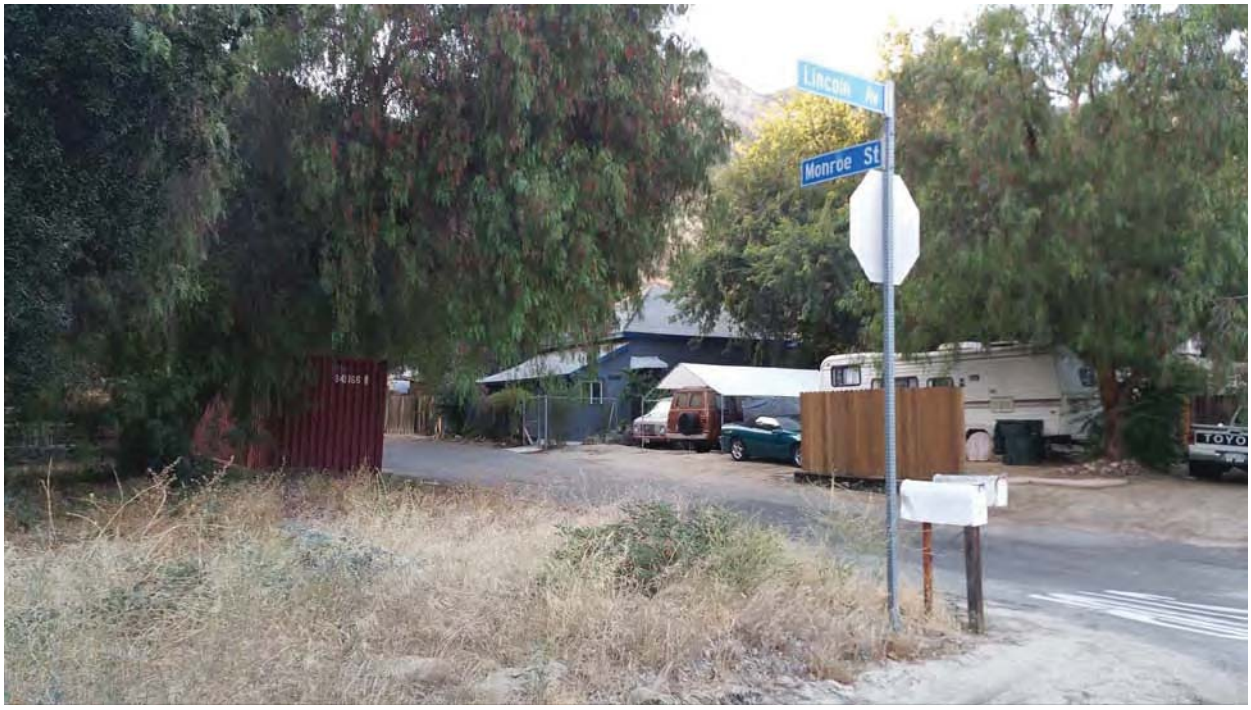
Location Description

Sampling location #5 is approximately 0.2 miles from the entrance to the community and is at an elevation of approximately 1150 feet. It is located within approximately 0.55 to 0.65 miles northwest of the open face of the landfill. The location houses farm animals of potentially a large variety including roosters that are audible from the sampling point. It is also among grass, shrubbery, trees, residential homes and properties, and motor vehicles.

Odor

Sampling location #5 is likely to be the largest confounder in the Val Verde South region, as a manure smell could be detected at almost every single sampling event. There are animals housed near the sampling location, although it is unclear what exact animals are being housed. One of the animals housed could be chickens, as roosters can be heard.

Location 6: Monroe / Lincoln



Location Description

Sampling location #6 is approximately 0.07 miles from the Jackson sampling location and is on the corner of the Lincoln Avenue and Monroe Street intersection. It is located within approximately 0.60 to 0.70 miles northwest of the open face of the landfill and is at an elevation of approximately 1140 feet. It is also among grass, shrubbery, trees, residential homes and properties, and motor vehicles.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Location 7: Madison Street and Lincoln Avenue



Location Description

Sampling location #7 is approximately 0.18 miles from the Jackson sampling location and is on the corner of the Lincoln Avenue and Madison Street intersection. It is located within approximately 0.70 to 0.80 miles northwest of the open face of the landfill and is at an elevation of approximately 1155 feet. It is among grass, shrubbery, trees, residential homes and properties, and motor vehicles.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Location 8: Taylor Street and Lincoln Avenue



Location Description

Sampling location #8 is the fifth location in the Val Verde community approximately 0.25 miles from the Jackson sampling location and is on the corner of the Taylor Street and Lincoln Avenue intersection. It is located within approximately 0.70 to 0.80 miles northwest of the open face of the landfill and is at an elevation of approximately 1170 feet. It is also among grass, shrubbery, trees, residential homes and properties, and motor vehicles.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Location 9: Harding Lot



Location Description

Sampling location #9 is approximately 0.21 miles from the Jackson sampling location and is located between Taylor Street and Lincoln Avenue and Wilson St. and Lincoln Avenue on Harding Avenue. It is located within approximately 0.70 to 0.80 miles northwest of the open face of the landfill and is at an elevation of approximately 1165 feet. It is among grass, shrubbery, trees, residential homes and properties, and motor vehicles. The residential home located by the sampling location has various flowering plants as seen in the figure.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Location 10: Harding South Turn



Location Description

Sampling location #10 is approximately 0.07 miles from the Jackson sampling location and is on the corner of Wilson Street and Harding Avenue intersection. It is located within approximately 0.60 to 0.70 miles northwest of the open face of the landfill at an elevation of approximately 1150 feet. It is also among grass, shrubbery, trees, residential homes and properties, and motor vehicles.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Location 11: Chiquito Canyon Road and Madison Street



Location Description

Sampling location #11 is approximately 0.22 miles from the Jackson sampling location and is on the corner of the Chiquito Canyon Road and Madison Street intersection. It is located within approximately 0.75 to 0.85 miles northwest of the open face of the landfill at an elevation of approximately 1150 feet. It is also among grass, shrubbery, trees, residential homes and properties, and motor vehicles.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Sampling Location 12: San Martinez Road and Lincoln Avenue



Location Description

Sampling location #12 is approximately 0.40 miles from the Jackson sampling location and is on the corner of the Lincoln Avenue and San Martinez Road intersection. It is located within approximately 0.95 to 1.05 miles northwest of the open face of the landfill at an elevation of approximately 1185 feet. It is also among grass, shrubbery, trees, residential homes and properties, and motor vehicles.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Sampling Location 13: Chiquito Canyon Road and Central Avenue



Location Description

Sampling location #13 is approximately 0.45 miles from the Jackson sampling location and is on the corner of the Chiquito Canyon Road and Central Avenue intersection. It is located within approximately 1.00 to 1.10 miles northwest of the open face of the landfill and is at an elevation of approximately 1190 feet. It is among grass, shrubbery, trees, residential homes and properties, and motor vehicles. The sampling location is also next to flowering plants and a small park.

Odor

Sampling location #13 is located next to a small park with flowering plants. A floral smell could be detected during numerous sampling events. Other than this, no odors believed to originate from the landfill.

Sampling Location 14: Central East



Location Description

Sampling location #14 is approximately 0.38 miles from the Jackson sampling location and is on the corner of the Chiquito Canyon Road and Central Avenue intersection. It is located within approximately 0.90 to 1.00 miles northwest of the open face of the landfill and is at an elevation of approximately 1250 feet. It is among grass, shrubbery, trees, residential homes and properties, and motor vehicles. The sampling location is also next to flowering plants and a small park.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Sampling Location 15: Hunstock Drive and Lincoln Avenue



Location Description

Sampling location #15 is approximately 0.50 miles from the Jackson sampling location and is on the corner of the Chiquito Canyon Road and Central Avenue intersection. It is located approximately 1.00 to 1.10 miles northwest of the open face of the landfill and is at an elevation of approximately 1120 feet. It is among grass, shrubbery, trees, residential homes and properties, and motor vehicles.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Sampling Location 16: Cromwell Avenue and Hunstock Street



Location Description

Sampling location #16 is approximately 0.53 miles from the Jackson sampling location and is on Windsor Road in between Cromwell Avenue and Hunstock Street. It is located within approximately 0.90 to 1.00 miles northwest of the open face of the landfill and is at an elevation of approximately 1280 feet. It is among grass, shrubbery, trees, residential homes and properties, and motor vehicles.

Odor

A sweet cherry or strawberry odor could be detected at sampling location #16 during some of the sampling events. This odor is believed to have originated from a factory located nearby. No odors believed to originate from the landfill.

Sampling Location 17: Del Valle 1



Location Description

Sampling location #17 is on the right shoulder of Del Valle Road 0.40 miles away from the Hunstock St. and Del Valle Road intersection and approximately 0.78 miles from the Jackson sampling location. This sampling point is located on a route that leads to the Castaic communities and is at an elevation of approximately 1290 feet. It is located within approximately 1.20 to 1.30 miles northwest of the open face of the landfill and is among large field of dirt, grass, shrubbery, trees, hills and mountains.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Sampling Location 18: Del Valle 2



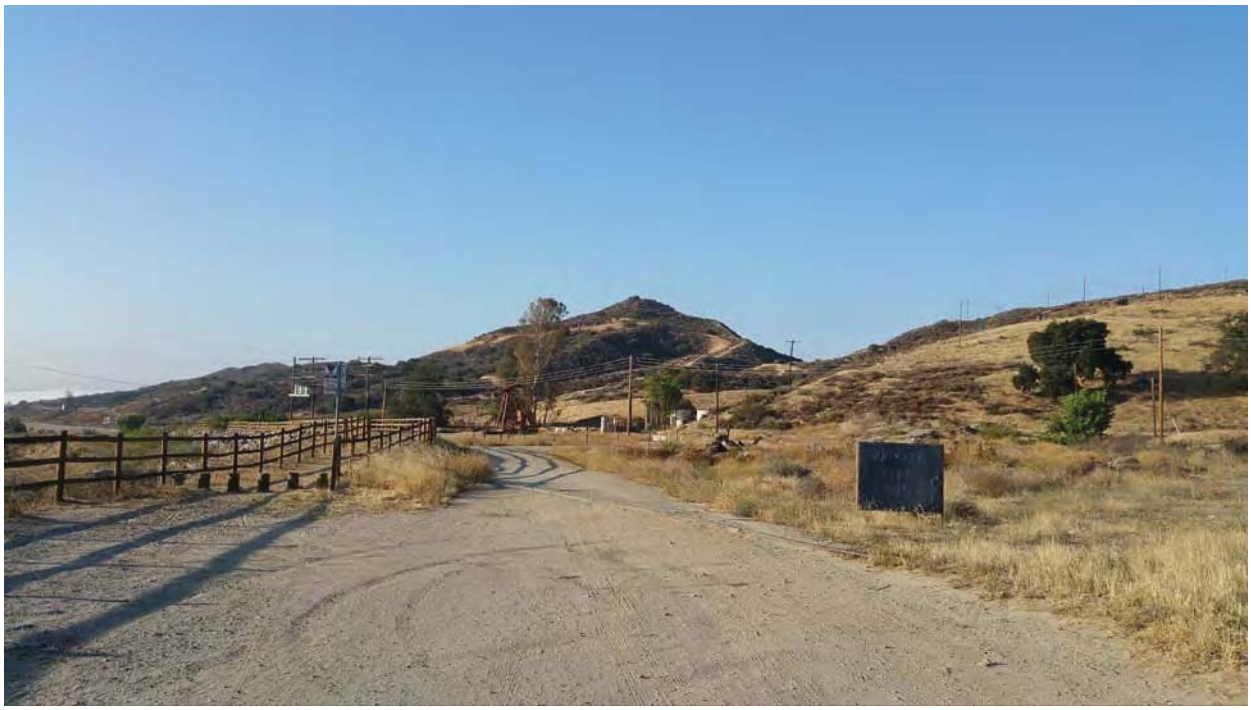
Location Description

Sampling location #18 is on the right shoulder of Del Valle Road 0.80 miles away from the Hunstock St. and Del Valle Road intersection and approximately 0.78 miles from the Jackson sampling location. It is located within approximately 1.20 to 1.30 miles northwest of the open face of the landfill and is at an elevation of approximately 1275 feet. It is among large field of dirt, grass, shrubbery, trees, hills and mountains.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Sampling Location 19: Del Valle Road and Halsey Canyon Road



Location Description

Sampling location #19 is on the Del Valle Road and Hasley Canyon Road intersection and approximately 1.45 miles from the Jackson sampling location. It is located within approximately 1.75 to 1.85 miles northwest of the open face of the landfill and is at an elevation of approximately 1200 ft. It is among large field of dirt, grass, shrubbery, trees, hills and mountains.

Odor

A manure odor could be detected at sampling location #19 on various occasions believed to have originated from sampling location #5. Other than this, no odors believed to originate from the landfill.

Sampling Location 20: Liverpool Court



Location Description

Sampling location #20 is the first of two community sampling locations located northeast of the landfill passing the commercial section of the region as well as Hasley Canyon Road. The location was accessed through the entry point to the community on Hasley Canyon Road and Gibraltar Lane and is at an elevation of approximately 1250 feet. It is located within approximately 1.85 to 1.95 miles northeast of the open face of the landfill and is among grass, trees, flowering plants, residential homes, and motor vehicles.

Odor

Honeysuckle plants were located near sampling location #20, resulting in a sweet smell being detected on most sampling events. Other than this, no odors believed to originate from the landfill.

Samplin Location 21: Picford Place



Location Description

Sampling location #21 is the second of two sampling locations in the community located northeast of the landfill past Hasley Canyon Road and the commercial sections. It is located within approximately 1.95 to 2.05 miles northwest of the open face of the landfill and is at an elevation of approximately 1190 feet. It is among residential homes, grass, trees, flowering plants, and motor vehicles.

Odor

A sweet trash odor could be detected at five sampling events due to residential trash bins placed outside for collection. Other than this, no odors believed to originate from the landfill.

Sampling Location 22: Industry Drive



Location Description

Sampling location #22 is on the sidewalk of Industry Drive 0.8 miles west of the Hasley Canyon Road and Industry Drive intersection and is at an elevation of approximately 1190 feet. The location is within approximately 1.70 to 1.80 miles northwest of the open face of the landfill and is among commercial buildings, motor vehicles, hills, and large fields of dirt grass, and trees

Odor

A soapy odor could be detected at sampling location #22, along with a manure odor. The soapy odor's source is unknown, although the manure odor could possibly originate from sampling location #5. A subtle trash smell could be detected at one sampling event, although the source is unknown.

Sampling Location 23: Livingston Avenue Watertank



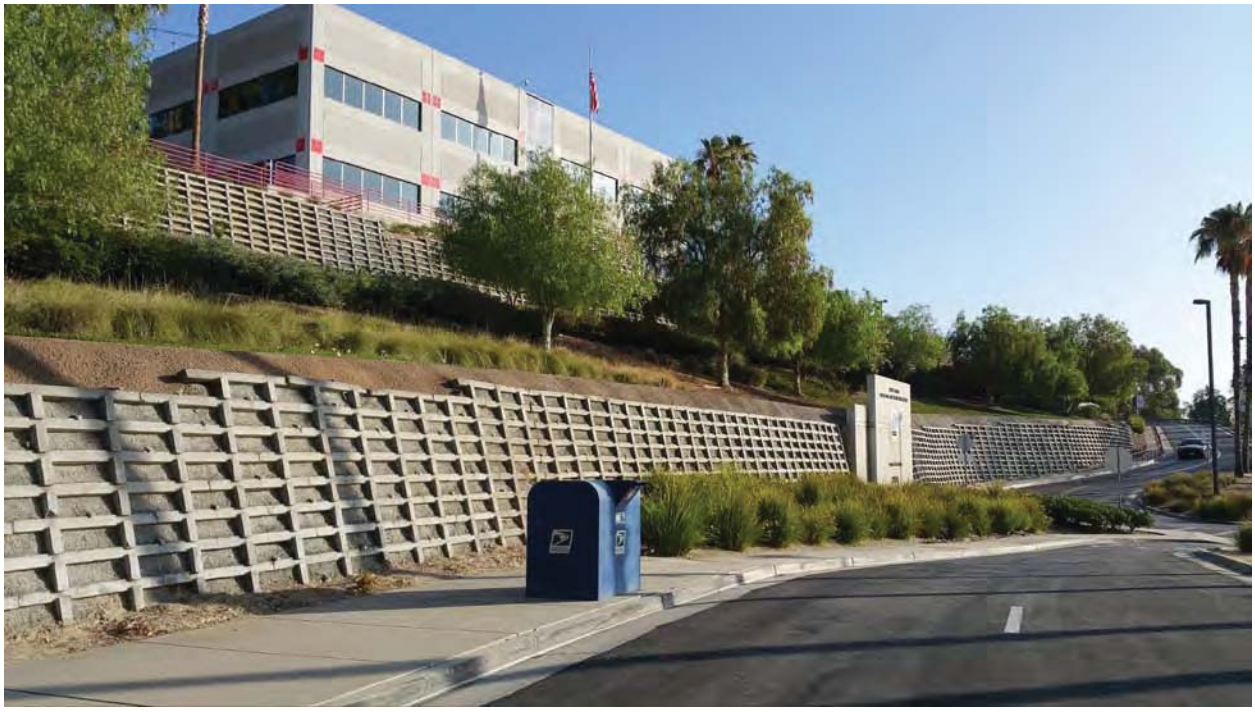
Location Description

Sampling location #23 is at the foot of the path leading up to a watertank located on Livingston Avenue 0.7 miles west of the intersection at Livingston Avenue and Harrison Parkway. The location is within approximately 1.00 to 1.10 miles northwest of the open face of the landfill and is at an elevation of approximately 1250 feet. It is adjacent to and also among commercial buildings, motor vehicles, hills, and large fields of dirt grass, and trees

Odor

Various odors could be detected at sampling location #23 including honeysuckle, soap, cherry, bakery, and trash. Trash odor detected at two events was determined to have originated from the landfill. Other odors could have originated from honeysuckle plants and a factory nearby.

Sampling Location 24: Post Office



Location Description

Sampling location #24 is located at the post office mail drop-off on Franklin Parkway within approximately 1.20 to 1.30 miles east of the open face of the landfill. It is at an elevation of approximately 1050 feet and is adjacent to the post office among assorted shrubbery, trees, and motor vehicles.

Odor

A bakery smell could be detected at this location during numerous sampling events. At one sampling event, there was a very faint trash odor, although the source is unknown. Other than this, no odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Sampling Location 25: Franklin





Location Description

Sampling location #25 is approximately 0.25 miles from the post office sampling location at an elevation of approximately 1050 feet. The location is within approximately 1.15 to 1.25 miles southeast of the open face of the landfill and is among large fields of dirt, grass, shrubbery, trees, hills and mountains.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Sampling Location 26: Wolcott Turn



Location Description

Sampling location #26 is approximately 0.50 miles away from the CCLF entrance and right before the intersection of Wolcott Way and Henry Mayo Drive at an elevation of approximately 970 feet. It is located within approximately 0.70 to 0.80 miles southeast of the open face of the landfill and is among large fields of dirt, grass, shrubbery, trees, hills and mountains.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Sampling Location 27: Wolcott Light



Location Description

Sampling location #27 is located at the intersection of Wolcott Way and Henry Mayo Drive at an elevation of approximately 970 feet. The location is within approximately 0.85 to 0.95 miles southeast of the open face of the landfill and is among large fields of dirt, grass, shrubbery, trees, hills, mountains, and motor vehicles.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Sampling Location 28: CCLF Entrance



Location Description

Sampling location #28 is at the entrance to the landfill on Henry Mayo Drive at an elevation of approximately 980 feet. It is located within approximately 0.55 to 0.65 miles northwest of the open face of the landfill and is among grass, shrubbery, trees, hills and mountains as well as frequent passing of garbage trucks in and out of the landfill.

Odor

A trash odor was detected in instances where garbage trucks were traveling in and out of the landfill entrance. Other than this, No unusual smells were detected at this location.

Sampling Location 29: Turnout Tank



Location Description

Sampling location #29 is off to the side adjacent to the sign-in station of the entrance to the landfill. The location is at an elevation of 985 feet and is located within approximately 0.50 to 0.60 miles northwest of the open face of the landfill. It is among grass, shrubbery, trees, hills and mountains as well as numerous garbage trucks and motor vehicles passing in and out of the landfill.

Odor

Faint trash odors could be detected from the landfill at numerous sampling events.

Sampling Location 30: White Tanks



Location Description

Sampling location #30 is at the white tanks at an elevation of 1010 feet. The location is approximately 0.25 miles north of the entrance to the landfill. It is located within approximately 0.30 to 0.40 miles southeast of the open face of the landfill and is among dirt, grass, shrubbery, hills, and mountains.

Odor

Faint trash odors could be detected during numerous sampling events.

Sampling Location 31: South Ridgeline Bend



Location Description

Sampling location #31 is located on the south end of the landfill directly west of the landfill entrance. It is on an uphill route heading to the Fire Center Overlook and is at an elevation of 1060 feet. The location is within approximately 0.55 to 0.65 miles slightly southeast of the open face of the landfill and is among dirt, grass, shrubbery, hills, and mountains.

Odor

A trash odor could be detected at occasional sampling events. Other than this, no unusual odors were detected at sampling location #31.

Sampling Location 32: Fire Center Overlook



Location Description

Sampling location #32 overlooks Chiquito Canyon Road and the Fire Department Training Center and is located at an elevation of approximately 1250 feet. The location is within approximately 0.30 to 0.40 miles southwest of the open face of the landfill and is among dirt, grass, shrubbery, and trees.

Odor

Faint trash odors could be detected during numerous sampling events.

Sampling Location 33: Perimeter West



Location Description

Sampling location #33 is generally located at the bottom of the route descending from the Fire Center Overlook sampling point at an elevation of approximately 1210 feet. This sampling point sometimes varied depending on the location of the working face of the landfill. The location is usually within approximately 0.10 to 0.20 miles northwest, west, or southwest of the open face of the landfill and is among dirt, gravel, grass, shrubbery,

Odor

Trash odors could be detected during numerous sampling events.

Sampling Location 34: Odor System



Location Description

Sampling location #34 is located at an operating machine for the odor system at an elevation of approximately 1325 feet. The location is approximately 0.25 to 0.30 miles north of Perimeter West sampling point and within approximately 0.30 to 0.40 miles north or northwest of the open face of the landfill. It is among large fields of dirt, gravel, grass, shrubbery, trees, hills, mountains, and most importantly the odor system misters.

Odor

During events where the odor system was operational, an “air freshener” smell could be detected.

Sampling Location 35: Perimeter North



Location Description

Sampling location #35 is located along the north perimeter of the landfill approximately 0.20 miles from the odor system sampling point at an elevation of approximately 1310 feet. The location is within approximately 0.35 to 0.45 miles northeast of the open face of the landfill and is among large field of dirt, gravel, grass, shrubbery, trees, hills and mountains.

Odor

A faint trash odor could be detected at occasional sampling events

Sampling Location 36: Perimeter NNE



Location Description

Sampling location #35 is located along the northeast perimeter of the landfill approximately 0.20 miles from the Perimeter North sampling point at an elevation of approximately 1245 feet. The location is within approximately 0.50 to 0.60 miles northeast of the open face of the landfill and is among large fields of dirt, gravel, grass, shrubbery, trees, hills, mountains, and most importantly odor misters.

Odor

During events where the odor system was operational, an “air freshener” smell could be detected.

Sampling Location 37: Perimeter Junction NE



Location Description

Sampling location #37 is located along the northeast perimeter of the landfill and is an entry point to the East Landfill region. It is approximately 0.20 miles from the Perimeter NNE sampling point at an elevation of approximately 1225 feet. The location is within approximately 0.55 to 0.65 miles northeast of the open face of the landfill and is among large fields of dirt, gravel, grass, shrubbery, trees, hills, mountains, and most importantly odor misters.

Odor

Other than one sampling event where a faint trash odor could be detected, no unusual smells were detected at this location

Sampling Location 38: Ridgeline North



Location Description

Sampling location #38 is located along the northeast ridgeline of the landfill at an elevation of 1350 feet and overlooks the commercial region northeast of the landfill. It is within approximately 0.95 to 1.05 miles northeast of the open face of the landfill and is among dirt, grass, shrubbery, hills, and mountains.

Odor

Other than three sampling events where a cherry odor could be detected, no other unusual smells were detected at this location.

Sampling Location 39: Ridgeline East



Location Description

Sampling location #39 is the east-most sampling location along the northeast ridgeline of the landfill at an elevation of 1330 feet and overlooks the commercial region northeast of the landfill and the post office. It is within approximately 1.10 to 1.20 miles northeast of the open face of the landfill and is among dirt, grass, shrubbery, hills, and mountains.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Sampling Location 40: Pipe Piles



Location Description

Sampling location #40 is located by a pile of pipes in the East Landfill section at an elevation of 1110 feet. It is within approximately 0.70 to 0.80 miles northeast of the open face of the landfill and is among dirt, grass, shrubbery, trees, hills, and mountains.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Sampling Location 41: Concrete Berm



Location Description

Sampling location #41 is located in the East Landfill region and is adjacent to the western border of the post office landfill at an elevation of 1100 feet. It is within approximately 0.90 to 1.00 miles northeast of the open face of the landfill and is among dirt, grass, shrubbery, hills, mountains, and motor vehicles.

Odor

A bakery odor could be detected at two sampling events. Other than this, no unusual smells were detected at sampling location #41.

Sampling Location 42: Post Office Overlook



Location Description

Sampling location #42 is located in the East Landfill region and directly overlooks the post office at an elevation of 1225 feet. It is within approximately 0.75 to 0.85 miles east or slightly northeast of the open face of the landfill and is among dirt, grass, shrubbery, trees, hills, and mountains.

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Sampling Location 43: Energy Plant



Location Description

Sampling location #43 is located in the Southeast Landfill Perimeter region and is adjacent to the energy plant at an elevation of 1200 feet. It is within approximately 0.45 to 0.55 miles east of the open face of the landfill and is among gravel and dirt roads, grass, shrubbery, trees, hills, mountains, and occasional motor vehicles.

Odor

Other than two sampling events where a faint trash odor could be detected, no unusual smells were detected at this location.

Sampling Location 44: Capped Prim. Cyn Landfill



Location Description

Sampling location #44 is located in the East Landfill region and is adjacent to the energy plant at an elevation of 1200 feet. It is within approximately 0.55 to 0.65 miles slightly southeast of the open face of the landfill and is among dirt, gravel, grass, shrubbery, trees, hills, and mountains

Odor

No odors believed to originate from the landfill, nor any unusual smells were detected at this location.

Sampling Location 45: Condensate



Location Description

Sampling location #45 is located in the Southeast Landfill Perimeter region at an elevation of approximately 1150 feet and is adjacent to the facility that extracts condensate. It is within approximately 0.35 to 0.45 miles slightly southeast of the open face of the landfill and is among dirt, gravel, grass, shrubbery, hills, and mountains.

Odor

A trash and condensate odor could be detected at almost every sampling event.

Sampling Location 46: Lot Near Face



Location Description

Sampling location #46 is located in the Southeast Landfill Perimeter region at an elevation of approximately 1160 feet and is at the entry points to the working and open faces of the landfill. It is within approximately 0.30 to 0.40 miles slightly southeast of the open face of the landfill and is among dirt, gravel, and motor vehicles.

Odor

A mulch odor could be detected at four sampling events along with a faint trash odor at five sampling events. Other than these two instances, no unusual smells were detected at sampling location #46.

Sampling Location 47: Green Waste



Location Description

Sampling location #47 is located at any instances where there is fresh green waste, usually near the working face of the landfill at an elevation of approximately 1170 feet to 1200 feet. Green waste was not present at every sampling event. The location is usually right adjacent to or within approximately 0.05 miles of the open face of the landfill and is among dirt, gravel, motor vehicles, and trash.

Odor

Mulch was present fourteen times out of twenty-five sampling trips. Odors detected during these events included mulch and sweet trash.

Sampling Location 48 through 51: Faces 1 through 4















Location Description

Sampling locations #48 through #51 are located at various points around the working face of the landfill at elevations of approximately 1040 feet to 1180 feet. The points vary since the working face frequently changes. The four locations are carefully chosen to cover the entire perimeter of the working face of the landfill and are usually placed right adjacent to or within approximately 0.05 miles of the open face of the landfill and is among dirt, gravel, motor vehicles, and trash.

Odor

Odors described as sharp, strong, pungent, rancid, sweet, sour, trash, etc. were detected during all sampling events.

Appendix C
Description of Sampling Events and Weather Data

Sampling Event 1 – April 7, 2015

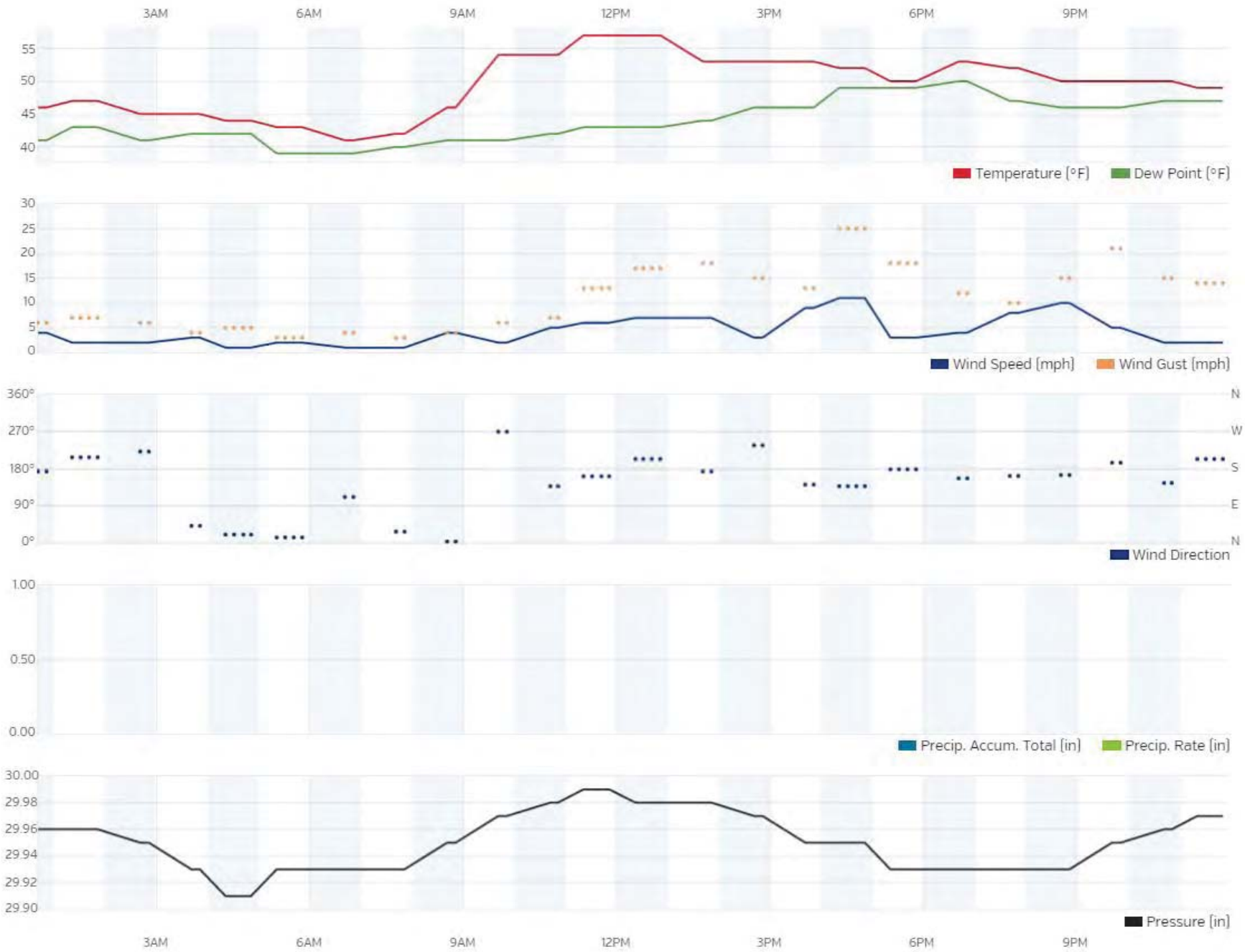
SWAPE first sampled around the Val Verde Community and Landfill on Wednesday, April 8th, 2015, between approximately 6:00 and 9:48 AM. Skies were mostly cloudy and temperatures ranged between about 41 to 54 degrees Fahrenheit. Humidity ranged from 91% at the start of sampling, to 64% when the last observation was taken. Barometric air pressures ranged between 29.93 and 29.98 inches. Winds were light, and originated from variable directions.

Throughout all locations, Parks and Fields/Nature were most common, followed by Spoiled Food/Decomposition and ND. Most Parks and Fields/Nature observations were recorded offsite with descriptors that mostly included ‘grass’, ‘fresh’, ‘hay’, ‘greenery’, ‘nature’, and more. Of the Spoiled Food/Decomposition-related observations, over three-quarters were recorded on the landfill. Of the offsite observations, none were recorded within the Val Verde Community. Spoiled Food/Decomposition descriptors mostly included ‘trash’, ‘sharp’, ‘rotten’, ‘garbage’, and more. Over one-half of NDs were recorded on the Landfill.

Offsite, D/T ranged from ND to 15. Hedonic tones noted at offsite locations ranged from -4 at Jackson Gate, up to 5 at the Post Office, Industry Drive, and Livingston/Watertank. Jackson Gate had a D/T of <2, within the Fecal and Parks and Fields/Nature Categories. The Post Office had D/Ts of 4, 7, and 15 within the Bakery Category. Industry Drive had D/Ts of ND, <2, and 7 within the ND, Parks and Fields/Nature, and Soapy Categories. Livingston/Watertank had D/Ts of <2, 2, and 7 within the Coffee Shop/Pleasant Flavors, Soapy, and Cleaning Solvents Categories. Overall, the highest noted odor offsite was equal to 15 at the Post Office, with a hedonic tone of -2 and descriptors of ‘cooked lamb’. The Average D/T and hedonic tone throughout the offsite Locations was 1.9 and 0.5, respectively.

On the landfill, D/Ts ranged from ND to 60. Over one-half of observations on the Landfill noted odors lesser than or equal to 4 D/T. Observations of hedonic tone ranged from -9 to 4, with the most negative (-4 to -9) being observed mostly around the Working Face Locations. D/Ts at or near the Working Face ranged between 4 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition, Fecal, and Sulfur/Cabbage/Garlic, with descriptors such as ‘trash’, ‘landfill’, ‘sweet trash’, ‘rotten’, and more. Hedonic tones at the Working Face ranged between -2 and -9. Other locations onsite and not immediately near the Working Face were described within the Spoiled Food/Decomposition, Parks and Fields/Nature, ND, Fragrant/Fruity, Dusty/Earthy, Coffee Shop/Pleasant Flavors, Cleaning Solvents, and Auto Exhaust Categories. The highest D/T recorded other than locations at or near the Working Face was equal to 30 at the Condensate Tank with descriptors including ‘trash’, ‘landfill’, and ‘sweet’. The Average D/T and hedonic tone throughout the Landfill was 13.2 and -2.3, respectively.

Weather History Graph
April 7, 2015



Sampling Event 2 – April 8, 2015

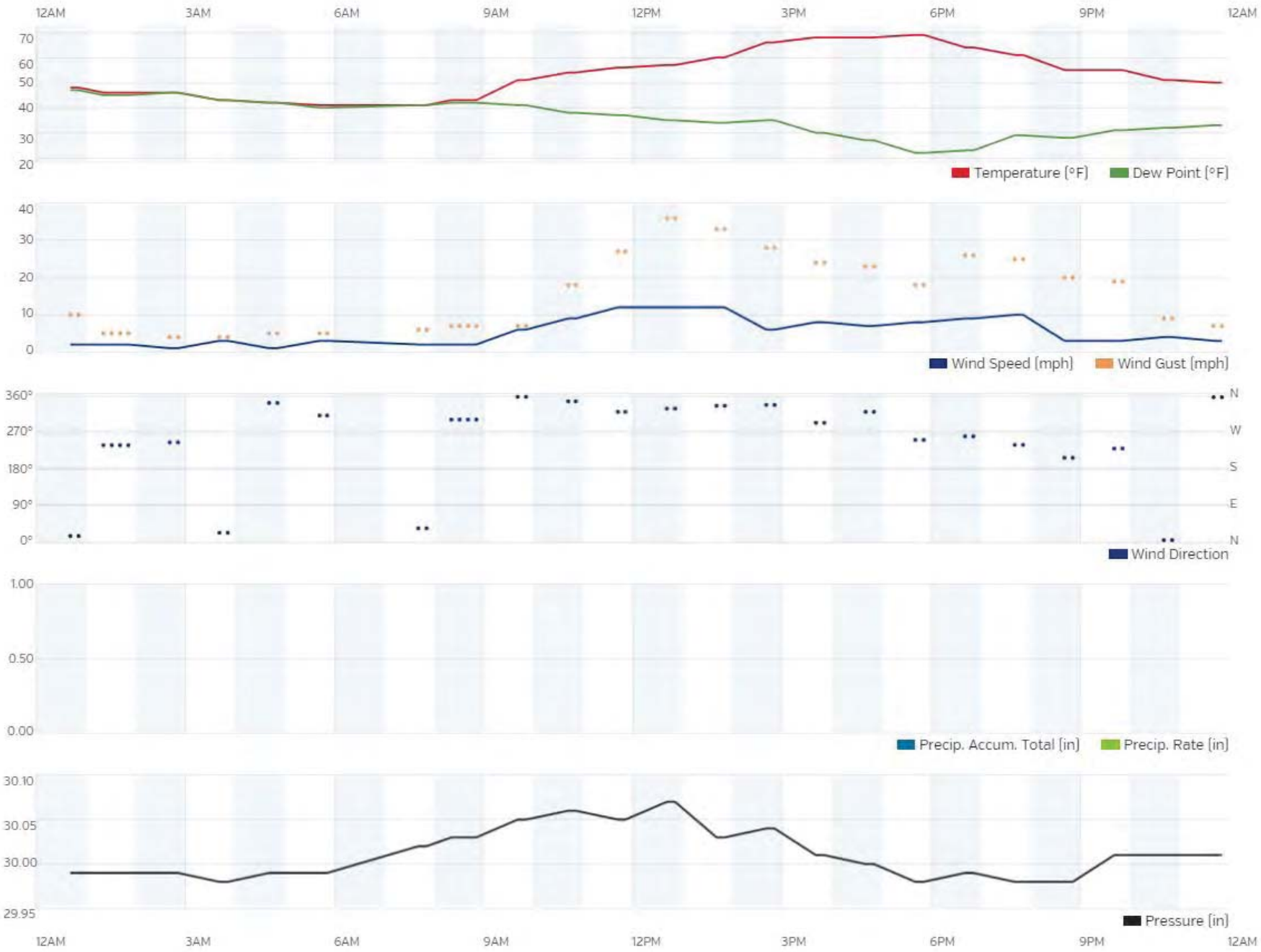
The second sampling event on Wednesday, April 8, 2015 took place between approximately 6:00 and 9:48 AM. Skies were mostly clear to partly cloudy, and temperatures ranged between 39 and 55 degrees Fahrenheit. Humidity ranged from 96% at the start of sampling, to 58% when the last observation was taken. Barometric air pressures ranged between 30.08 and 30.13 inches. Winds were calm to light and originated from variable directions.

Throughout all Locations, descriptors related to Parks and Fields/Nature were detected most, followed by Spoiled Food/Decomposition and ND. More than half of the Parks and Fields/Nature observations were recorded on the Landfill and included descriptors such as ‘grass’, ‘hay’, and ‘wet grass’. Of all Spoiled Food/Decomposition-related observations, approximately one-half were detected on the Landfill and one-half offsite. Of the offsite observations, approximately half were in the Val Verde Community. The Spoiled Food/Decomposition descriptors include ‘faint trash’, ‘grass’, ‘sweet trash’, ‘mulch’, and more. Most NDs were detected offsite.

Offsite, D/Ts ranged from ND to 15. Hedonic tones noted at offsite locations ranged from -3 at Jackson Gate, up to 5 at Liverpool Court. Jackson Gate had D/Ts of 2 and 4 with Fecal descriptors such as ‘farm’, ‘manure’, and ‘poultry’. Liverpool Court had D/Ts of <2 and 2 with Fragrant/Fruity and Soapy descriptors such as ‘soap’, ‘sweet honey’, and ‘honeysuckle’. Overall, the highest noted odor offsite was equal to 15 at Fire Center Road with a D/T of 14, descriptors of ‘faint trash’, and a hedonic tone of -2. The Average D/T and hedonic tone throughout the offsite Locations was 1.4 and 0.2, respectively.

Onsite, the landfill, D/Ts ranged from ND to 60. Over three-quarters of observations on the Landfill noted odors lesser than or equal to 4 D/T. Observations of hedonic tone ranged from -9 to 2, with the most negative (-4 to -9) being primarily observed around the Working Face Locations. D/Ts at or near the Working Face ranged between <2 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition, Parks and Fields/Nature, Musty/Moldy Compost, and Sulfur/Cabbage/Garlic, with descriptors such as ‘trash’, ‘mulch’, ‘rotten’, ‘sweet’, ‘grass’, and more. Hedonic tones at the Working Face ranged between -1 and -9. Other locations onsite and not immediately near the Working Face were described within the Spoiled Food/Decomposition, Parks and Fields/Nature, ND, Musty/Moldy Compost, Fecal, Soapy, and Auto Exhaust Categories. The highest D/T recorded other than locations at or near the Working Face was equal to 7 at the Lot Near Face. The Average D/T and hedonic tone throughout the Landfill was 9.6 and -1.0, respectively.

Weather History Graph
April 8, 2015



Sampling Event 3 – April 9, 2015

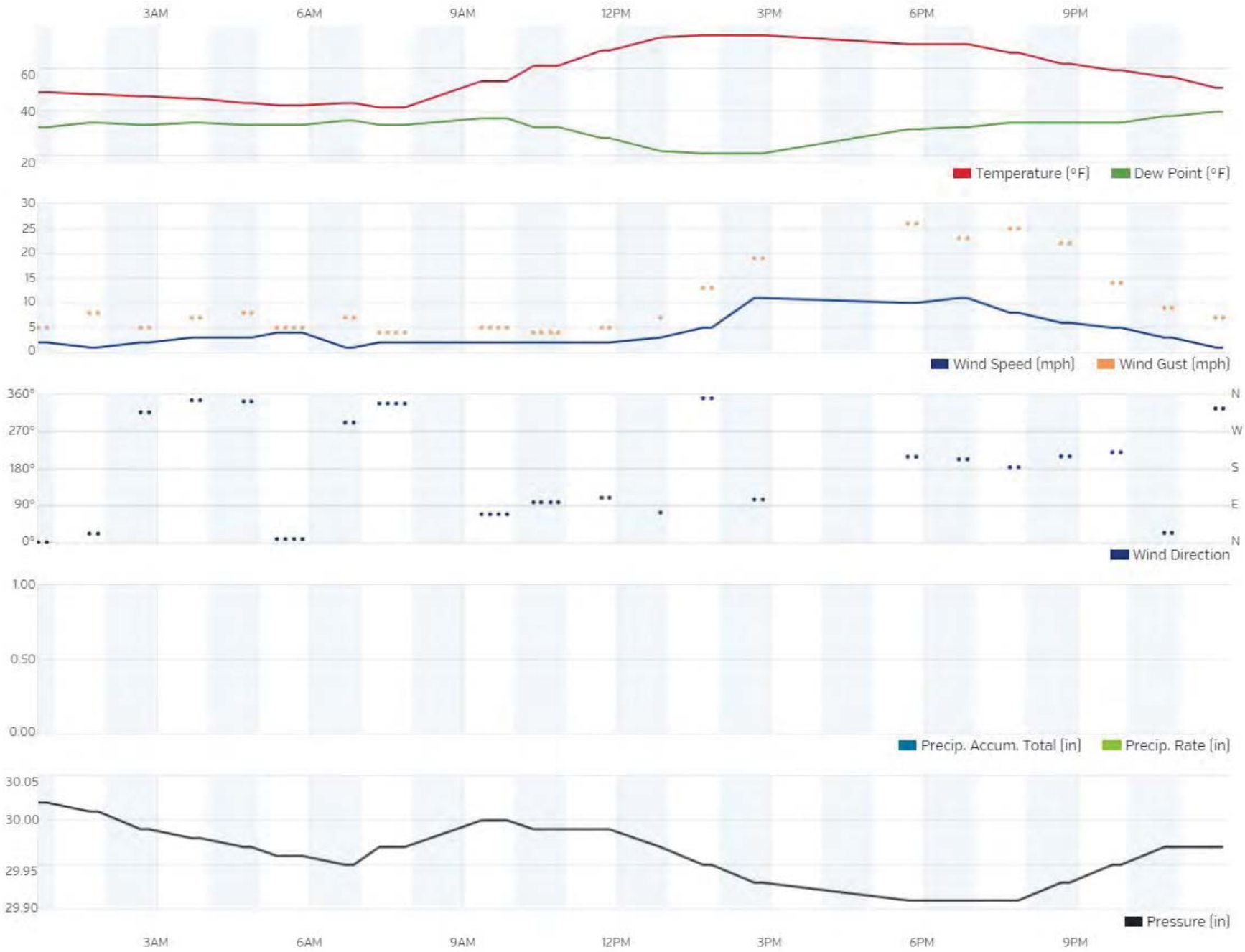
The third sampling event on Thursday, April 9th, 2015, took place between approximately 6:10 and 9:58 AM. Skies were _mostly clear to overcast, and temperatures ranged between about 43 to 54 degrees Fahrenheit. Humidity ranged from 71% at the start of sampling, to 52% when the last observation was taken. Barometric air pressure rose from 29.96 to 30 inches. Winds were light, and originated from the west-northwest, north-northwest, north, and east-northeast.

Descriptors related to Parks and Fields/Nature were most common, followed by Non-Detects, and Fecal. Descriptors categorized as Parks and Fields/Nature were noted in most locations on and off the Landfill. These descriptors include 'clean', 'grass', 'sage', and 'hay'. Most Fecal odors were detected in the Val Verde Community. Roughly one-third of NDs were noted on the Landfill Property.

Offsite, D/T ranged from non-detect (ND) up to 4 throughout the Val Verde community and other areas outside the Landfill. Hedonic tones noted at offsite locations ranged from negative three at Jackson Gate and Del Valle/Halsey Canyon Locations (Fecal descriptors of manure, chicken poop, and farm) up to positive four at the Liverpool Court and Livingston/Watertank Locations, which were described with 'fresh, soapy, clean' and 'artificial sweetness'. Locations with unpleasant Fecal odors were noted to have D/Ts of <2 and 2. Liverpool Court and Livingston/Watertank had recorded D/Ts between <2 and 4. The highest noted odors were equal to 4 D/T and were recorded at Livingston/Watertank and Hunstock/Lincoln. Livingston/Watertank descriptors fell under Parks and Fields/Nature and Coffee Shop/Pleasant Flavors. Hunstock/Lincoln had a Fecal descriptor, with a hedonic tone of <1. The Average D/T and hedonic tone throughout the offsite Locations was 1 and 0.3, respectively.

Onsite, D/Ts ranged from ND to 60. The majority of observations on the Landfill noted odors lesser than or equal to 7 D/T. Observations of hedonic tone ranged from positive four to negative eight, with the most negative hedonic tones being noted at or near the Working Face. D/T at and near the Working Face ranged between <2 through 60. Other locations onsite and not immediately near the Working Face were described with Dusty/Earthy, Parks and Fields/Nature, Spoiled Food/Decomposition, ND, Auto Exhaust, and Sulfur/Cabbage/Garlic. Less than one-fourth of observations made in the other locations throughout the Landfill were identified to be Landfill waste-related. The Average D/T and hedonic tone throughout the Landfill was 12.5 and -1.1, respectively.

Weather History Graph
April 9, 2015



Sampling Event 4 – April 14, 2015

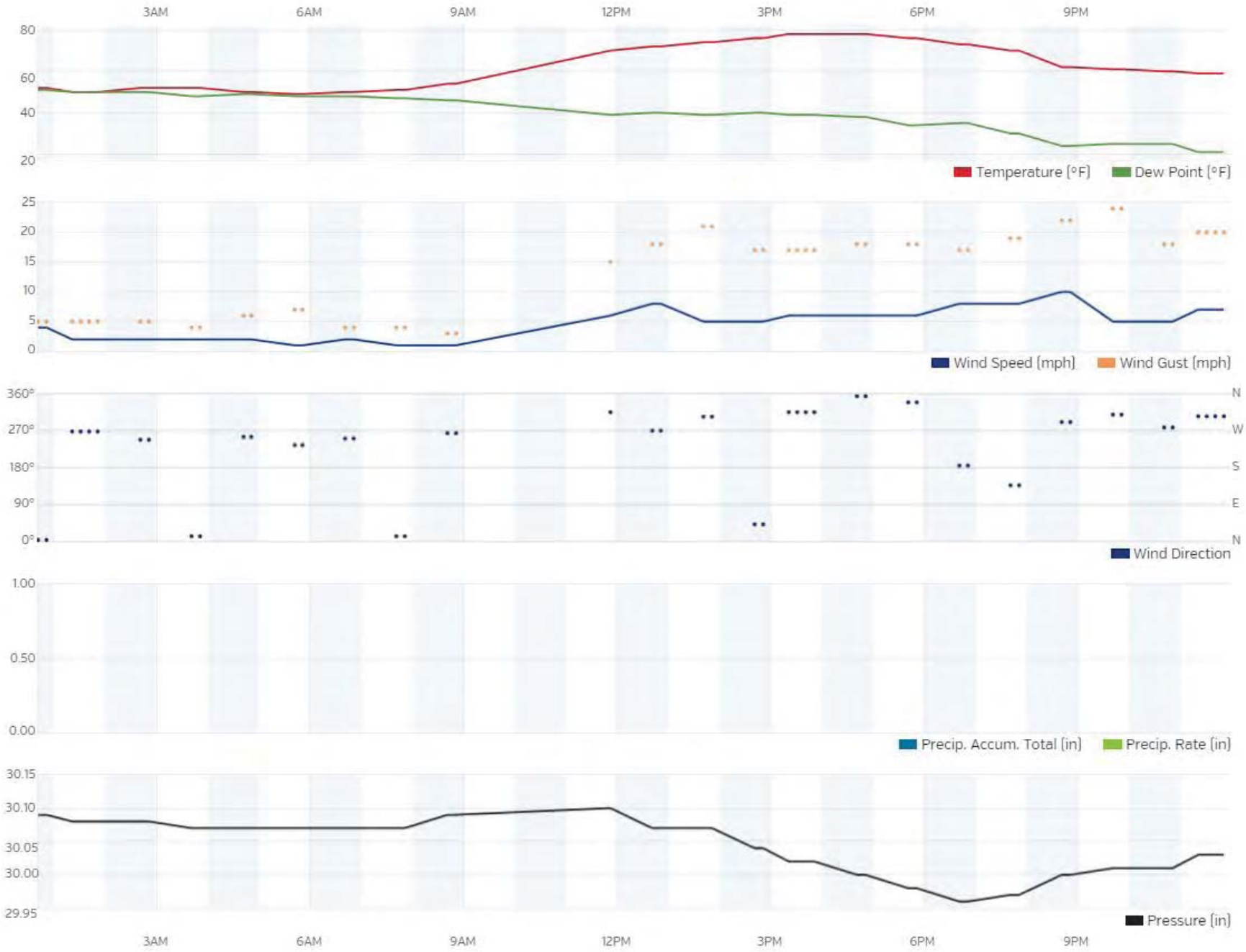
The fourth sampling event on Tuesday, April 14th, 2015, took place between approximately 6:14 and 9:57AM. Skies were mostly clear to hazy, and temperatures ranged between about 49 to 54 degrees Fahrenheit. Humidity ranged from 98% at the start of sampling, to 74% when the last observation was taken. Barometric air pressures ranged between 30.07 and 30.09 inches. Winds were light, and originated from the west-southwest, southwest, west, and north-northeast.

Throughout all Locations, Spoiled Food/Decomposition were most common, followed by Parks and Fields/Nature and ND. Approximately two-thirds of all NDs were offsite. Of all Spoiled Food/Decomposition-related observations, over three-quarters were recorded on the Landfill. Of those recorded offsite, none were recorded over a <2 D/T. Spoiled Food/Decomposition descriptors include 'trash', 'sour', 'rotten', 'leachate', and more. Most Parks and Fields/Nature observations were recorded offsite, with descriptors such as 'grass', 'hay', 'sweet', 'spicy', and more.

Offsite, D/Ts ranged from ND to 4. Hedonic tones noted at offsite locations ranged from -3 at Jackson Gate, up to 4 at Liverpool Court. Jackson Gate had had Fecal descriptors of 'farm', 'barnyard', 'chicken', and 'manure', with D/Ts of <2 and 4. Liverpool Court had Fragrant/Fruity descriptors of 'sweet', 'flowery', and 'honeysuckle', with D/Ts of 2 and 4. Overall, the highest noted odor offsite was equal to 4 at Jackson Gate, Liverpool Court, Livingston/Watertank, and Post Office. The Average D/T and hedonic tone throughout the offsite Locations was 0.9 and 0.2, respectively.

On the landfill, D/Ts ranged from ND to 60. About three-quarters of observations on the Landfill noted odors lesser than or equal to 4 D/T. Observations of hedonic tone ranged from -10 to 3, with the most negative (-4 to -10) being primarily observed around the Working Face Locations. D/Ts at or near the Working Face ranged between <2 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition, Musty/Moldy Compost, and Fishy/Ammonia, with descriptors such as 'trash', 'manure', 'pungent', 'rotten', and more. Hedonic tones at the Working Face ranged between -1 and -10. Other locations onsite and not immediately near the Working Face were described within the ND, Spoiled Food/Decomposition, Parks and Fields/Nature, Soapy, Cleaning Solvents, Musty/Moldy Compost, Auto Exhaust, Coffee Shop/Pleasant Flavors, and Dusty/Earthy Categories. The highest D/T recorded other than locations at or near the Working Face was equal to 30 at the Condensate Tank with descriptors of 'trash', 'sharp', 'sweet', and 'leachate'. The Average D/T and hedonic tone throughout the Landfill was 10 and -2.0, respectively.

Weather History Graph
April 14, 2015



Sampling Event 5 – April 15, 2015

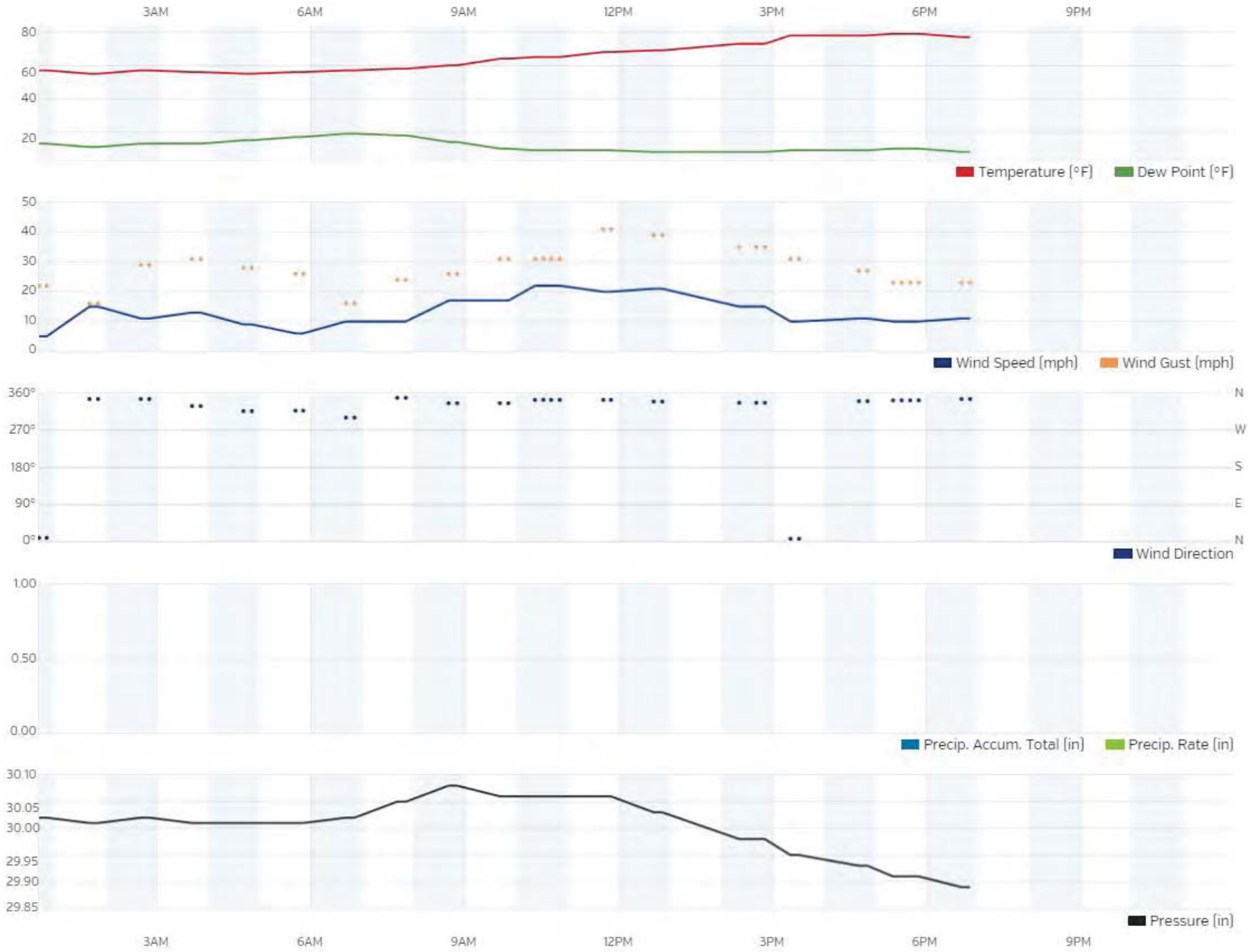
The fifth sampling event on Wednesday, April 15th, 2015, took place between approximately 7:08 and 10:23 AM. Skies were mostly sunny to hazy, and temperatures ranged between about 57 to 65 degrees Fahrenheit. Humidity ranged from 22% at the start of sampling, to 11% when the last observation was taken. Barometric air pressures ranged between 30.02 and 30.06 inches. Winds were moderate and high from the west-northwest, north-northwest, and north.

Throughout all Locations, NDs were most common, followed by Parks and Fields/Nature and Spoiled Food/Decomposition. Over one-half of all NDs were recorded offsite. Over one-half of Parks and Fields/Nature observations were recorded offsite. Parks and Fields/Nature descriptors mostly include 'grass', 'hay', and 'sage'. Of the Spoiled Food/Decomposition-related observations, most were recorded on the landfill and none were recorded specifically within the Val Verde Community. Spoiled Food/Decomposition descriptors mostly included 'trash', 'mulch', 'rotten', 'sour', and more.

Offsite, D/Ts ranged from ND to 7. Hedonic tones noted at offsite locations ranged from -4 at Chiquito Canyon South, up to 2 at Chiquito Canyon/Central. Chiquito Canyon South had D/Ts of 2 and 7 and had Spoiled Food/Decomposition descriptors of 'mulch', 'trash', and more. Chiquito Canyon/Central had D/Ts of <2 and had Fragrant/Fruity descriptors of 'flowers' and 'faint roses'. Overall the highest noted odor offsite was equal to 7 at Chiquito Canyon South. The Average D/T and hedonic tone throughout the offsite Locations was 0.6 and 0.06, respectively.

On the landfill, D/Ts ranged from ND to 60. Over three-quarters of observations on the Landfill noted odors lesser than or equal to 4 D/T. Observations of hedonic tone ranged from -8 to 4, with the most negative (-4 to -8) being primarily observed around the Working Face Locations. D/Ts at or near the Working Face ranged between 2 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition, Musty/Moldy Compost, Sulfur/Cabbage/Garlic, and Fishy/Ammonia, with descriptors such as 'trash', 'rotten egg', 'mulch', and 'sour'. Hedonic tones at the Working Face Ranged between -1 and -8. Other locations onsite and not immediately near the Working Face were described within the Spoiled Food/Decomposition, Musty/Moldy Compost, Parks and Fields/Nature, ND, Soapy, Auto Exhaust, Coffee Shop/Pleasant Flavors, and Sulfur/Cabbage/Garlic Categories. The highest D/T recorded other than locations at or near the Working Face was equal to 7 at Fire Center Overlook and Lot Near Face. The Average D/T and hedonic tone throughout the Landfill was 8.6 and -1.1, respectively.

Weather History Graph
April 15, 2015



Sampling Event 6 – April 16, 2015

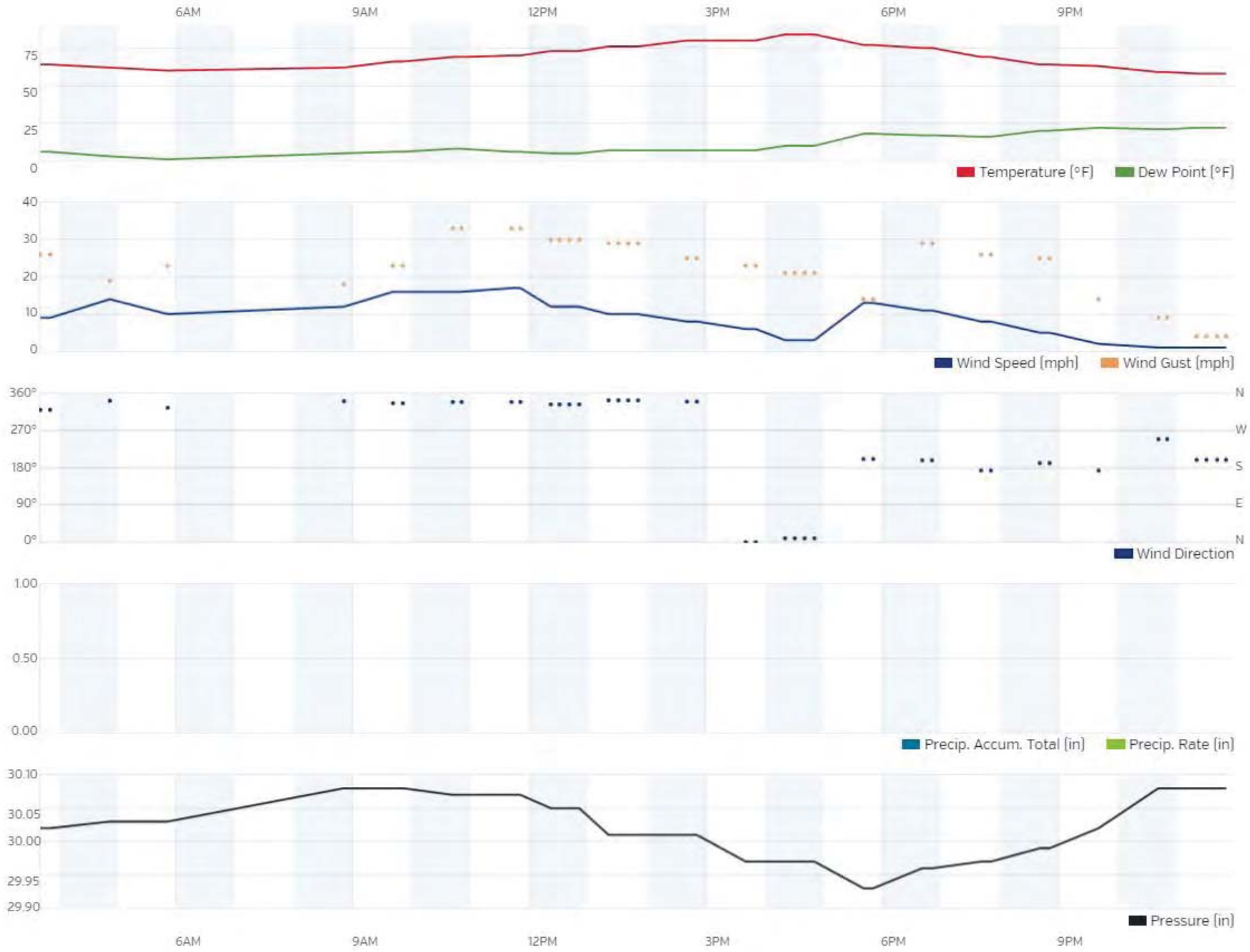
The sixth sampling event on Thursday, April 16th, 2015, took place between approximately 6:13 and 9:33 AM. Skies were mostly clear and temperatures ranged between 60 and 66 degrees Fahrenheit. Humidity maintained at 9% at the start of sampling and when the last observation was taken. Barometric air pressures ranged between 30.03 and 30.08 inches. Winds were moderate to strong, and originated from the north-northwest and northwest directions.

Throughout all Location, NDs were most common, followed by Parks and Fields/Nature and Spoiled Food/Decomposition. Approximately three-quarters of the NDs recorded were offsite. Parks and Fields/Nature descriptors mostly included ‘grass’, ‘sage’, ‘hay’, and more. Of all Parks and Fields/Nature detected, most were recorded offsite. Of the Spoiled Food/Decomposition-related observations, all were detected on the Landfill. Spoiled Food/Decomposition descriptors mostly included ‘trash’, ‘mulch’, ‘sweet’, ‘sour’, ‘leachate’, and more.

Offsite, D/Ts ranged from ND to 4. Hedonic tones noted at offsite locations ranged from -3 at Jackson Gate (Fecal descriptors of ‘chicken’, ‘farm’, and ‘manure’), up to a 3 at Liverpool Court and Livingston/Watertank (Fragrant/Fruity and Bakery descriptors of ‘honeysuckle’, ‘bakery’, ‘donuts’, and ‘sweet’). On this sampling trip, Jackson Gate had D/Ts of 2 and 4, Liverpool Court had D/Ts of <2 and 2, and Livingston/Watertank had D/Ts of <2 and 2. The highest noted odors offsite were equal to 4 D/T at Jackson Gate and had Fecal descriptors of ‘poultry’, ‘manure’, and ‘farm’. The Average D/T and hedonic tone throughout the offsite Locations was 0.6 and 0.3, respectively.

Onsite, D/Ts ranged from ND to 60. Observations of hedonic tone ranged from -9 to 4. D/Ts at or near the Working Face ranged between <2 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition, Musty/Moldy Compost, Sulfur/Cabbage/Garlic, Dusty/Earthy, and Cleaning Solvents, with descriptors such as ‘rotten grass’, ‘trash’, ‘mulch’, ‘sour’, and more. Hedonic tones at the Working Face ranged between -1 and -9. Other locations onsite and not immediately near the Working Face were described within ND, Parks and Fields/Nature, Spoiled Food/Decomposition, Fishy/Ammonia, Musty/Moldy Compost, Dusty/Earthy, Coffee Shop/Pleasant Flavors, and Soapy Categories. The highest D/T recorded other than locations at or near the Working Face was equal to 60 at the Condensate Tank with descriptors of ‘rancid/sweet’, ‘condensate’, ‘acidic’, and ‘sour’. The Average D/T and hedonic tone throughout the Landfill was 10.1 and -1.1, respectively.

Weather History Graph
April 16, 2015



Sampling Event 7 – April 17, 2015

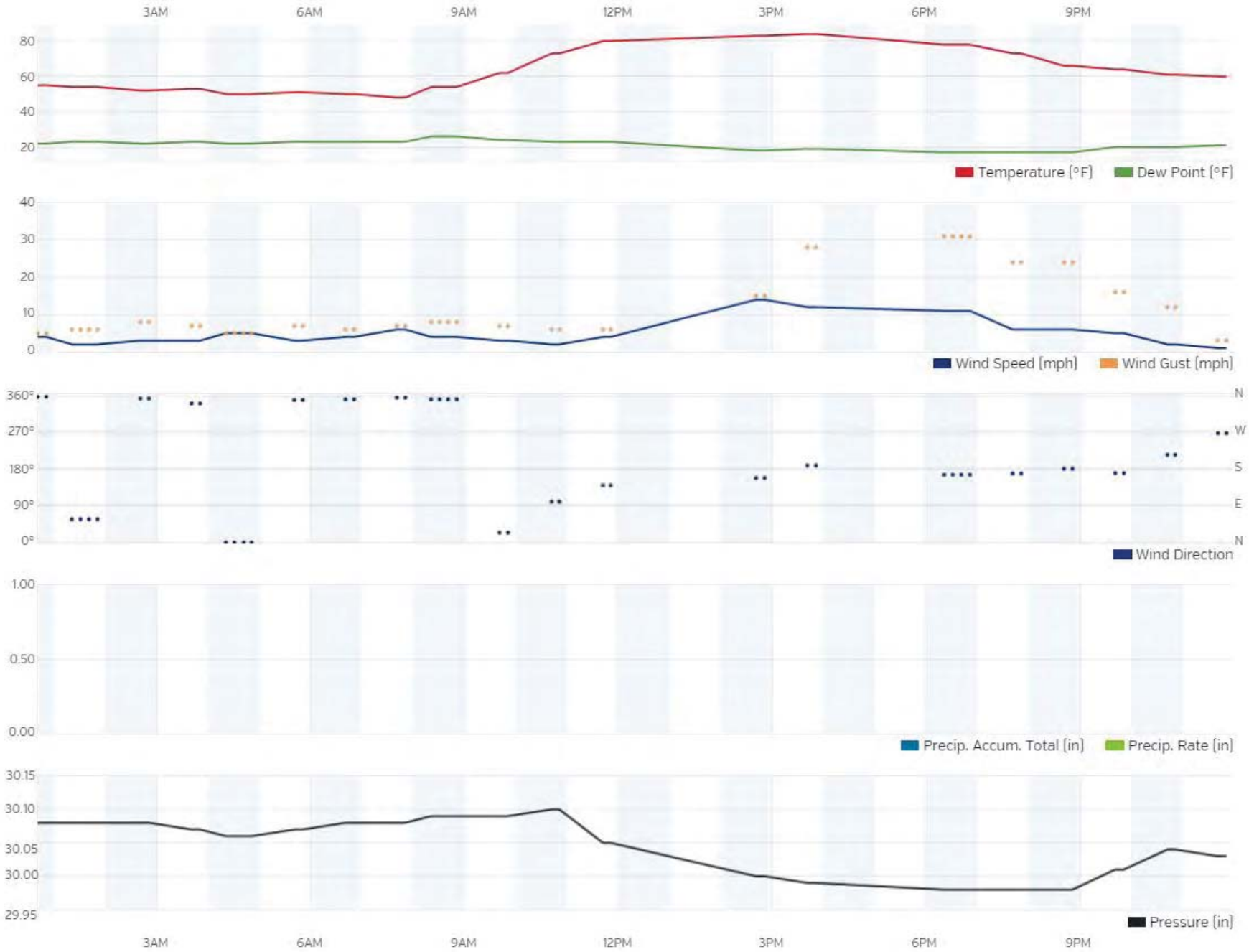
The seventh sampling event on Friday, April 17th, 2015 took place between approximately 6:15 and 9:36 AM. Skies were mostly clear and temperatures ranged between 51 and 62 degrees Fahrenheit. Humidity ranged from 33% at the start of sampling, to 23% when the last observation was taken. Barometric air pressures ranged between 30.07 and 30.09 inches. Winds were light to moderate and originated from the north-northeast and north directions.

Throughout all Locations, Parks and Fields/Nature were most common, followed by ND and Spoiled Food/Decomposition. More than one-half of the Parks and Fields/Nature recorded were offsite. Parks and Fields/Nature descriptors mostly included ‘grass’, ‘sage’, ‘sour grass’, ‘sweet grass’, and ‘hay’. Of all NDs, most were detected on the Landfill. Of the Spoiled Food/Decomposition-related observations, all were detected on the Landfill. Spoiled Food/Decomposition descriptors mostly included ‘trash’, ‘sweet’, ‘rotten’, ‘manure’, ‘sour’, and more.

Offsite, D/T ranged from ND to 4. Hedonic tones noted at offsite locations ranged from -3 at Jackson Gate, Del Valle/Halsey Canyon, and Industry Drive, up to 3 at Livingston/Watertank and Franklin. Locations with a hedonic tone of -3 had at highest, a D/T of 4 and fell in the Fecal descriptor category. Locations with a hedonic tone of 3 had at highest, a D/T of <2 and fell in the Fragrant/Fruity descriptor category. Overall, the highest noted odor offsite was equal to 4 at Jackson Gate with a hedonic tone of -3 and descriptors of ‘manure’, ‘hay’, and ‘farm’. The Average D/T and hedonic tone throughout the offsite Locations was 0.9 and 0.1, respectively.

On the landfill, D/Ts ranged from ND to 60. Over three-quarter of observations on the Landfill noted odors lesser than or equal to 4 D/T. Observations of hedonic tone ranged from -9 to 2, with the most negative (-4 to -9) being only observed around the Working Face Locations. D/Ts at or near the Working Face ranged between 2 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition, Sulfur/Cabbage/Garlic, Fishy/Ammonia, and Fecal, with descriptors such as ‘trash’, ‘manure’, ‘rotten’, ‘sour’, ‘rancid’, ‘fishy’, and more. Hedonic tones at the Working Face ranged between -1 and -9. Other locations onsite and not immediately near the Working Face were described within the Spoiled Food/Decomposition, ND, Parks and Fields/Nature, Coffee Shops/Pleasant Flavors, Fragrant/Fruity, Dusty/Earthy, Cleaning Solvents, and Auto Exhaust Categories. The highest D/T recorded other than locations at or near the Working Face was equal to 2 at various locations. The Average D/T and hedonic tone throughout the Landfill was 11.3 and -1.0, respectively.

Weather History Graph
April 17, 2015



Sampling Event 8 – April 28, 2015

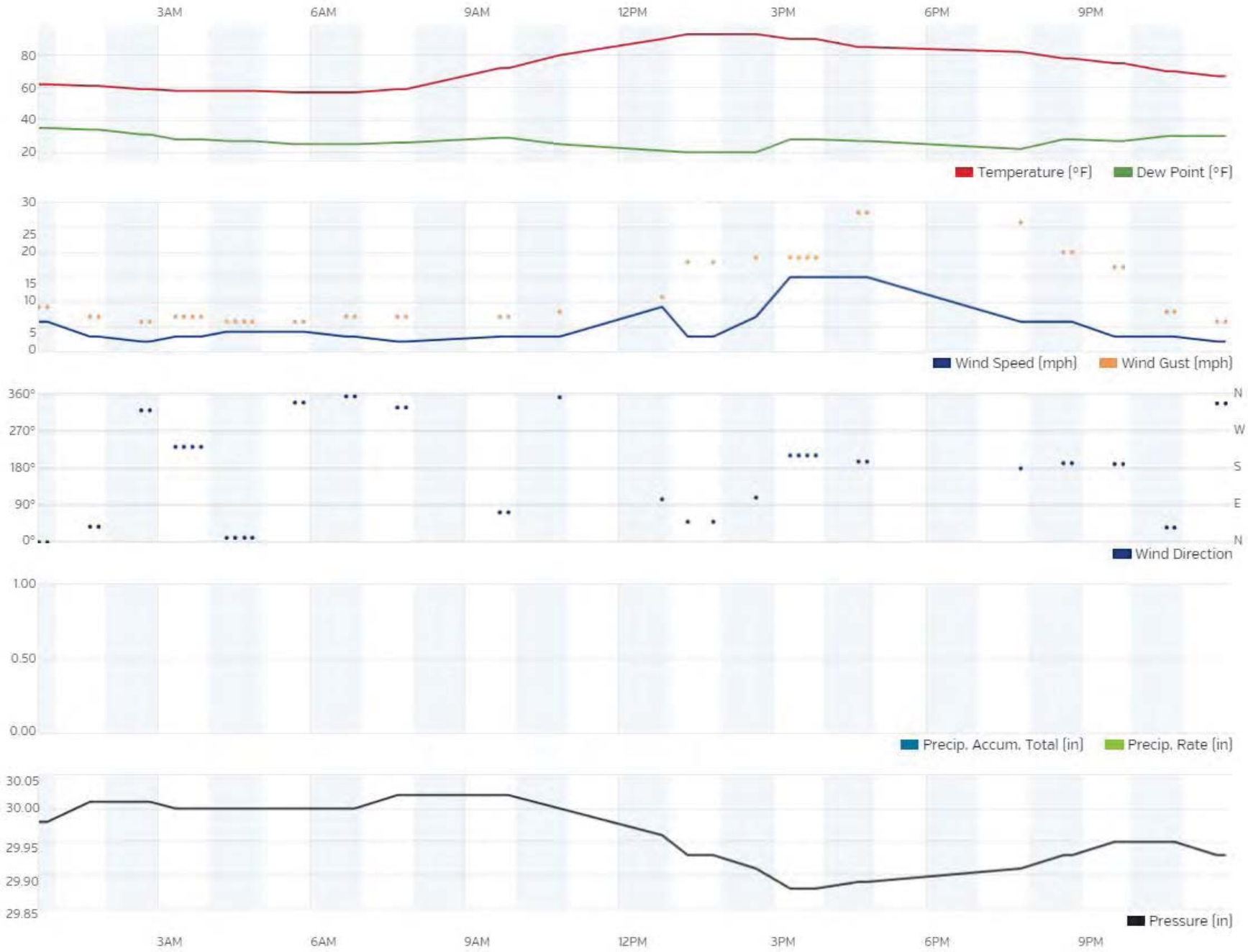
The eighth sampling event on Tuesday, April 28th, 2015 took place between approximately 6:05 and 9:28 AM. Skies were mostly clear and temperatures ranged between 57 and 72 degrees Fahrenheit. Humidity ranged from 25% at the start of sampling, to 29% when the last observation was taken. Barometric air pressures ranged between 30 and 30.02 inches. Winds were light and originated from the north-northwest, north, and east-northeast directions.

Throughout all Locations, Parks and Fields/Nature were most common, followed by ND and Spoiled Food/Decomposition. More than one-half of the Parks and Fields/Nature recorded were offsite. Parks and Fields/Nature descriptors mostly included ‘grass’, ‘sage’, ‘sour grass’, ‘sweet grass’, and ‘hay’. Of all NDs, most were detected offsite. Of the Spoiled Food/Decomposition-related observations, most were detected on the Landfill. Two observations were detected in the Val Verde Community. Spoiled Food Decomposition descriptors mostly included ‘trash’, ‘sour’, ‘mulch’, and were observed no higher than a D/T of <2 offsite.

Offsite, D/T ranged from ND up to 4. Hedonic tones noted at offsite locations ranged from -4 at Jackson Gate and Del Valle/Halsey Canyon, up to 3 at Liverpool Court. Jackson Gate and Del Valle/Halsey Canyon had D/Ts of 2 and 4 with descriptors of ‘farm animal’ and ‘manure’. Odor at Liverpool Court was described as ‘floral’ and had D/Ts of <2. The Average D/T and hedonic tone throughout the Landfill was 9.5 and -1.1, respectively.

Onsite, D/Ts ranged from ND to 60. Over three-quarters of observations on the Landfill noted odors lesser than or equal to 4 D/T. Observations of hedonic tone ranged from -7 to 3, with the most negative (-4 to -7) being primarily around the Working Face Locations. D/Ts at or near the Working Face ranged between 2 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition, Musty/Moldy Compost, and Fishy/Ammonia, with descriptors such as ‘trash’, ‘mulch’, ‘seafood’, ‘rotten egg’, ‘sour trash’, and more. Hedonic tones at the Working Face ranged between -1 and -7. No Green Waste was apparent at this day. Other locations onsite and not immediately near the Working Face were described within the ND, Spoiled Food/Decomposition, Dusty/Earthy, Parks and Fields/Nature, Soapy, Musty/Moldy Compost, Coffee Shop/Pleasant Flavors, Bakery, Cleaning Solvents, and Auto Exhaust. The highest D/T recorded other than locations at or near the Working Face was equal to 7 at the Fire Center Overlook with descriptors including ‘trash’ and ‘sweet’. The Average D/T and hedonic tone throughout the offsite Locations was 0.8 and -0.3, respectively.

Weather History Graph
April 28, 2015



Sampling Event 9 – April 29, 2015

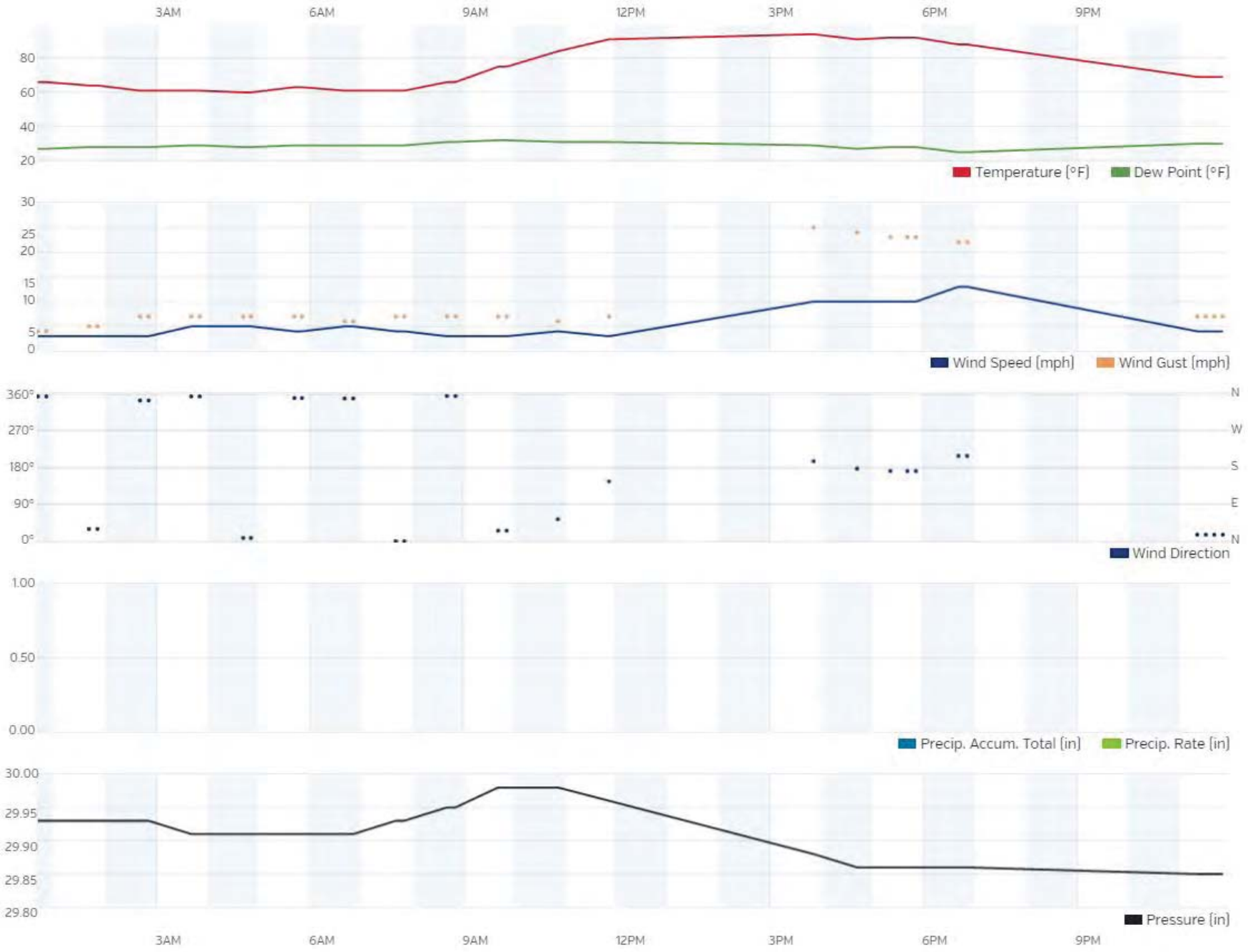
The ninth sampling event on Wednesday April 29th, 2015 took place between approximately 6:11 and 9:38 AM. Skies were mostly clear and temperatures ranged between 63 and 75 degrees Fahrenheit. Humidity ranged from 28% at the start of sampling, to 21% when the last observation was taken. Barometric air pressures ranged between 29.91 and 29.98 inches. Winds were light and originated from the north and north-northeast directions.

Throughout all Locations, NDs were most common, followed by Parks and Fields/Nature and Spoiled Food/Decomposition. Over one-half of NDs were recorded offsite. Of the offsite NDs, over half were recorded in the Val Verde Community. Parks and Fields/Nature descriptors mostly included 'grass', 'hay', 'sweet', 'sour', and more. Over half of all Parks and Fields/Nature descriptors were detected offsite. Of the Spoiled Food/Decomposition-related observations, all were recorded on the Landfill and none in the Community. Spoiled Food/Decomposition descriptors mostly included 'trash', 'sour', 'leachate', 'rotten egg', and more.

Offsite, D/Ts ranged from ND up to 7. Hedonic tones noted at offsite locations ranged from -5 at Jackson Gate, up to 3 at the Post Office. Jackson Gate was noted to have Fecal descriptors of 'farm animals', 'manure', and 'poultry' with D/Ts of 2, 4, and 7. The Post Office was noted to have Bakery descriptors of 'pretzel', 'sweet', and 'bakery', with D/Ts of <2 and 4. Overall, the highest noted odor offsite was equal to 7 D/T at Jackson Gate (hedonic tone of -4) with descriptors of 'farm', 'manure', and 'poultry'. The Average D/T and hedonic tone throughout the offsite Locations was 0.9 and -0.2, respectively.

Onsite, D/Ts ranged from ND to 60. About three-quarters of observations on the Landfill noted odors lesser than or equal to 4 D/T. Observations of hedonic tone ranged from -7 to 2, with the most negative (-4 to -7) primarily being around the Working Face Locations. D/Ts at or near the Working Face ranged between 4 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition, Musty/Moldy Compost, and Sulfur/Cabbage/Garlic, with descriptors such as 'trash', 'sour', 'rotten', 'rotten egg', and more. Hedonic tones at the Working Face ranged between -3 and -7. No Green Waste was apparent at this day. Other locations onsite and not immediately near the Working Face were described within the Spoiled Food/Decomposition, ND, Parks and Fields/Nature, Cleaning Solvents, and Bakery Categories. The highest D/T recorded at places other than locations at or near the Working Face was equal to 2 at various locations. The Average D/T and hedonic tone throughout the Landfill was 6.3 and -1.5, respectively.

Weather History Graph
April 29, 2015



Sampling Event 10 – May 12, 2015

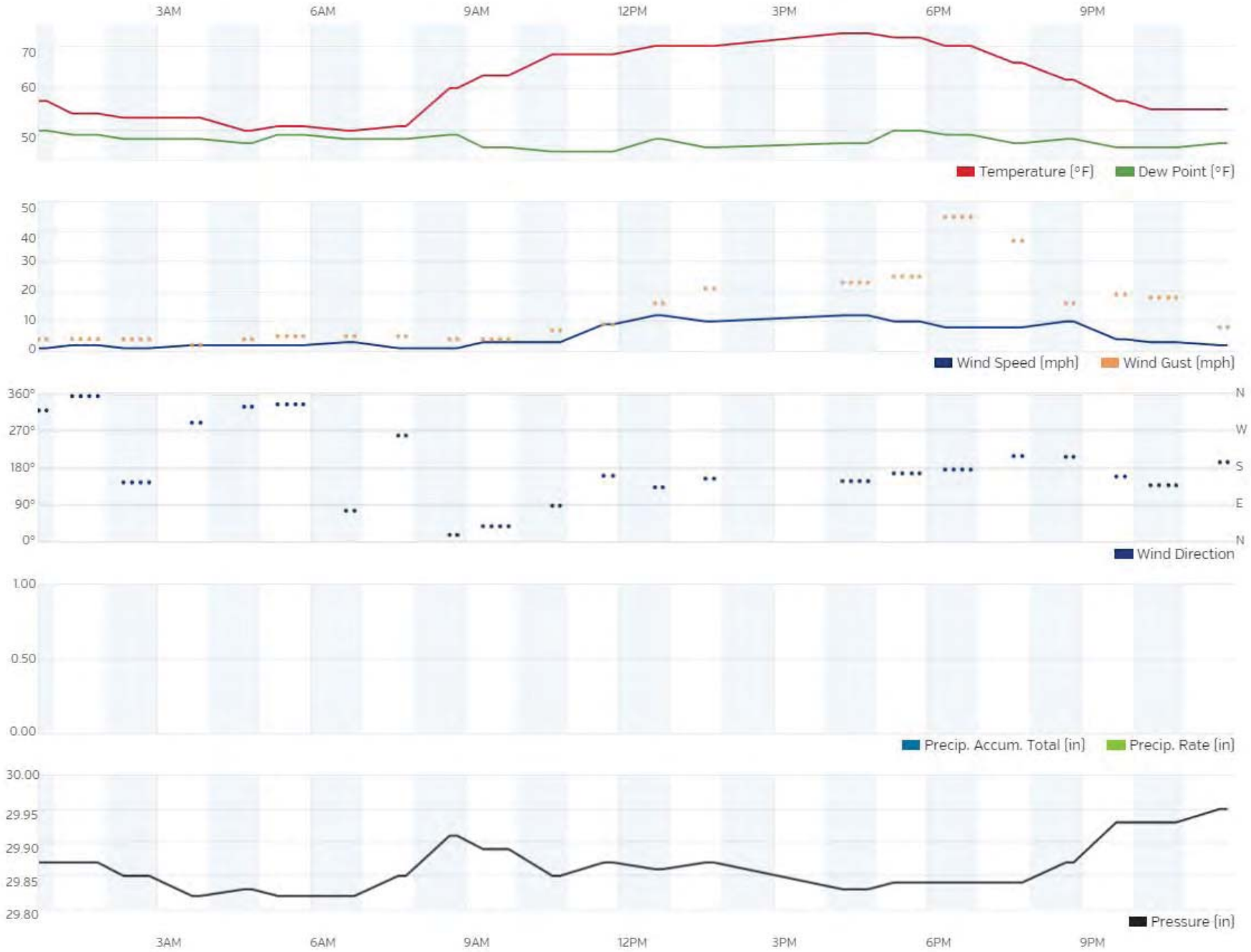
The tenth sampling event on Tuesday May 12th, 2015 took place between approximately 6:15 and 9:40 AM. Skies were mostly clear and temperatures ranged between 51 and 63 degrees Fahrenheit. Humidity ranged from 93% at the start of sampling, to 54% when the last observation was taken. Barometric air pressures ranged between 29.82 and 29.89 inches. Winds were light and originated from the north-northwest, east-northeast, west, north-northeast, and northeast directions.

Throughout all Locations, Parks and Fields/Nature were most common, followed by NDs and Spoiled Food/Decomposition. Over one-half of the Parks and Fields/Nature observations were recorded offsite, and half of those in the Val Verde Community. Descriptors associated with Parks and Fields/Nature included ‘hay, ‘grass’, and ‘sage’. Over one-half of all NDs were observed offsite. Of the Spoiled Food/Decomposition-related observations, most were recorded on the landfill. Of the offsite odors, none were detected in the Val Verde Community. Spoiled Food/Decomposition descriptors mostly included ‘trash’, ‘leachate’, ‘sour trash’, ‘sweet trash’, and more.

Offsite, D/Ts ranged from ND to 7. Hedonic tones noted at offsite locations ranged from -4 at Jackson Gate and Livingston/Watertank, up to 4 at Hunstock/Lincoln. Jackson Gate had Fecal descriptors of ‘farm’, ‘manure’, and ‘hay’ with D/Ts of 2, 4, and 7. Livingston/Watertank had Spoiled Food/Decomposition descriptors of ‘sour trash’, ‘leachate’, and ‘sage’ with D/Ts of 2 and 4. Hunstock/Lincoln had D/Ts of <2, 2, and 7 with a descriptors of ‘floral’, ‘wet grass’, and ‘hay’. The Average D/T and hedonic tone throughout the offsite Locations was 1.2 and -0.2, respectively.

Onsite, D/Ts ranged from ND to 60. Over three-quarters of observations on the Landfill noted odors lesser than or equal to 4 D/T. Observations of hedonic tone ranged from -7 to 3, with the most negative (-4 to -7) primarily being around the Working Face Locations. D/Ts at or near the Working Face ranged between <2 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition and Musty/Moldy Compost, with descriptors including ‘trash’, ‘leachate’, ‘sour’, ‘mulch’, and more. Hedonic tones at the Working Face ranged between -1 and -7. Other locations onsite and not immediately near the Working Face were described within the Spoiled Food/Decomposition, ND, Parks and Fields/Nature, Musty/Moldy Compost, Bakery, Sulfur/Cabbage/Garlic, Cleaning Solvents, and Auto Exhaust Categories. The highest D/T recorded at locations other than those at or near the working face was equal to 7 at the Odor System and Condensate Tanks with descriptors of ‘trash’ and ‘leachate’, respectively. The Average D/T and hedonic tone throughout the Landfill was 4.3 and -1.1, respectively.

Weather History Graph
May 12, 2015



Sampling Event 11 – May 13, 2015

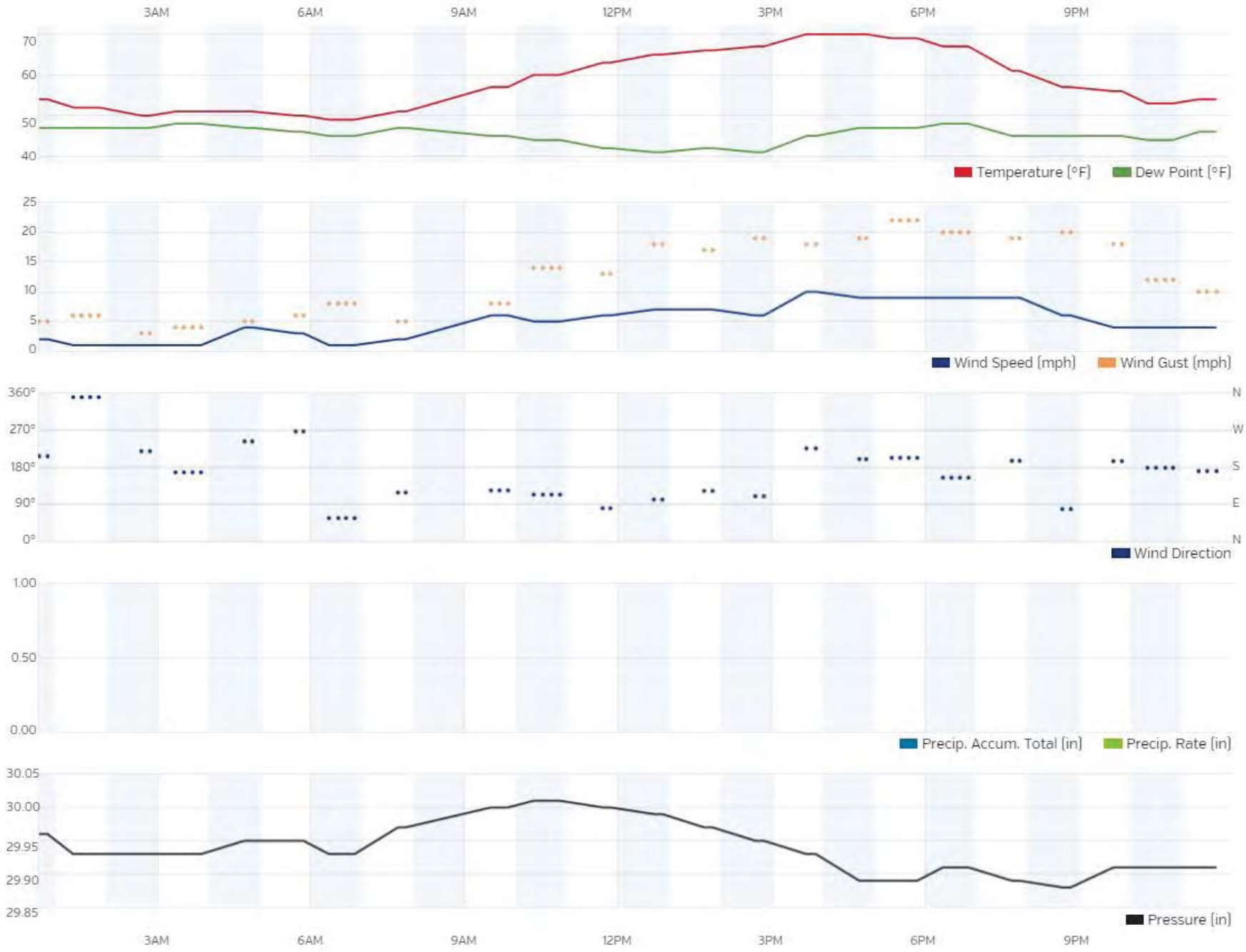
The eleventh sampling event on Wednesday May 13, 2015 took place between approximately 6:18 and 9:52 AM. Skies were mostly clear to overcast, and temperatures ranged between 49 and 57 degrees Fahrenheit. Humidity ranged from 86% at the start of sampling, to 65% when the last observation was taken. Barometric air pressures ranged between 29.93 and 30 inches. Winds were light to moderate and originated from the east-northeast, east-southeast, and southeast directions.

Throughout all Locations, NDs were most common, followed by Parks and Fields/Nature and Dusty/Earthy. Over half of NDs were recorded on the Landfill Property. Of the offsite NDs, almost one-half were recorded in the Val Verde Community. Parks and Fields/Nature descriptors mostly included ‘hay’, ‘grass’, ‘sage’, and ‘wet grass’. Over half of all Parks and Fields/Nature descriptors were detected offsite. Of the Spoiled Food/Decomposition-related observations, over one-half were recorded on the landfill. None of the offsite Spoiled Food/Decomposition observations were detected in the Val Verde Community. Spoiled Food/Decomposition descriptors mostly included ‘trash’ and ‘sour’, and were observed at no higher than a D/T of 4 offsite.

Offsite, D/T ranged from ND up to 4. Hedonic tones noted at offsite locations ranged from -3 at Pickford Place and Livingston/Watertank, up to 3 at Hunstock/Lincoln. Pickford Place was noted to have descriptors of ‘trash’ and ‘wet grass’, with D/Ts of 2 . Livingston/Watertank was noted to have descriptors of ‘trash’ and ‘sour trash’, with D/Ts of 2 and 4. Odor at Hunstock/Lincoln was described as ‘floral’ and ‘honeysuckle’, and had D/Ts of 2. Overall, the highest noted odor offsite was equal to 4 D/T at Livingston/Watertank. The Average D/T and hedonic tone throughout the offsite Locations was 0.7 and 0.1, respectively.

Onsite, D/Ts ranged from ND to 60. Over three-quarters of observations on the Landfill noted odors lesser than or equal to 4 D/T. Observations of hedonic tone ranged from -8 to 3, with the most negative (-4 to -8) being only observed around the Working Face Locations. D/Ts at or near the Working Face ranged between <2 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition, Musty/Moldy Compost, Cleaning Solvents, Sulfur/Cabbage/Garlic/ and Fishy/Ammonia, with descriptors such as ‘trash’, ‘mulch’, ‘rotten’, ‘seafood’, ‘sweet’, ‘air freshener’, and more. Hedonic tones at the Working Face ranged between -1 and -8. No Green Waste was apparent at this day. Other locations onsite and not immediately near the Working Face were described within the ND, Parks and Fields/Nature, Spoiled Food/Decomposition, Fecal, Dusty/Earthy, Auto Exhaust, and Cleaning Solvents Categories. The highest D/T recorded other than locations at or near the Working Face was equal to 2 at various locations. The Average D/T and hedonic tone throughout the Landfill was 8.2 and -0.8, respectively.

Weather History Graph
May 13, 2015



Sampling Event 12 – May 14, 2015

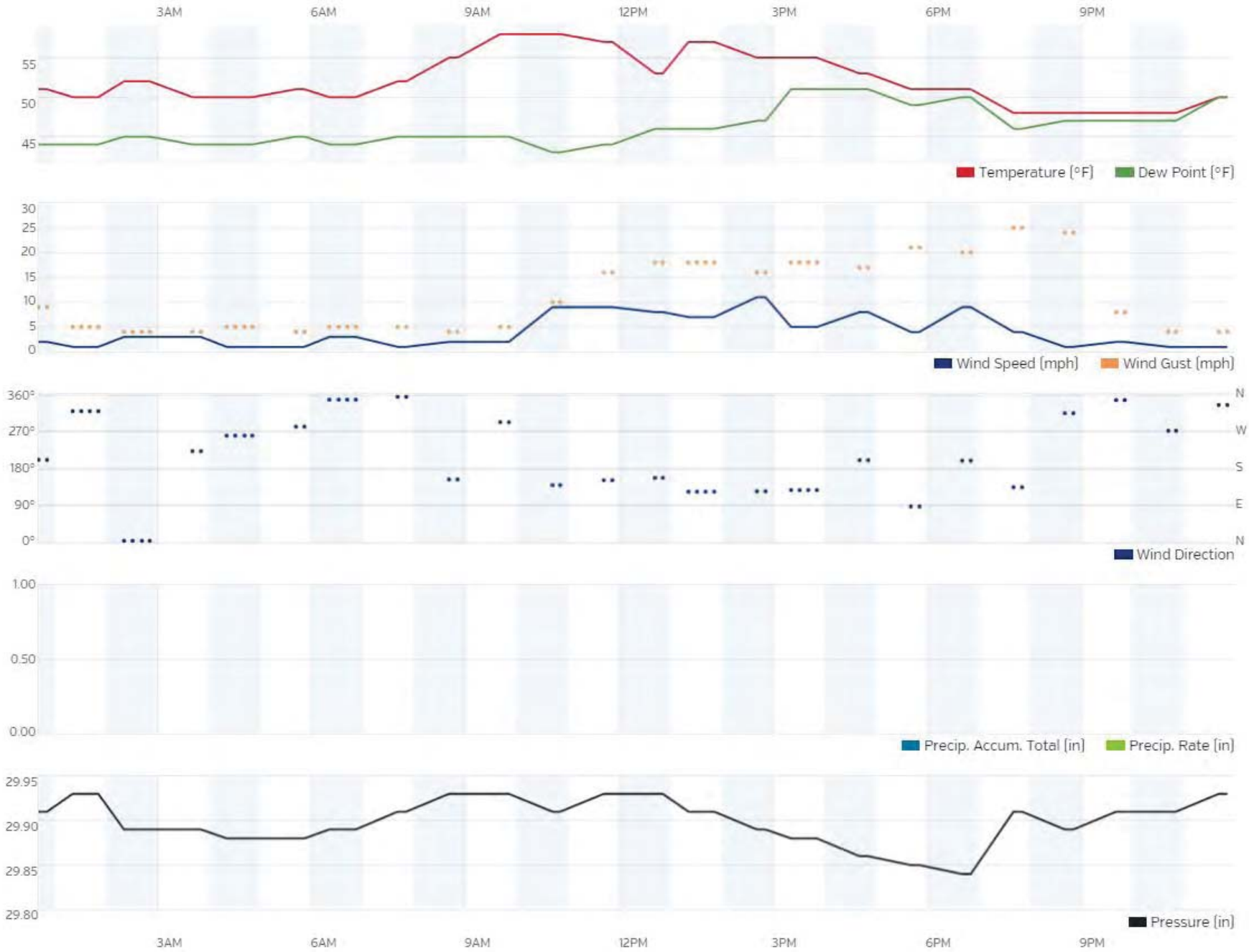
The twelfth sampling event on Thursday May 14, 2015 took place between approximately 6:17 and 9:54 AM. Skies were partly cloudy with some showers, and temperatures ranged between 50 and 58 degrees Fahrenheit. Humidity ranged from 79% at the start of sampling, to 62% when the last observation was taken. Barometric air pressures ranged between 29.89 and 29.93 inches. Winds were light and originated from the north, south-southeast, and west-northwest directions.

Throughout all locations, NDs were most common, followed by Parks and Fields/Nature and Spoiled Food/Decomposition. Over one-half of NDs were recorded offsite. Of those, almost one-third were recorded in the Val Verde Community. Parks and Fields/Nature descriptors mostly included 'hay', 'sage', and 'grass'. Approximately one-half of all Parks and Fields/Nature descriptors were detected offsite, and one-half on the Landfill. Of the Spoiled Food/Decomposition-related observations, most were recorded on the landfill. Two observations were detected in the Val Verde Community at Harding South Turn, but the suspected source is something other than the landfill. Spoiled Food/Decomposition descriptors mostly included 'trash', 'leachate', 'sour', and more, and were observed at no higher than a D/T of 2 offsite.

Offsite, D/Ts ranged from ND up to 2. Hedonic tones noted at offsite locations ranged from -3 at Lincoln Avenue South Turn, Jackson Gate, and Livingston/Watertank, up to 2 at Monroe/Lincoln and Taylor/Lincoln. Locations with a hedonic tone of -3 had D/Ts of <2 and 2. Locations with a hedonic tone of 2 had D/Ts of <2 and 2. Overall, the highest noted odor offsite was equal to 2 D/T at various locations. The Average D/T and hedonic tone throughout the offsite Locations was 0.6 and -0.1, respectively.

Onsite, D/Ts ranged from ND to 60. Over three-quarters of observations on the Landfill noted odors lesser than or equal to 4 D/T. Observations of hedonic tone ranged from -6 to 2, with the most negative (-4 to -6) being only observed around the Working Face Locations. D/Ts at and near the Working Face ranged between <2 and 60. Odors at the Working Face were recorded as Spoiled Food Decomposition, Sulfur/Cabbage/Garlic, Musty/Moldy Compost, and Dusty/Earthy. These descriptors included terms such as 'trash', 'mulch', 'rotten egg', 'sour' and more. Hedonic tones at the Working Face ranged between -1 and -6. No Green Waste was apparent at this day. Other locations onsite and not immediately near the Working Face were described within the ND, Spoiled Food/Decomposition, Parks and Fields/Nature, Dusty Earth, and Cleaning Solvents Categories. The highest D/T recorded at locations other than the at or near the Working Face was equal to 7 at Perimeter NNE with a descriptor of 'air freshener'. The Average D/T and hedonic tone throughout the Landfill was 4.9 and -1, respectively.

Weather History Graph
May 14, 2015



Sampling Event 13 – May 20, 2015

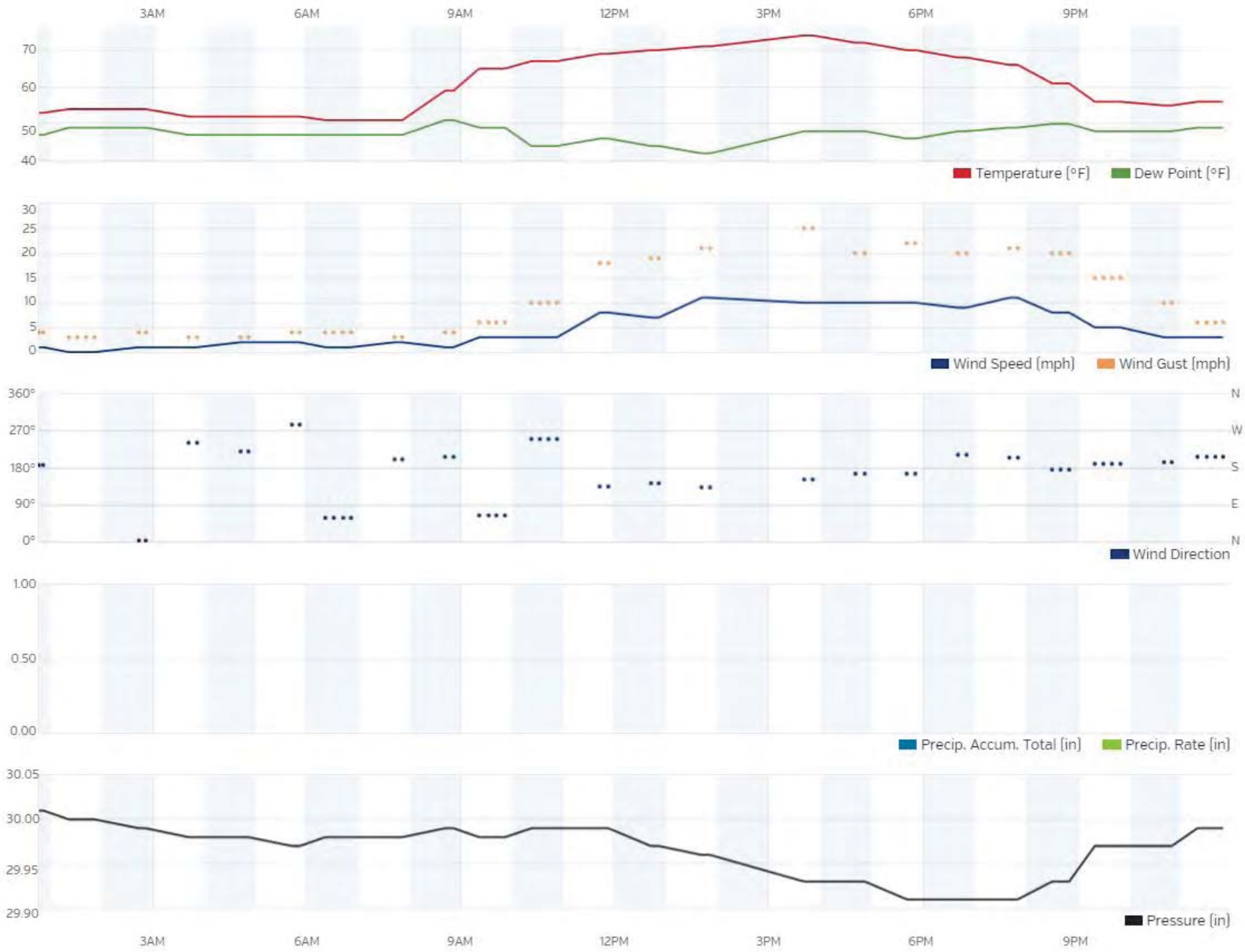
The thirteenth sampling event on Wednesday May 20th, 2015 took place between approximately 6:10 and 9:25 AM. Skies were partly cloudy and temperatures ranged between 51 and 65 degrees Fahrenheit. Humidity ranged from 85% at the start of sampling, to 56% when the last observation was taken. Barometric air pressures were maintained at 29.98 inches. Winds were light and originated from the east-northeast and the south-southwest directions.

Throughout all locations, NDs were most common, followed by Parks and Fields/Nature and Spoiled Food/Decomposition. Approximately one-half of the NDs were recorded offsite, and one-half onsite. Of those NDs recorded offsite, over one-half were recorded in the Val Verde Community. Parks and Fields/Nature descriptors mostly included ‘grass’, ‘hay’, ‘sweet’, ‘sour’, and ‘wet grass’. Over three-quarters of all Parks and Fields/Nature descriptors were detected offsite, and of those, over half were recorded in the Val Verde Community. Of the Spoiled Food/Decomposition-related observations, almost all were recorded on the landfill. None were recorded in the Val Verde Community. Spoiled Food/Decomposition descriptors mostly included ‘trash’, ‘sweet’, ‘sharp’, and more.

Offsite, D/Ts ranged from ND up to 2. Hedonic tones noted at offsite locations ranged from -4 at Jackson Gate, up to 4 at Cromwell/Hunstock. Jackson Gate had D/Ts of 2 with descriptors of ‘manure’, ‘trash’, and ‘seafood’. Cromwell/Hunstock had D/Ts of <2 and 2 with descriptors of ‘sweet’, ‘maple’, ‘berries’, and ‘hay’. Overall, the highest noted odor offsite was equal to 2 D/T at various locations. The Average D/T and hedonic tone throughout the offsite Locations was 0.6 and 0.08, respectively.

Onsite, D/Ts ranged from ND to 60. About three-quarters of observations on the Landfill noted odors lesser than or equal to 4 D/T. Observations of hedonic tone ranged from -6 to 2, with the most negative (-4 to -6) being only observed around the Working Face Locations. D/Ts at and near the Working Face ranged between <2 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition, Fishy/Ammonia, Sulfur/Cabbage/Garlic, and Fecal. These descriptors included terms such as ‘trash’, ‘seafood’, ‘rotten egg’, ‘sweet’, ‘manure’, and more. Hedonic tones at the Working Face ranged between -1 and -6. Other locations onsite and not immediately near the Working Face were described within the ND, Spoiled Food/Decomposition, Parks and Fields/Nature, Fishy/Ammonia, Cleaning Solvents, Dusty/Earthy, and Auto Exhaust Categories. The highest D/T recorded at locations other than at or near the Working Face was equal to 15 at the Fire Center Overlook with descriptors of ‘trash’, ‘leachate’, and ‘sweet/rancid’. The Average D/T and hedonic tone throughout the Landfill was 5.4 and -0.7, respectively.

Weather History Graph
May 20, 2015



Sampling Event 14 – May 21, 2015

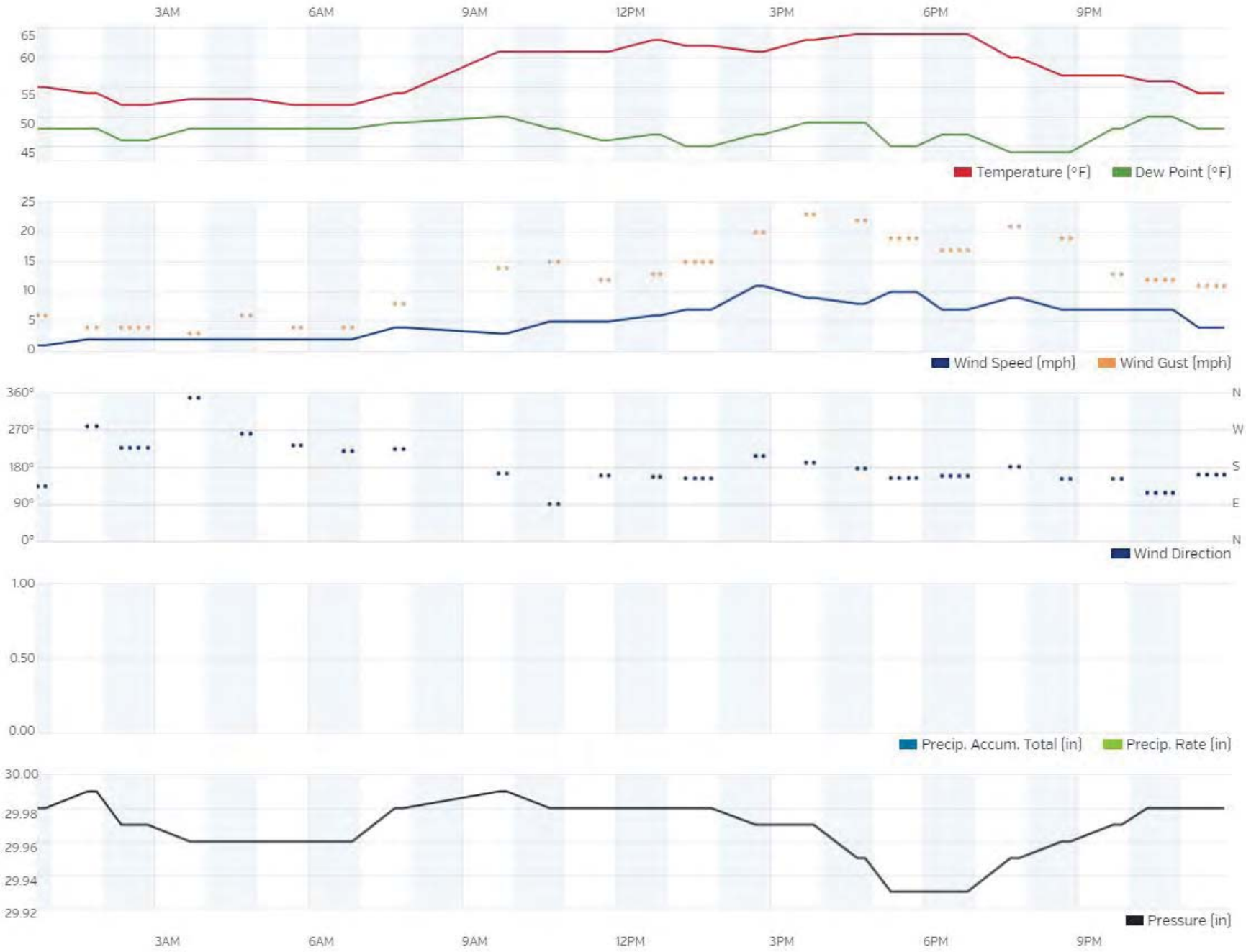
The fourteenth sampling event on Thursday May 21st, 2015 took place between approximately 6:31 and 10:10 AM. Skies were mostly cloudy to overcast, and temperatures ranged between 52 and 61 degrees Fahrenheit. Humidity ranged from 86% at the start of sampling, to 62% when the last observation was taken. Barometric air pressures ranged between 29.96 and 29.98 inches. Winds were light and originated from the southwest, south-southeast, and east directions.

Throughout all locations, NDs were most common, followed by Parks and Fields/Nature and Spoiled Food/Decomposition. Over one-half of the NDs were recorded offsite. Parks and Fields/Nature descriptors mostly included ‘wet hay’, ‘wet grass’, and ‘sage’. Over half of all Parks and Fields/Nature descriptors were detected offsite, and about half were recorded in the Val Verde Community. Of the Spoiled Food/Decomposition-related observations, all were recorded on the landfill. Spoiled Food/Decomposition descriptors mostly included ‘trash’, ‘rancid’, ‘rotten egg’, ‘mulch’, and more.

Offsite, D/Ts ranged from ND up to 2. Hedonic tones noted at offsite locations ranged from -3 at Jackson Gate, up to 2 at Industry Drive and Lincoln Avenue South Turn. Jackson Gate had D/Ts of <2 and 2 with descriptors of ‘manure’, ‘farm’, and ‘wet hay’. Industry Drive had D/Ts of <2 and 2 with descriptors of ‘fresh cut grass’ and ‘sweet grass’. Lincoln Avenue South Turn had D/Ts of ND, <2, and 2 with descriptors of ‘wet grass’ and ‘hay’. Overall, the highest noted odor offsite was equal to 2 D/T at various locations. The Average D/T and hedonic tone throughout the offsite Locations was 0.54 and 0.03, respectively.

Onsite, D/Ts ranged from ND to 60. Over three-quarter of observations on the Landfill noted odors lesser than or equal to 4 D/T. Observations of hedonic tone ranged -8 to 2, with the most negative (-5 to -8) being only observed around the Working Face Locations. D/Ts at and near the Working Face ranged between <2 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition, Musty/Moldy Compost, Sulfur/Cabbage/Garlic, and Cleaning Solvents. These descriptors included terms such as ‘trash’, ‘rotten egg’, ‘mulch’, ‘air freshener’ and more. Hedonic tones at the Working Face ranged between -1 and -8. Other locations onsite and not immediately near the Working Face were described within the ND, Spoiled Food/Decomposition, Parks and Fields/Nature, Musty/Moldy, Dusty/Earthy, Cleaning Solvents, and Auto Exhaust Categories. The highest D/T recorded at locations other than at or near the Working Face was equal to 7 at the Turnout Tank with descriptors of ‘trash’ and ‘sesame’. The Average D/T and hedonic tone throughout the Landfill was 6.11 and -1.2, respectively.

Weather History Graph
May 21, 2015



Sampling Event 15 – May 28, 2015

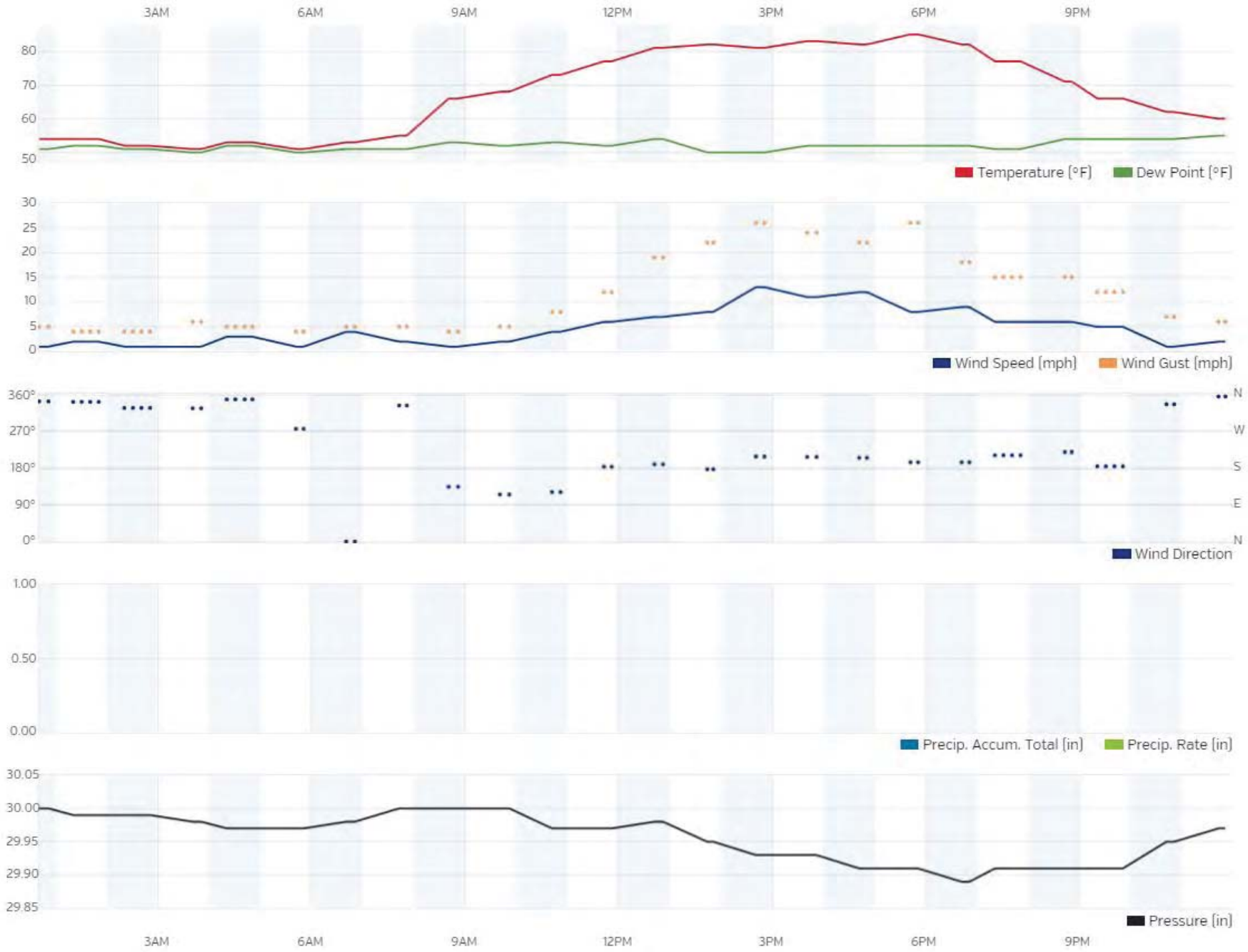
Sampling on Thursday, May 28th, 2015, took place between approximately 6:17 and 9:28 AM. Skies mostly clear and temperatures ranged between about 53 to 68 degrees Fahrenheit. Humidity ranged from 93% at the start of sampling, to 57% when the last observation was taken. Barometric air pressure rose from 29.98 to 30 inches. Winds were light, and originated from the north-northwest, north, southeast and east-southeast.

Throughout the Landfill and offsite sampling locations, NDs were most common, followed by descriptors relating to Parks and Fields/Nature and Spoiled Food/Decomposition. Parks and Fields/Nature descriptors recorded offsite included 'hay', 'grass', and 'sweet'. Approximately two-thirds of all NDs were recorded offsite. Roughly one-half of offsite NDs were recorded in the Val Verde Community.

Offsite, D/T ranged from non-detect (ND) up to 2. Hedonic tones noted at offsite locations ranged from negative one at the Wolcott Light, Monroe/Lincoln, Central East, Hunstock/Lincoln, and Del Valle 1 Locations, up to positive six at Livingston/Watertank. Locations with hedonic tones of -1 had recorded descriptors of 'dust', 'fruity', and 'exhaust'. Odor at Livingston/Watertank was described as 'sweet, sugary, bakery', 'marshmallow', and 'berries, sweet creme'. Locations with unpleasant odors with -1 hedonic tones were noted to have D/Ts of <2. Overall, the highest noted odor was equal to 2 D/T at Livingston/Watertank. This Location was the only Location to have a recorded D/T of 2, whereas all other offsite observations were either <2 or ND. The Average D/T and hedonic tone throughout the offsite Locations was 0.44 and 0.34, respectively.

Onsite, D/Ts ranged from ND to 60. Over three-quarters of observations on the Landfill noted odors lesser than or equal to 4 D/T. Observations of hedonic tone ranged from positive two to negative seven, with the most negative hedonic tones (-6 and -7) being noted at the Working Face and Green Waste. D/T at and near the Working Face ranged between <2 through 60. Odors at the Working Face were recorded as Must/Moldy Compost, Fishy/Ammonia, and Spoiled Food/Decomposition with descriptors such as 'very sweet, mulch', 'rotten trash, seafood, landfill', and 'trash, mulch, sour'. Other locations onsite and not immediately near the Working Face were described within the ND, Auto Exhaust, Spoiled Food/Decomposition, Parks and Fields/Nature, Cleaning Solvents, Dusty/Earthy, Sulfur/Cabbage/Garlic Categories. Over one-third of observations made in the other locations throughout the Landfill were identified to be ND. Approximately two thirds of detected odors onsite were attributed to Landfill waste. The highest D/T recorded other than locations at or near the Working Face was equal to 7 at the Energy Plant and Turnout Tank Locations (hedonic tones of -5 and -4, respectively). The Average D/T and hedonic tone throughout the Landfill was 5.43 and -1.0, respectively.

Weather History Graph
May 28, 2015



Sampling Event 16 – June 3, 2015

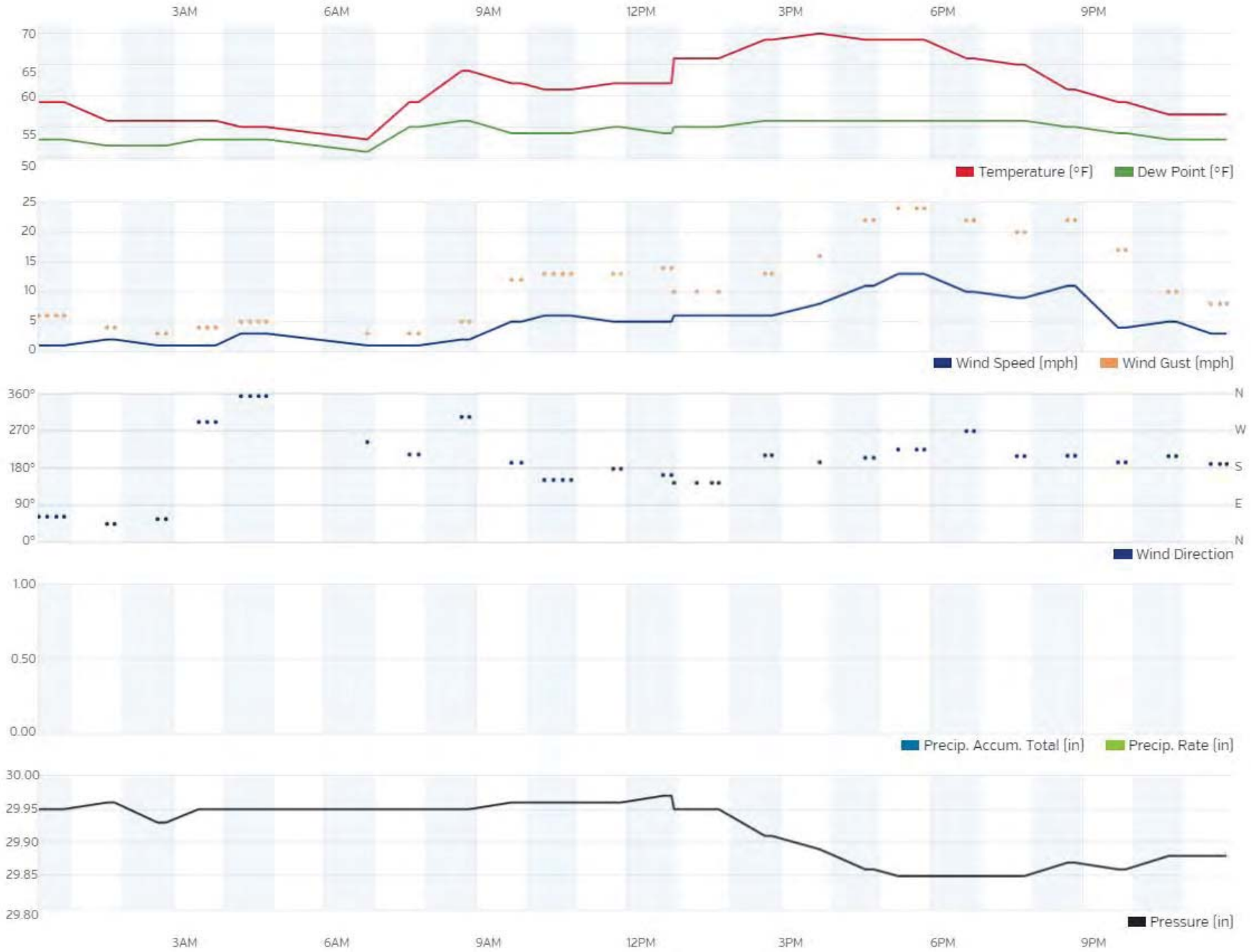
Sampling on Wednesday, June 3rd, 2015, took place between approximately 6:10 and 9:37 AM. Skies were mostly cloudy and temperatures ranged between about 53 to 62 degrees Fahrenheit. Humidity ranged from 94% at the start of sampling, to 75% when the last observation was taken. Barometric air pressure rose from 29.95 to 29.96 inches. Winds were light, and originated from the south-southwest, west-southwest, southwest, and northwest.

Throughout all Locations, NDs were most common, followed by descriptors relating to Spoiled Food/Decomposition and Parks and Fields/Nature. One-third of NDs were recorded on the Landfill Property and two-thirds of all recorded NDs were located offsite. Of the offsite NDs, more than one-half were recorded in the Val Verde Community. Less than one-fourth of Spoiled Food/Decomposition-related observations were recorded offsite. These odors were detected at Pickford Place and Post Office, with D/Ts of <2 or 2. Parks and Fields/Nature descriptors recorded offsite included 'hay', 'grass', and 'wet hay'. More than one-half of all Parks and Fields/Nature descriptors were recorded on the Landfill Property.

Offsite, D/T ranged from non-detect (ND) up to 2. Hedonic tones noted at offsite locations ranged from negative four at Pickford Place, up to positive three at Cromwell/Hunstock. A single descriptor of 'trash' was recorded at Pickford Place with D/Ts of <2 and 2. Odor at Cromwell/Hunstock was described as 'sweet', 'candy, sweet', and 'grass, sweet fruity'. Overall, the highest noted odor offsite was equal to 2 D/T at Pickford Place and the Post Office. These Locations had descriptors of 'trash', however, the source of the trash odor could not be attributed to the Landfill. The Average D/T and hedonic tone throughout the offsite Locations was 0.43 and -0.06, respectively.

Onsite, D/Ts ranged from ND to 60. Over three-quarters of observations on the Landfill noted odors lesser than or equal to 4 D/T. Observations of hedonic tone ranged from positive one to negative eight, with the most negative hedonic tones (-4 through -8) being noted at the Working Face Locations. D/T at and near the Working Face ranged between 2 and 60. Odors at the Working Face were recorded as Fishy/Ammonia, Spoiled Food/Decomposition, Sulfur/Cabbage/Garlic, and Cleaning Solvents with descriptors such as 'trash', 'trash, sour, rotten egg', 'rotten egg'. 'trash, mulch', 'air freshener, trash' and more. Hedonic tones at the Working Face ranged between -2 and -8. No Green Waste was apparent on this day. Other locations onsite and not immediately near the Working Face were described within the ND, Spoiled Food/Decomposition, Parks and Fields/Nature, Fishy/Ammonia, Cleaning Solvents, and Dusty/Earthy Categories. Over one-third of observations made in the other locations throughout the Landfill were recorded as ND. Approximately one-fourth of detected odors onsite were attributed to Landfill waste. The highest D/T recorded other than locations at or near the Working Face was equal to 4 at the Condensate Location (hedonic tone of -3). The Average D/T and hedonic tone throughout the Landfill was 8.01 and -1.4, respectively.

Weather History Graph
June 3, 2015



Sampling Event 17 – June 4, 2015

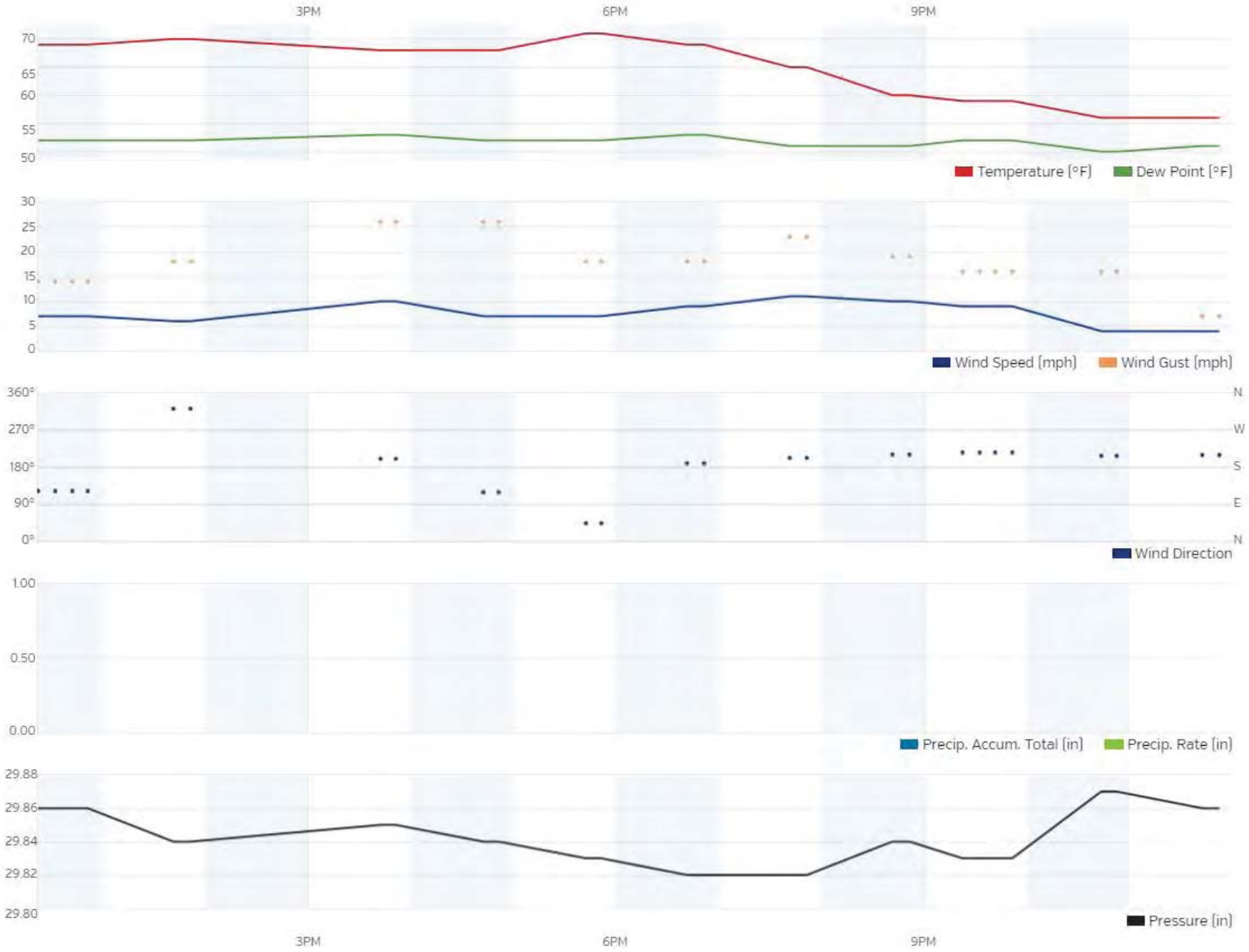
Sampling on Thursday, June 4th, 2015, took place between approximately 6:19 and 9:51 AM. Skies were overcast and temperatures decreased from 69 to 59 degrees Fahrenheit. Humidity ranged from 56% at the start of sampling, to 77% when the last observation was taken. Barometric air pressure rose from 29.82 to 29.83 inches. Winds were moderate, and originated from the south-southwest, southwest, and south.

Throughout all Locations, NDs were most common, followed by descriptors relating to Parks and Fields/Nature and Spoiled Food/Decomposition. Over one-third of NDs were recorded on the Landfill Property. Of the offsite NDs, more than one-half were recorded in the Val Verde Community. Parks and Fields/Nature descriptors recorded offsite mostly included 'hay', 'grass', and 'wet grass'. Over one-third of all Parks and Fields/Nature descriptors were recorded at the Landfill. No offsite locations had Spoiled Food/Decomposition-related observations. These odors were detected at the Landfill, with D/Ts of <2 up to 60.

Offsite, D/T ranged from non-detect (ND) up to 2. Hedonic tones noted at offsite locations ranged from negative three at Hunstock/Lincoln, up to positive two at Chiquito Cyn/Central. Hunstock/Lincoln was noted to have odor descriptors of 'rotten earth', 'grass', and ND, with D/Ts of <2 and 2. Odor at Chiquito Cyn/Central was described as grassy and floral. Overall, the highest noted odor offsite was equal to 2 D/T at Hunstock/Lincoln. This Location had descriptors of 'grass', 'rotten earth', and ND. The Average D/T and hedonic tone throughout the offsite Locations was 0.33 and 0.04, respectively.

Onsite, D/Ts ranged from ND to 60. Over three-quarters of observations on the Landfill noted odors lesser than or equal to 4 D/T. Observations of hedonic tone ranged from positive two to negative seven, with the most negative hedonic tones (-4 through -7) being noted at Working Face Locations. D/T at and near the Working Face ranged between 2 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition, Musty/Moldy, and Cleaning Solvents with descriptors such as 'trash', 'sour trash', 'trash, mulch', 'air freshener' and more. Hedonic tones at the Working Face ranged between -1 and -7. No Green Waste was apparent on this day. Other locations onsite and not immediately near the Working Face were described within the ND, Spoiled Food/Decomposition, Parks and Fields/Nature, Cleaning Solvents, and Auto Exhaust Categories. Over one-half of observations made in the other locations throughout the Landfill were recorded as ND. Less than one-fourth of detected odors onsite were attributed to Landfill waste. The highest D/T recorded other than locations at or near the Working Face was equal to 4 at the Turnout Tank Location (hedonic tone of -3). The Average D/T and hedonic tone throughout the Landfill was 8.53 and -1.1, respectively.

Weather History Graph
June 4, 2015



Sampling Event 18 – June 11, 2015

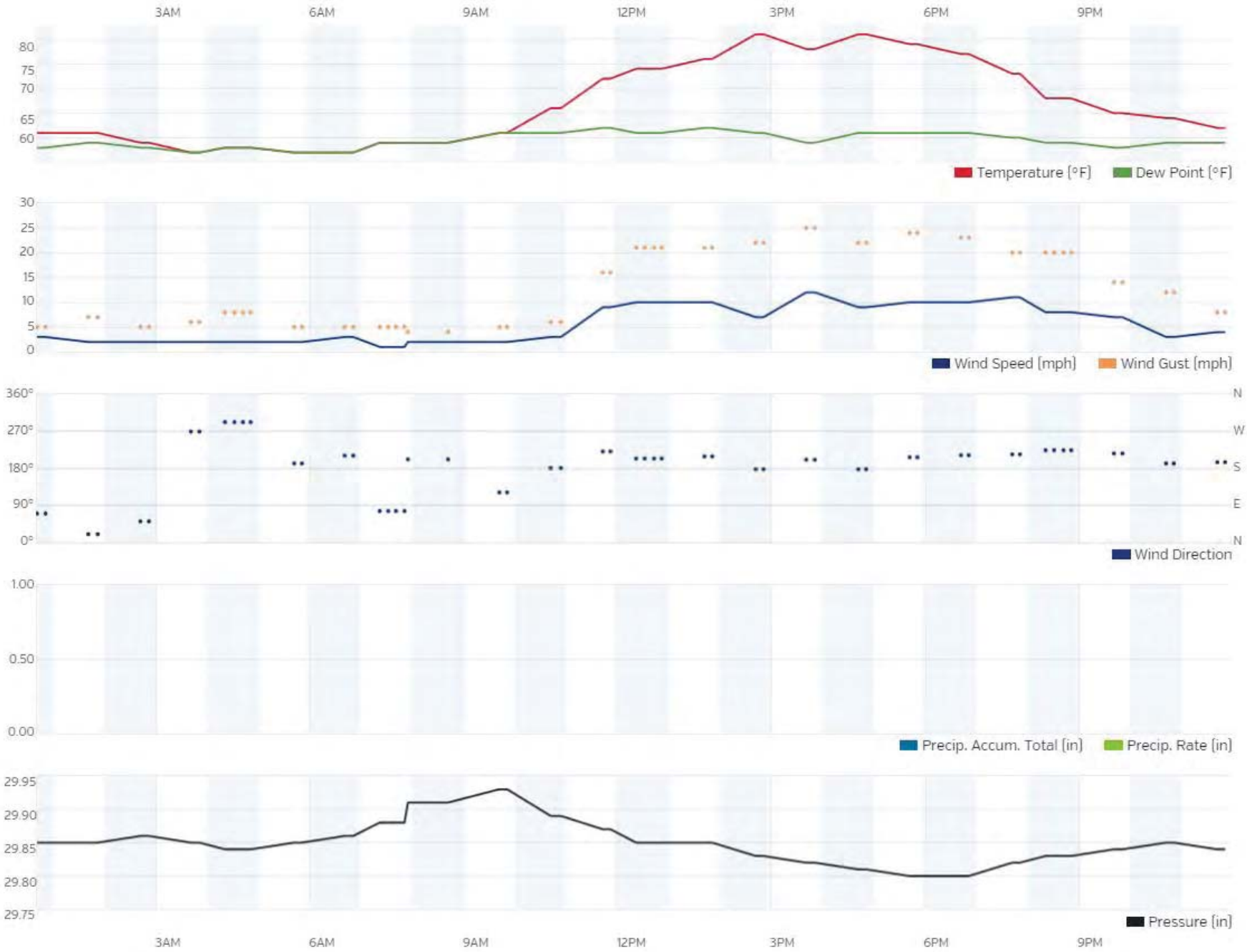
Sampling on Thursday, June 11th, 2015, took place between approximately 6:16 and 9:32 AM. Skies were overcast and foggy, and temperatures ranged from 57 to 61 degrees Fahrenheit. Humidity remained constant at 100% throughout the sampling duration. Barometric air pressure rose from 29.86 to 29.93 inches. Winds were light from the south-southwest, east-northeast, and east-southeast.

Throughout all Locations, NDs were most common, followed by descriptors relating to Parks and Fields/Nature and Spoiled Food/Decomposition. Over one-third of NDs were recorded on the Landfill Property. Of the offsite NDs, approximately two-thirds were recorded in the Val Verde Community. Parks and Fields/Nature descriptors recorded offsite mostly included 'hay', 'grass', and variations of sweet descriptors. One-third of all Parks and Fields/Nature descriptors were recorded at the Landfill. Two offsite Locations had Spoiled Food/Decomposition-related observations, however these descriptors were not attributed to the Landfill. Spoiled Food/Decomposition descriptors were detected at the Landfill with D/Ts of <2 up to 60.

Offsite, D/T ranged from non-detect (ND) up to 2. Hedonic tones noted at offsite locations ranged from negative three at Del Valle 1, up to positive four at Del Valle/Halsey Cyn. Del Valle 1 was noted to have odor descriptors of 'rotten, grass, rain', 'sweet rotten earth', and 'sweet rotten', with D/Ts of <2 and 2 and hedonic tones of -2 and -3. Odor at Chiquito Cyn/Central was described as 'maple syrup, sweet', 'maple syrup', and 'syrup, cocoa'. Overall, the highest noted odors offsite were equal to 2 D/T at the Central East, Hunstock/Lincoln, and Del Valle 1 Locations. These three Locations had descriptors within the Coffee Shop/Pleasant Flavors, Parks and Fields/Nature, Dusty/Earthy, Musty/Moldy Compost, Fecal, and Spoiled Food/Decomposition Categories. No descriptors recorded offsite were attributed to the Landfill. The Average D/T and hedonic tone throughout the offsite Locations was 0.69 and 0.18, respectively.

Onsite, D/Ts ranged from ND to 60. Three-quarters of observations on the Landfill noted odors lesser than or equal to 2 D/T. Observations of hedonic tone ranged from positive two to negative eight, with the most negative hedonic tones (-4 through -8) being noted at Working Face Locations. D/T at and near the Working Face ranged between 4 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition and Cleaning Solvents with descriptors such as 'trash', 'sour trash', 'trash, mulch', 'sweet sour trash, putrid' and others. Hedonic tones at the Working Face ranged between -2 and -8. No Green Waste was apparent on this day. Other locations onsite and not immediately near the Working Face were described within the ND, Spoiled Food/Decomposition, Cleaning Solvents, Parks and Fields/Nature, Coffee Shop/Pleasant Flavors, and Dusty/Earthy Categories. Over one-third of observations made in the other locations throughout the Landfill were recorded as ND. About one-half of detected odors onsite were attributed to Landfill waste. The highest D/T recorded other than locations at or near the Working Face was equal to 2 at the Perimeter North and Condensate Locations, with descriptors of 'trash', 'sour trash', 'faint leachate', and 'trash, hay'. The Average D/T and hedonic tone throughout the Landfill was 7.71 and -1.2, respectively.

Weather History Graph
June 11, 2015



Sampling Event 19 – June 25, 2015

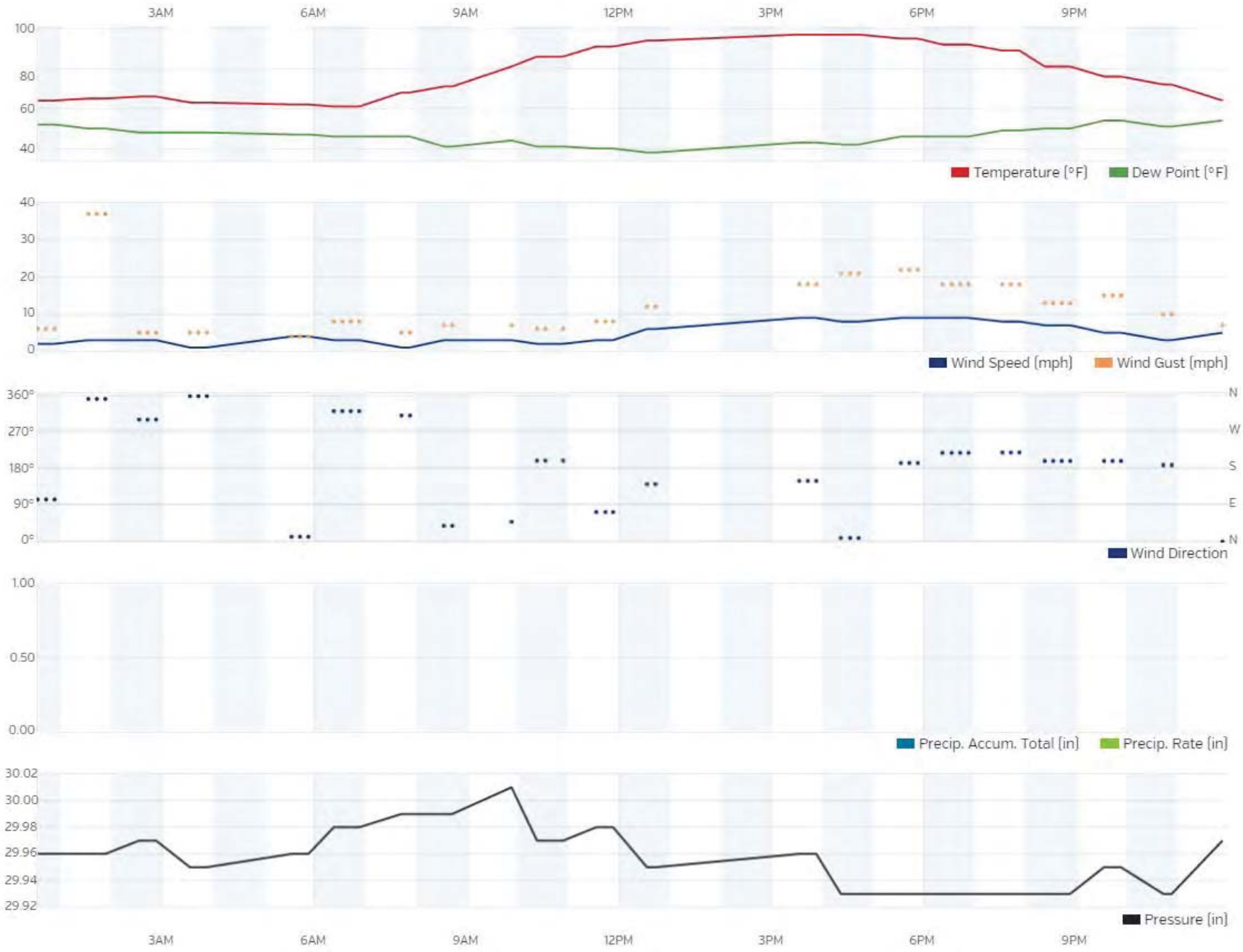
Sampling on Thursday, June 25th, 2015, took place between approximately 6:11 and 9:57 AM. Skies were mostly clear and temperatures ranged from 61 to 81 degrees Fahrenheit. Humidity decreased from 57% to 27% during the sampling duration. Barometric air pressure rose from 29.98 to 30.01 inches. Winds were calm to light from the northwest and northeast.

Throughout all Locations, NDs were most common, followed by descriptors relating to Spoiled Food/Decomposition and Parks and Fields/Nature. Over one-third of NDs were recorded on the Landfill Property. Of the offsite NDs, over one-third were recorded in the Val Verde Community. Parks and Fields/Nature descriptors recorded offsite mostly included 'hay', 'grass', and a couple 'faint sour' descriptors. Approximately one-third of all Parks and Fields/Nature descriptors were recorded at the Landfill. No offsite Locations had observations of odors which could be attributed to the Landfill. Spoiled Food/Decomposition descriptors were detected at the Landfill with D/Ts of <2 up to 60.

Offsite, D/T ranged from non-detect (ND) up to 4. Hedonic tones noted at offsite locations ranged from negative three at Jackson Gate and Monroe/Lincoln, up to positive four at Chiquito Cyn/Central. Jackson Gate and Monroe/Lincoln were noted to have manure odors with D/Ts of <2, 2 and 4. Odor at Chiquito Cyn/Central was described as 'floral' with a D/T of 4. Overall, the highest noted odors offsite were equal to 4 D/T at the Chiquito Cyn/Central and Jackson Gate Locations. These two Locations had descriptors within the Fragrant/Fruity and Fecal Categories, respectively. No descriptors recorded offsite were attributed to the Landfill. The Average D/T and hedonic tone throughout the offsite Locations was 0.55 and -0.18, respectively.

Onsite, D/Ts ranged from ND to 60. More than two-thirds of observations on the Landfill noted odors lesser than or equal to 2 D/T. Observations of hedonic tone ranged from positive one to negative eight, with the most negative hedonic tones (-4 through -8) being noted at Working Face Locations. D/T at and near the Working Face ranged between 2 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition, Fishy/Ammonia, and Cleaning Solvents with descriptors such as 'trash', 'sweet, sour trash', 'trash, leachate', 'mulch, trash, fishy', and others. Hedonic tones at the Working Face ranged between -2 and -8. No Green Waste was apparent on this day. Other locations onsite and not immediately near the Working Face were described within the ND, Spoiled Food/Decomposition, Parks and Fields/Nature, and Dusty/Earthy Categories. Over one-half of observations made in the other locations throughout the Landfill were recorded as ND. Less than one-fourth of detected odors onsite were attributed to Landfill waste. The highest D/T recorded other than locations at or near the Working Face was equal to 15 at the Odor System Location, described as 'wet dirt'. The Average D/T and hedonic tone throughout the Landfill was 7.98 and -1.4, respectively.

Weather History Graph
June 25, 2015



Sampling Event 20 – June 30, 2015

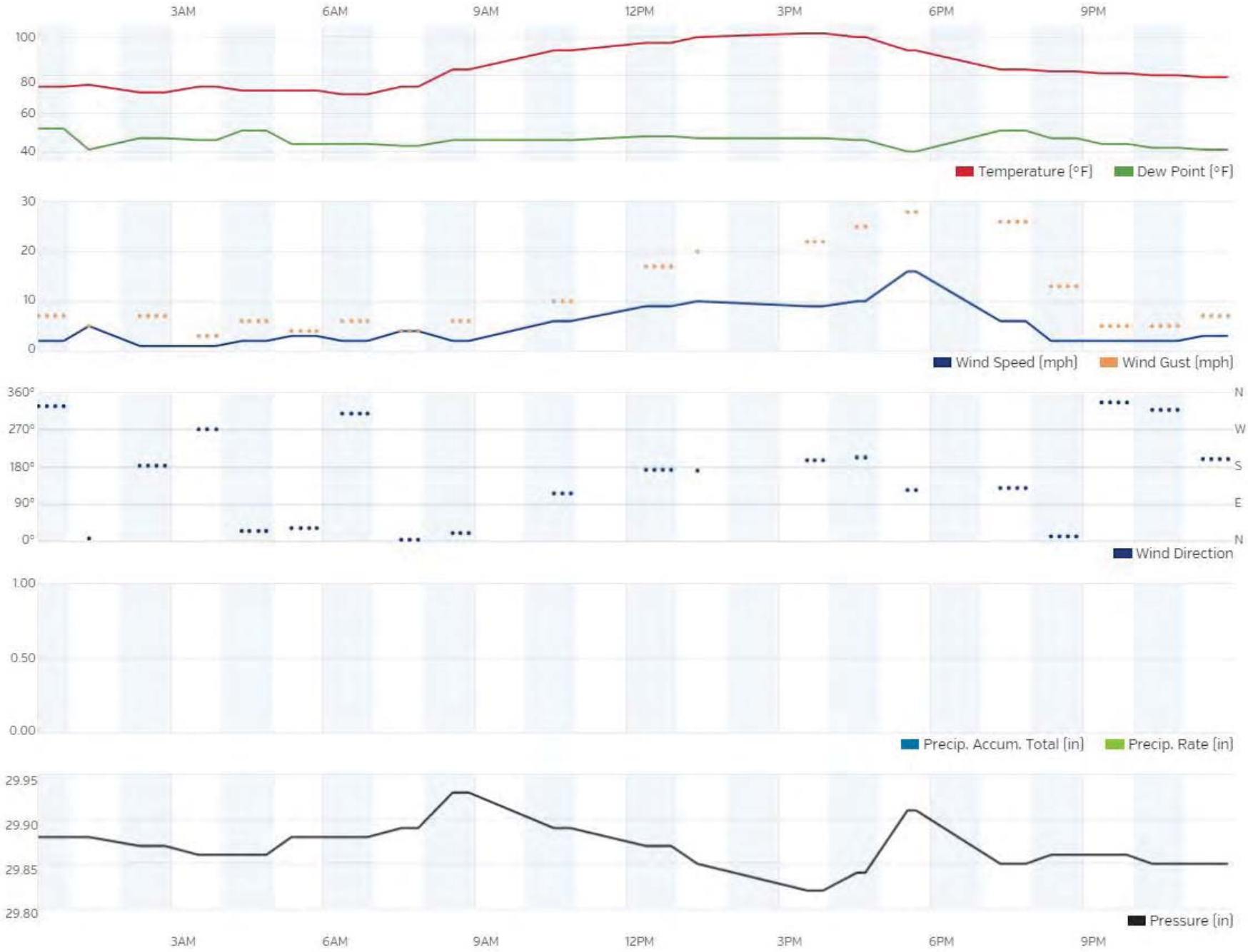
Sampling on Tuesday, June 30th, 2015, took place between approximately 6:14 and 9:32 AM. Skies were mostly clear, and temperatures ranged from 70 to 83 degrees Fahrenheit. Humidity decreased from 39% to 27% during the sampling duration. Barometric air pressure rose from 29.88 to 29.93 inches. Winds were calm and light from the northwest, north, and north-northeast.

Throughout all Locations, NDs were most common, followed by descriptors relating to Parks and Fields/Nature and Spoiled Food/Decomposition. About one-half of NDs were recorded on the Landfill Property. Of the offsite NDs, about two-thirds were recorded in the Val Verde Community. Parks and Fields/Nature descriptors recorded offsite included 'hay', 'grass', and 'eucalyptus, herby' descriptors. Over one-half of all Parks and Fields/Nature descriptors were recorded at the Landfill. Spoiled Food/Decomposition descriptors were detected at the Landfill with D/Ts of <2 up to 60.

Offsite, D/T ranged from ND up to 7. Hedonic tones noted at offsite locations ranged from negative four at Jackson Gate, up to positive eight at Liverpool Court. Jackson Gate was noted to have horse manure odors with D/Ts of 2 and 7. Odor at Liverpool Court was described as 'floral' and 'honeysuckle' with a D/T of 7. Overall, the highest noted odors offsite were equal to 7 D/T at the Liverpool Court and Jackson Gate Locations. One offsite Location, Chiquito Canyon South, was noted to have stale trash-like odor at D/Ts of 2 and 4. The Average D/T and hedonic tone throughout the offsite Locations was 1.23 and 0.72, respectively.

Onsite, D/Ts ranged from ND to 60. Three-quarters of observations on the Landfill noted odors lesser than or equal to 2 D/T. Observations of hedonic tone ranged from positive two to negative six, with the most negative hedonic tones (-5 and -6) being noted at Working Face Locations. D/T at and near the Working Face ranged between <2 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition, Dusty/Earthy, and Musty/Moldy Compost with descriptors such as 'trash', 'sour trash', 'moldy, mulchy, stale trash', 'trash, wet dirt', and others. Hedonic tones at the Working Face ranged between -1 and -6. No Green Waste was apparent on this day. Other locations onsite and not immediately near the Working Face were described within the ND, Parks and Fields/Nature, Spoiled Food/Decomposition, Fragrant/Fruity, Sulfur/Cabbage/Garlic, Dusty/Earthy, and Fecal Categories. Over one-half of observations made in the other locations throughout the Landfill were recorded as ND. Less than one-fourth of detected odors at other onsite Locations were attributed to Landfill waste. The highest D/T recorded other than locations at or near the Working Face was equal to 4 at the White Tanks Location, described as 'stale trash'. The Average D/T and hedonic tone throughout the Landfill was 7.91 and -0.9, respectively.

Weather History Graph
June 30, 2015



Sampling Event 21 – July 1, 2015

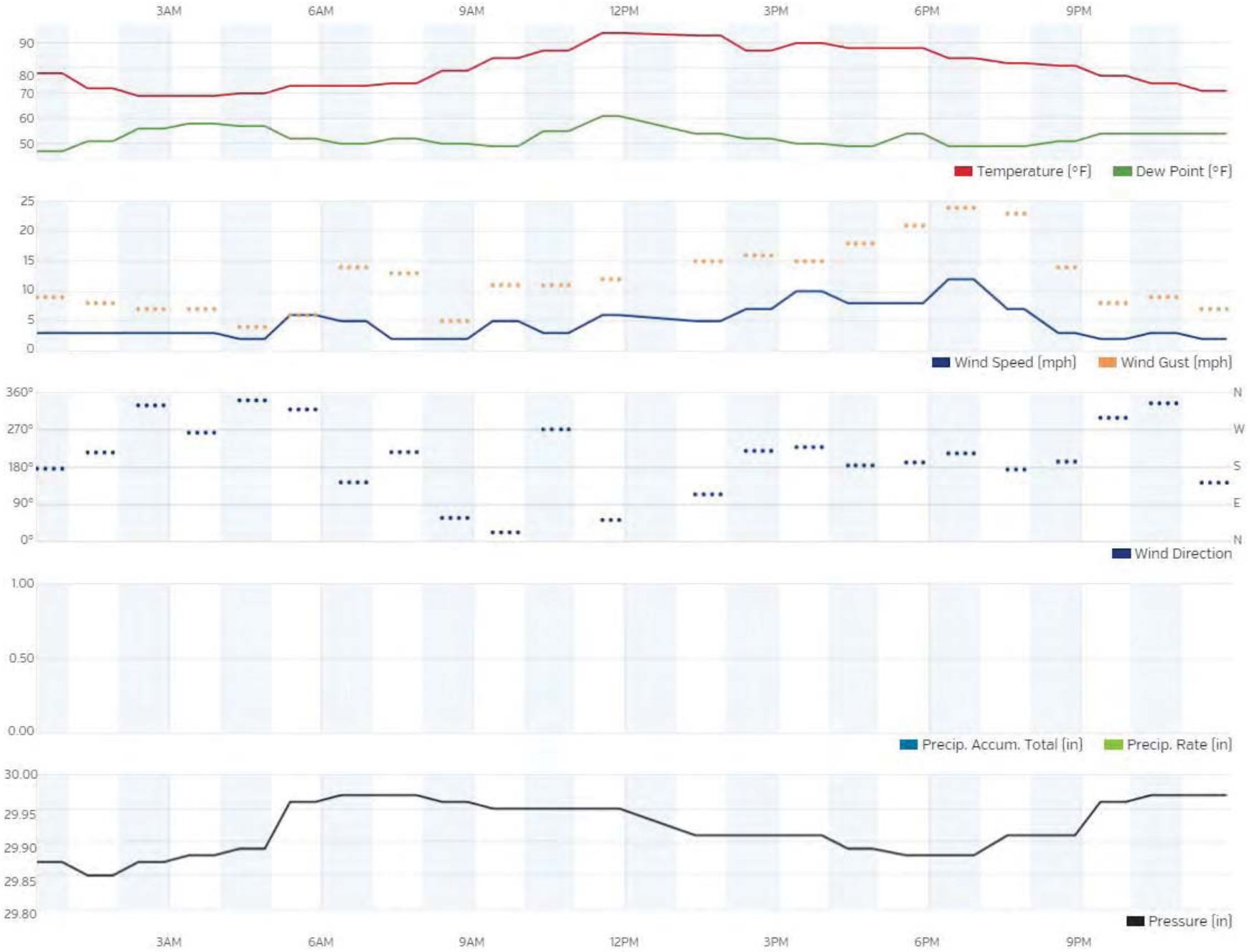
Sampling on Wednesday, July 1st, 2015, took place between approximately 6:13 and 9:30 AM. Skies were partly to mostly cloudy, and temperatures ranged from 73 to 84 degrees Fahrenheit. Humidity decreased from 39% to 27% during the sampling duration. Barometric air pressure rose from 29.88 to 29.93 inches. Winds were light from the northwest, north, and north-northeast.

Throughout all Locations, NDs were most common, followed by descriptors relating to Parks and Fields/Nature and Spoiled Food/Decomposition. More than one-third of NDs were recorded on the Landfill Property. Of the offsite NDs, about two-thirds were recorded in the Val Verde Community. Parks and Fields/Nature descriptors recorded offsite included 'hay', 'grass', and 'sage' as well as spicy and peppery descriptors. About one-third of all Parks and Fields/Nature descriptors were recorded at the Landfill. Spoiled Food/Decomposition descriptors were detected at the Landfill with D/Ts of <2 up to 60.

Offsite, D/T ranged from ND to 4. Hedonic tones noted at offsite locations were lowest at values of negative one at Wolcott Turn, Livingston/Watertank, Fire Center Road, Del Valle/Halsey Cyn, Del Valle 2, Post Office, Madison/Lincoln, and Chiquito Cyn/Madison. The most pleasant hedonic tone was recorded at positive five at Liverpool Court. Records of Locations with hedonic tones of -1 were described within the Parks and Fields/Nature, Dusty/Earthy, and Spoiled Food/Decomposition Categories. Odor at Liverpool Court was described as 'honeysuckle' and 'floral' with D/Ts of 2 and 4. Overall, the highest noted odor offsite was equal to 4 D/T at Liverpool Court. No offsite Locations had odors which were attributed to the Landfill. The Average D/T and hedonic tone throughout the offsite Locations was 0.43 and 0.20, respectively.

Onsite, D/Ts ranged from ND to 60. Over three-quarters of observations on the Landfill noted odors lesser than or equal to 2 D/T. Observations of hedonic tone ranged from positive three to negative six. D/T at and near the Working Face ranged between ND and 60. Odors at the Working Face were recorded as ND, Spoiled Food/Decomposition, Cleaning Solvents, Sulfur/Cabbage/Garlic, and Musty/Moldy Compost with descriptors such as 'trash', 'rotten egg', 'disinfectant', 'air freshener', 'trash, sharp, mulch', 'trash, leachate', and others. Hedonic tones at the Working Face ranged between -6 and 2. The positive hedonic tone was likely due to the operating odor system located nearby. No Green Waste was apparent on this day. Other locations onsite and not immediately near the Working Face were described within the ND, Parks and Fields/Nature, Spoiled Food/Decomposition, Dusty/Earthy, Bakery, and Fishy/Ammonia Categories. Over one-half of observations made in the other locations throughout the Landfill were recorded as ND. Less than one-fourth of detected odors at other onsite Locations were attributed to Landfill waste. The highest D/T recorded other than locations at or near the Working Face was equal to 7 at the White Tanks Location, described as 'trash, rotten'. The Average D/T and hedonic tone throughout the Landfill was 3.57 and -0.9, respectively.

Weather History Graph
July 1, 2015



Sampling Event 22 – July 2, 2015

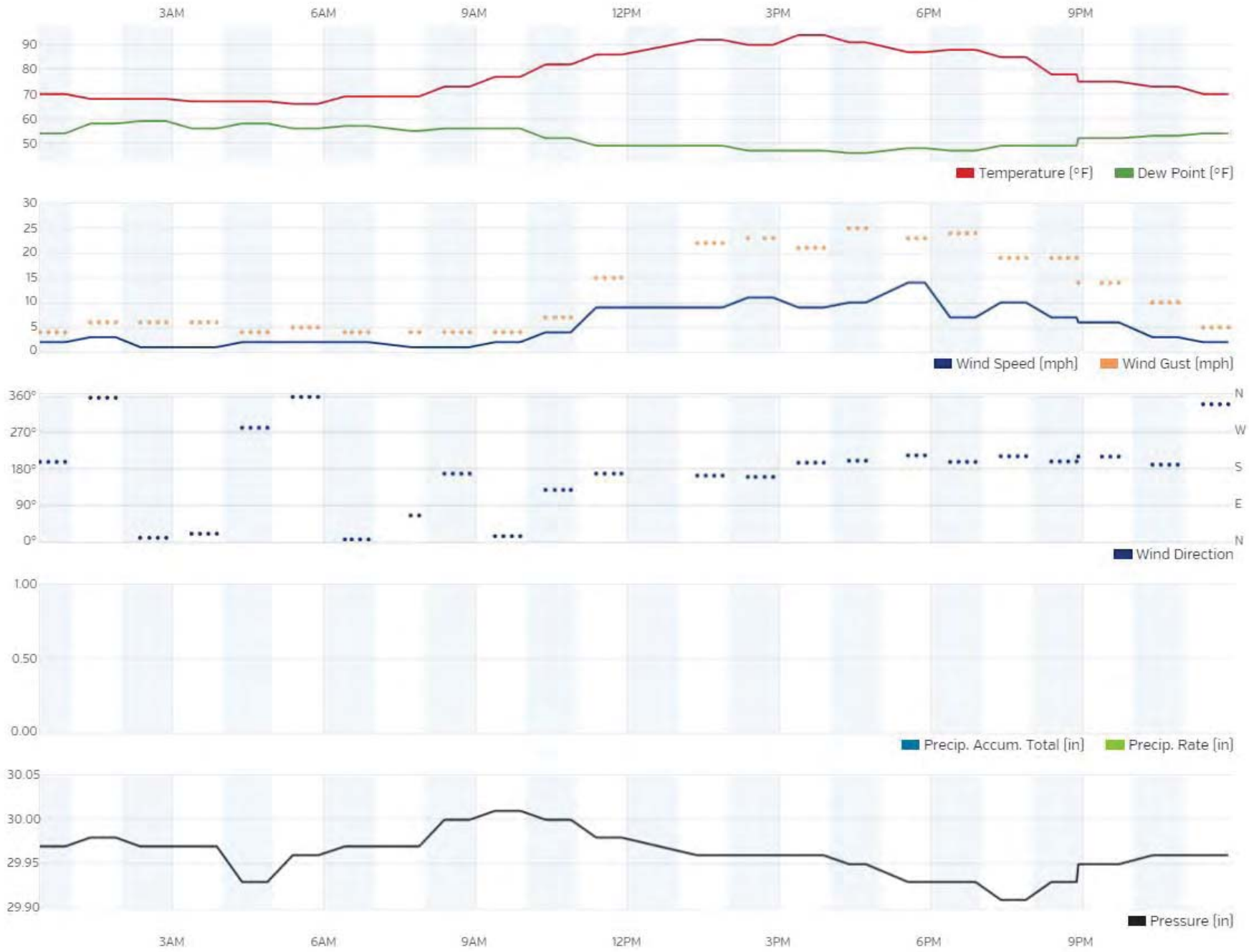
Sampling on Thursday, July 2nd, 2015, took place between approximately 6:20 and 9:42 AM. Skies were partly cloudy and temperatures ranged from 69 to 77 degrees Fahrenheit. Humidity decreased from 65% to 48% during the sampling duration. Barometric air pressure rose from 29.97 to 30.01 inches. Winds were calm to light from the north, north-northeast, east-northeast, and south.

Throughout all Locations, NDs were most common, followed by descriptors relating to Spoiled Food/Decomposition and Parks and Fields/Nature. About one-third of NDs were recorded on the Landfill Property. Of the offsite NDs, two-thirds were recorded in the Val Verde Community. Parks and Fields/Nature descriptors recorded offsite included 'hay', 'grass', and 'rotten sage' as well as spicy and herbal descriptors. More than one-third of all Parks and Fields/Nature descriptors were recorded at the Landfill. Spoiled Food/Decomposition-related odors were detected at the Landfill with D/Ts of <2 up to 60. No offsite Locations were described within the Spoiled Food/Decomposition Category.

Offsite, D/T ranged from ND to 7. Hedonic tones noted at offsite locations were lowest at values of negative four at Jackson Gate, to positive seven at Liverpool Court. Jackson Gate odors were described as 'manure' and 'horse manure' at D/Ts of 2 and 4. Odor at Liverpool Court was described as 'honeysuckle, sweet', 'honeysuckle', and 'floral' with D/Ts of 4 and 7. Overall, the highest noted odors offsite were equal to 7 D/T at Liverpool Court and Livingston/Watertank. No offsite Locations had odors which were attributed to the Landfill. The Average D/T and hedonic tone throughout the offsite Locations was 0.95 and 0.24, respectively.

Onsite, D/Ts ranged from ND to 60. Over three-quarters of observations on the Landfill noted odors lesser than or equal to 2 D/T. Observations of hedonic tone ranged from positive one to negative seven. D/T at and near the Working Face ranged between ND and 60. Odors at the Working Face were recorded as ND, Spoiled Food/Decomposition, Cleaning Solvents, and Dusty/Earthy, with descriptors such as 'trash, mulch', 'trash, vinegar, sharp, leachate', 'air freshener', 'sweet trash, mulch', and others. Hedonic tones at the Working Face ranged between -7 and -1. No Green Waste was apparent on this day. Other locations onsite and not immediately near the Working Face were described within the ND, Parks and Fields/Nature, Spoiled Food/Decomposition, Dusty/Earthy, and Fishy/Ammonia Categories. Over one-third of observations made in the other locations throughout the Landfill were recorded as ND. About one-half of detected odors at other onsite Locations were attributed to Landfill waste. The highest D/T recorded other than locations at or near the Working Face was equal to 7 at Perimeter North, and was described as 'trash', 'sweet trash, run off'. The Average D/T and hedonic tone throughout the Landfill was 3.98 and -1.2, respectively.

Weather History Graph
July 2, 2015



Sampling Event 23 – July 14, 2015

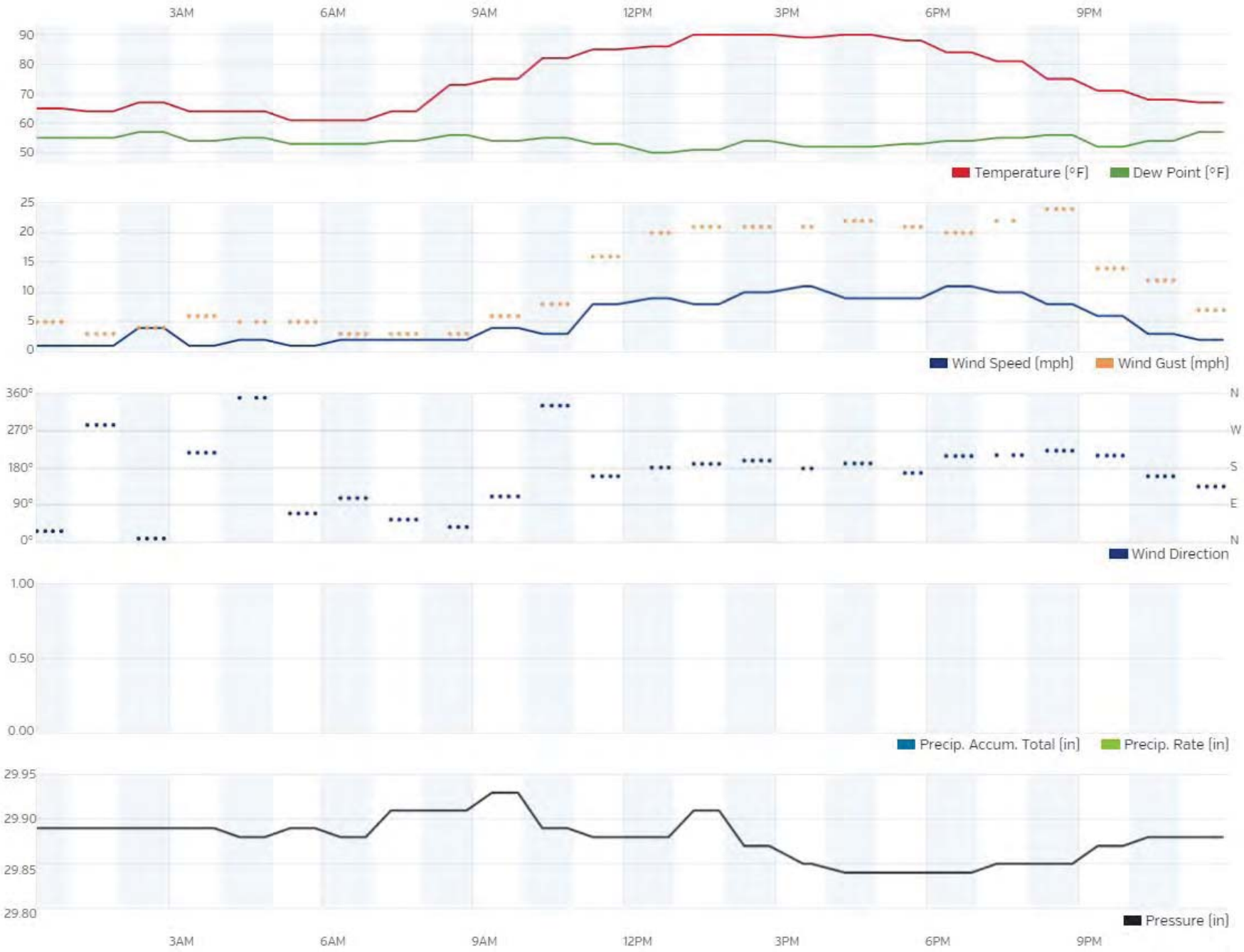
Sampling on Tuesday, July 14th, 2015, took place between approximately 6:38 and 9:39 AM. Skies were mostly clear and temperatures ranged from 61 to 75 degrees Fahrenheit. Humidity decreased from 76% to 48% during the sampling duration. Barometric air pressure rose from 29.88 to 29.93 inches. Winds were light from the northeast and east-southeast.

Throughout all Locations, NDs were most common, followed by descriptors relating to Parks and Fields/Nature and Spoiled Food/Decomposition. More than one-third of NDs were recorded on the Landfill Property. Of the offsite NDs, about one-half were recorded in the Val Verde Community. Parks and Fields/Nature descriptors recorded offsite included 'wet hay, musty', 'grass', and 'wet grass'. About one-third of all Parks and Fields/Nature descriptors were recorded at the Landfill. Spoiled Food/Decomposition-related odors were detected at the Landfill with D/Ts of <2 up to 60. Three offsite Locations were described within the Spoiled Food/Decomposition Category. These odors were suspected to be related to the Landfill at two of these Locations.

Offsite, D/T ranged from ND to 4. Hedonic tones noted at offsite locations were lowest at values of negative four at Jackson Gate, and highest (positive three) at the Chiquito Cyn/Central, Del Valle/Halsey Cyn, and Livingston/Watertank Locations. Chiquito Cyn/Central, Del Valle/Halsey Cyn, and Livingston/Watertank had recorded D/Ts between ND and <2, and were described with Fragrant/Fruity, Musty/Moldy Compost, Parks and Fields/Nature, and Soapy descriptors. Jackson Gate odors were described as Fecal, at D/Ts of 2 and 4, with hedonic tones of -2 and -4. Overall, the odors noted to have the highest D/Ts offsite were recorded at 4 D/T at the Cromwell/Hunstock, Fire Center Road, and Jackson Gate Locations. All three of these Locations had unpleasant hedonic tones. A 'trash, rotten' odor was noted at Fire Center Road, and was suspected to be attributed to the Landfill. Chiquito Cyn South was also suspected to have odors associated with the Landfill ('trash', 'faint sour trash', and descriptors with D/Ts equal to <2). No other offsite Locations had odors which were attributed to the Landfill. The Average D/T and hedonic tone throughout the offsite Locations was 0.80 and -0.14, respectively.

Onsite, D/Ts ranged from ND to 60. About three-quarters of observations on the Landfill noted odors lesser than or equal to 2 D/T. Observations of hedonic tone ranged from positive one to negative five. D/T at and near the Working Face ranged between 2 and 60. Odors at the Working Face were recorded as Spoiled Food/Decomposition, Musty/Moldy Compost, and Dusty/Earthy, with descriptors such as 'mulch, faint sharp trash', 'pungent, trash', 'musty, mulch', 'wet dirt', 'strong mulch', and others. Hedonic tones at the Working Face ranged between -4 and 1. Other locations onsite and not immediately near the Working Face were described within the ND, Auto Exhaust, Spoiled Food/Decomposition, Parks and Fields/Nature, Fecal, Dusty/Earthy, Bakery, and Sulfur/Cabbage/Garlic Categories. More than one-third of observations made in the other locations throughout the Landfill were recorded as ND. About one-fourth of detected odors at other onsite Locations were attributed to Landfill waste. The Odor System Location had a D/T equal to 60 and was described as 'rotten, trash', and 'strong, sweet rancid trash'. The Average D/T and hedonic tone throughout the Landfill was 8.25 and -0.9, respectively.

Weather History Graph
July 14, 2015



Sampling Event 24 – July 15, 2015

Sampling on Wednesday, July 15th, 2015, took place between approximately 6:40 and 11:55 AM. Skies were mostly clear and temperatures ranged from 59 to 80 degrees Fahrenheit. Humidity decreased from 92% to 46% during the sampling duration. Barometric air pressure rose from 29.93 to 29.95 inches. Winds were light and moderate from the north, east-northeast, east, east-southeast, and west-southwest.

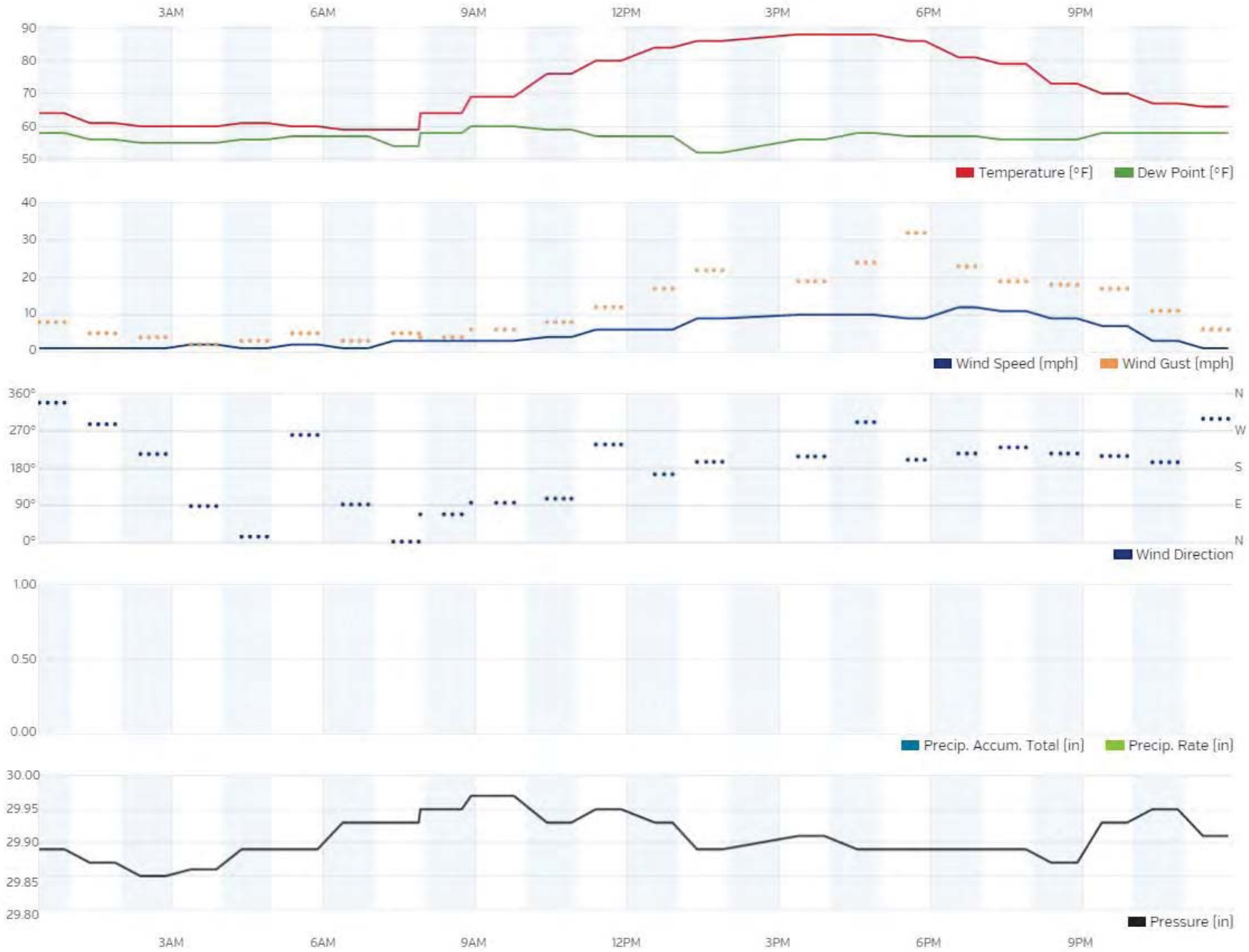
This sampling event was notable because it was the first occasion in which landfill odors were clearly detected in the Val Verde community.

Throughout all Locations, NDs were most common, followed by descriptors relating to Parks and Fields/Nature then Spoiled Food/Decomposition. About half of NDs were recorded on the Landfill Property. Of the offsite NDs, about one-half were recorded in the Val Verde Community. Parks and Fields/Nature descriptors recorded offsite included wet grass, wet hay, and some floral and sweet descriptors. About one-third of all Parks and Fields/Nature descriptors were recorded at the Landfill. Spoiled Food/Decomposition-related odors were detected at the Landfill with D/Ts of <2 up to 60.

Offsite, D/T ranged from ND to 7. Hedonic tones noted at offsite locations were lowest at values of negative three at Jackson Gate and Wolcott Light; to positive three at Liverpool Court, Livingston/Watertank, and Post Office. Jackson Gate was noted to have a Fecal odor. Wolcott Light had detections of ‘trash’ and ‘sour trash’ at <2, believed to be associated with the Landfill. Liverpool Court had a ‘floral, honeysuckle’ odor and the Post Office had Bakery-related odors. At Livingston/Watertank, ND, ‘sour trash’, and ‘shampoo’ were all noted, with hedonic tones ranging between negative two and positive three. The ‘sour trash’ record was suspected to be from the Landfill, however it may have been from a nearby confounding source instead. Six offsite Locations (Taylor/Linclon, Central East, San Martinez/Lincoln, Del Valle 1, Wolcott Light, and Livingston/Watertank) were suspected to have odors related to the Landfill, with D/Ts ranging between <2 and 4. Central East and Taylor/Lincoln had the highest detections. The Average D/T and hedonic tone throughout the offsite Locations was 0.83 and -0.34, respectively.

Onsite, D/Ts ranged from ND to 60. Three-quarters of observations on the Landfill noted odors lesser than or equal to 2 D/T. Observations of hedonic tone ranged from positive two to negative seven. D/T at and near the Working Face ranged between ND and 60. Odors at the Working Face were recorded as ND, Spoiled Food/Decomposition, Fishy/Ammonia, and Musty/Moldy Compost, with descriptors such as ‘mulch’, ‘sweet, leachate’, ‘sharp sweet mulch’, ‘seafood, sharp, trash, sweet’, and others. Hedonic tones at the Working Face ranged between -7 and -1. Other Locations onsite and not immediately near the Working Face were described within the ND, Parks and Fields/Nature, Spoiled Food/Decomposition, and Cleaning Solvents Categories. More than half of the observations made in the other Locations throughout the Landfill were recorded as ND. Less than one-fourth of the detected odors at other onsite Locations were attributed to Landfill waste. The highest D/T recorded other than Locations at or near the Working Face was equal to 15 at Condensate, and was described as ‘condensate’, ‘sour, mulch, leachate’, and ‘condensate, chemical’. The Average D/T and hedonic tone throughout the Landfill was 7.20 and -1.2, respectively.

Weather History Graph
July 15, 2015



Sampling Event 25 – July 16, 2015

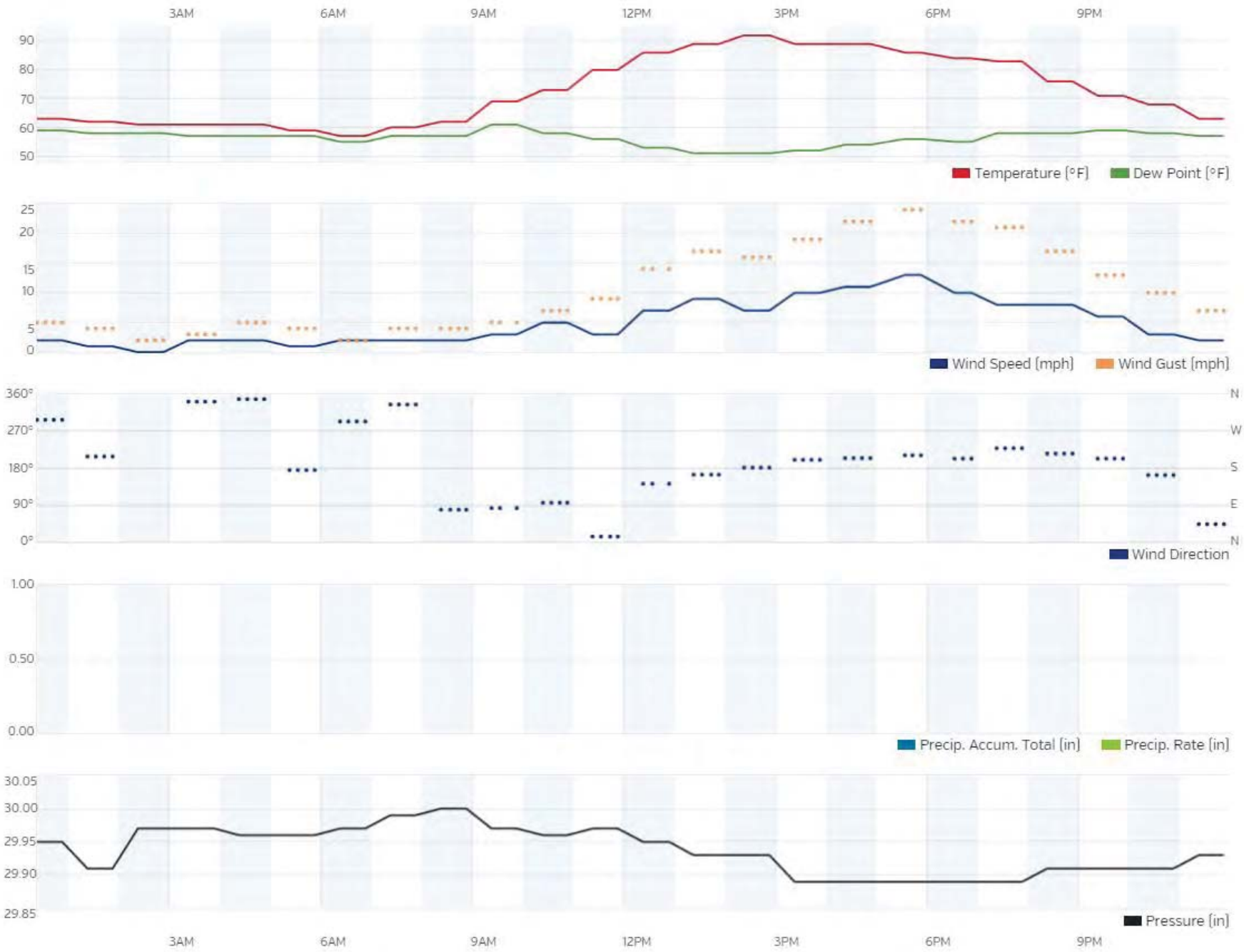
Sampling on Thursday, July 16th, 2015, took place between approximately 6:28 and 9:27 AM. Skies were mostly sunny and partly cloudy, and temperatures ranged from 57 to 69 degrees Fahrenheit. Humidity decreased from 92% to 75% during the sampling duration. Barometric air pressure remained constant at 29.97 inches. Winds were calm to light from the west-northwest, north-northwest, and east.

Throughout all Locations, NDs were most common, followed by descriptors relating to Spoiled Food/Decomposition then Parks and Fields/Nature. About half of NDs were recorded on the Landfill Property. Of the offsite NDs, more than one-third were recorded in the Val Verde Community. Parks and Fields/Nature descriptors recorded offsite included grass, hay, and some sweet descriptors. Over three-quarters of all Parks and Fields/Nature descriptors were recorded offsite. Spoiled Food/Decomposition-related odors were detected at the Landfill with D/Ts of <2 up to 60.

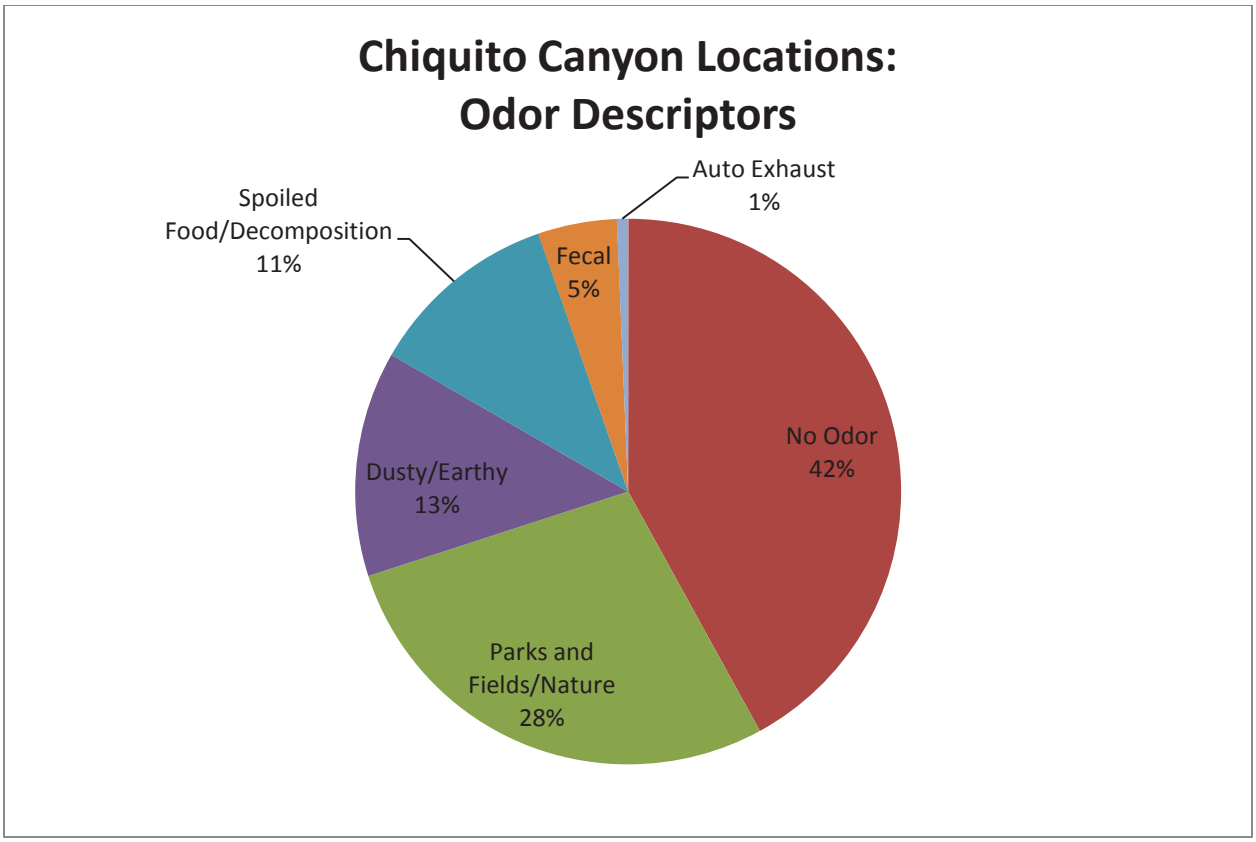
Offsite, D/T ranged from ND to 4. Hedonic tones noted at offsite locations were lowest at values of negative three at Harding South Turn, Jackson Gate, Livingston/Watertank, and Monroe/Lincoln; to positive three at Del Valle/Halsey Cyn and Chiquito Cyn/Central. Jackson Gate, Harding South Turn, and Monroe/Lincoln had odors described within the Fecal Category. Livingston/Watertank had a detection of ‘sour trash’, however dumpsters were located nearby on this day, so the descriptor could not be attributed to the Landfill. Chiquito Cyn/Central and Del Valle/Halsey Cyn had pleasant descriptors within the Fragrant/Fruity, Bakery, and Coffee Shop Categories. Two offsite Locations, Harding Lot and Madison/Lincoln, were noted to have odors described as ‘sweet, trash’, ‘faint sweet trash’, ‘faint sour trash’, at D/Ts of <2 and 2. These odors were suspected to be Landfill-related, however the trash odors were very faint. All other offsite Locations had no Landfill-related odors. The Average D/T and hedonic tone throughout the offsite Locations was 0.75 and -0.27, respectively.

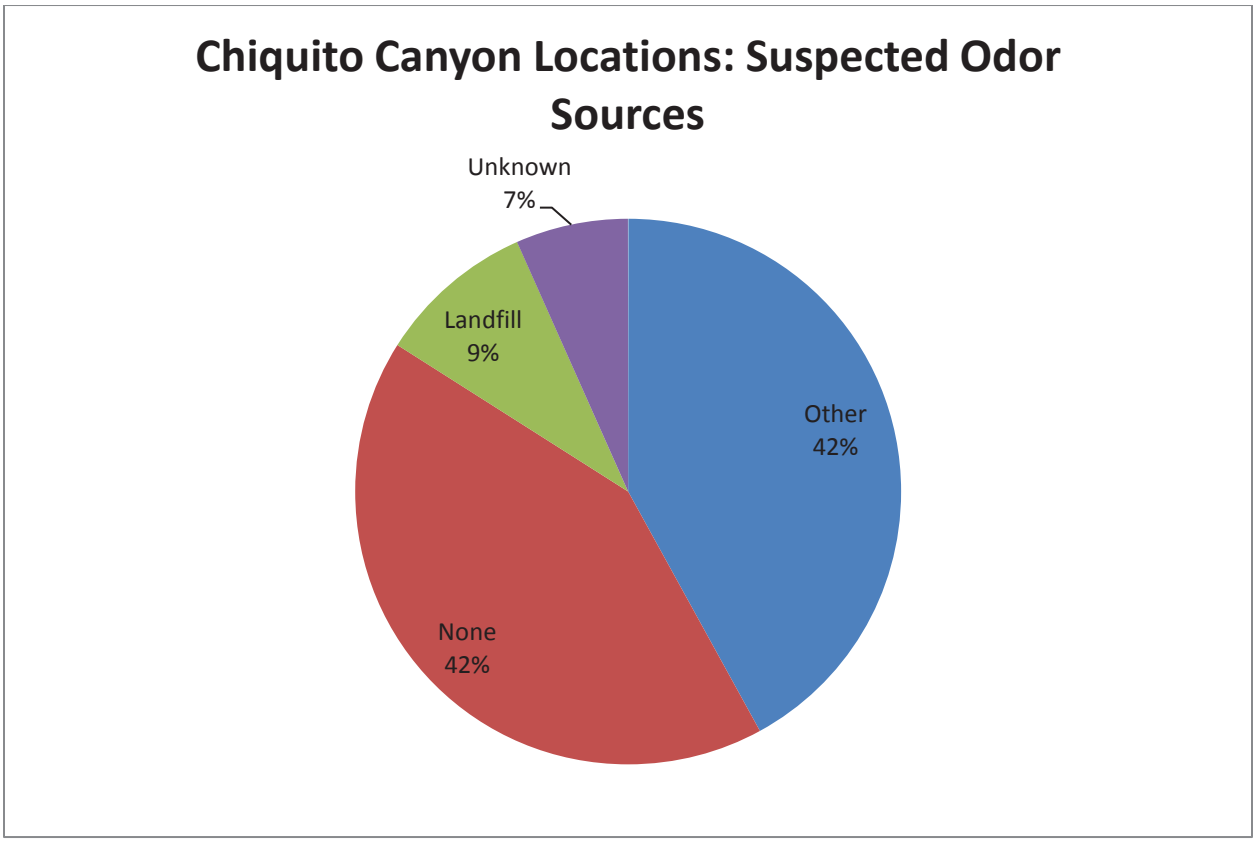
Onsite, D/Ts ranged from ND to 60. Three-quarters of observations on the Landfill noted odors lesser than or equal to 2 D/T. Observations of hedonic tone ranged from positive one to negative eight. D/T at and near the Working Face ranged between ND and 60. Odors at the Working Face were recorded as ND, Spoiled Food/Decomposition, and Musty/Moldy Compost, with descriptors such as ‘sour trash, mulch’, ‘air freshener, mulch’, ‘mulch, bologna, sweet’, and others. Hedonic tones at the Working Face ranged between -8 and -2. Other Locations onsite and not immediately near the Working Face were described within the ND, Dusty/Earthy, Spoiled Food/Decomposition, Auto Exhaust, Cleaning Solvents, and Parks and Fields/Nature Categories. Roughly half of the observations made in the other Locations throughout the Landfill were recorded as ND. One-third of detected odors at other onsite Locations were attributed to Landfill waste. The highest D/T recorded other than Locations at or near the Working Face was equal to 7 at Perimeter North, described as ‘sour trash’. The Average D/T and hedonic tone throughout the Landfill was 8.34 and -1.4, respectively.

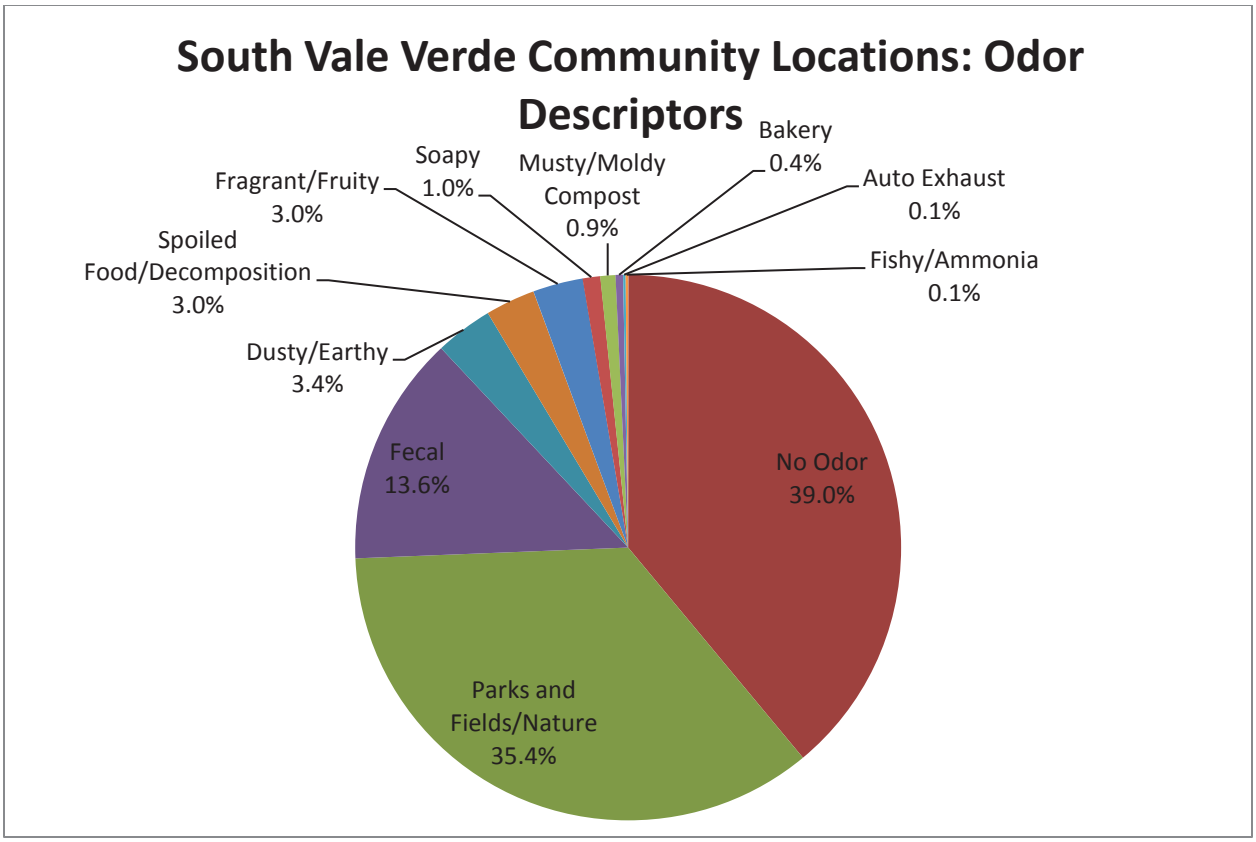
Weather History Graph
July 16, 2015

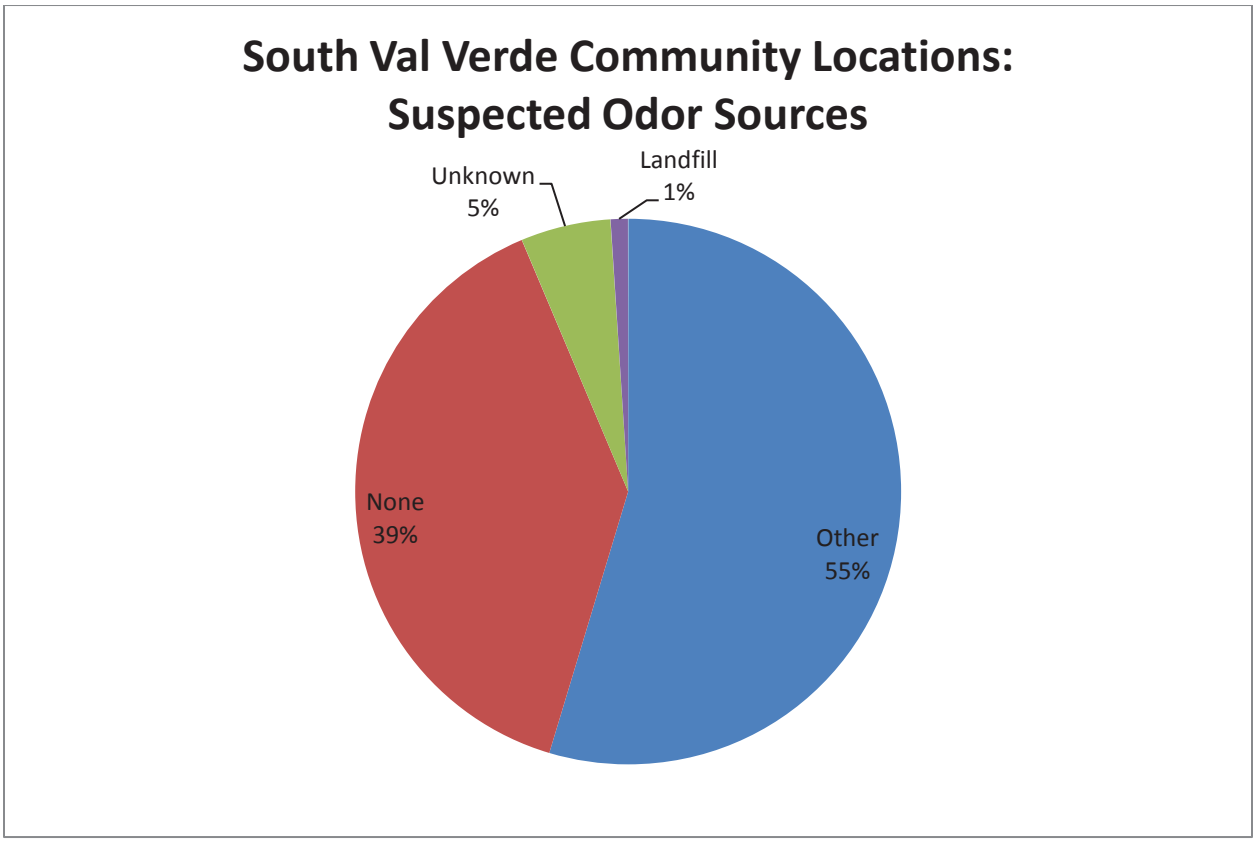


Appendix D
Pie Charts of Odor Descriptors and Suspected Sources for Location Groups

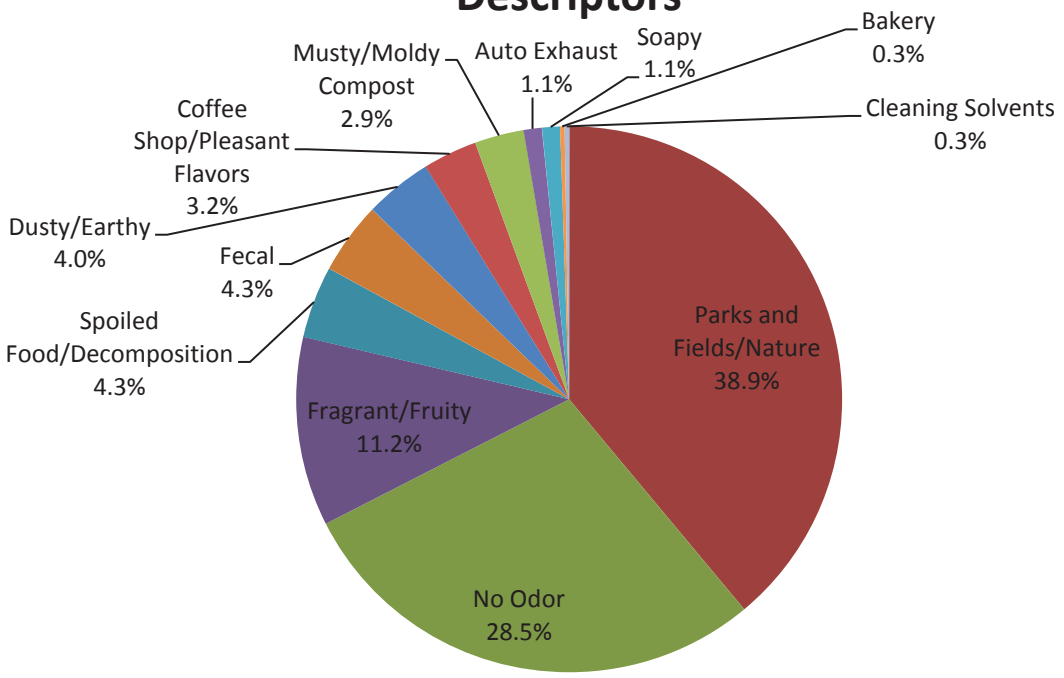

Chiquito Canyon Locations:
Odor Descriptors
Auto Exhaust
1%
Spoiled
Food/Decomposition
11%
Fecal
5%
No Odor
42%
Dusty/Earthy
13%
Parks and
Fields/Nature
28%


Chiquito Canyon Locations: Suspected Odor
Sources
Unknown
7%
Landfill
9%
Other
42%
None
42%

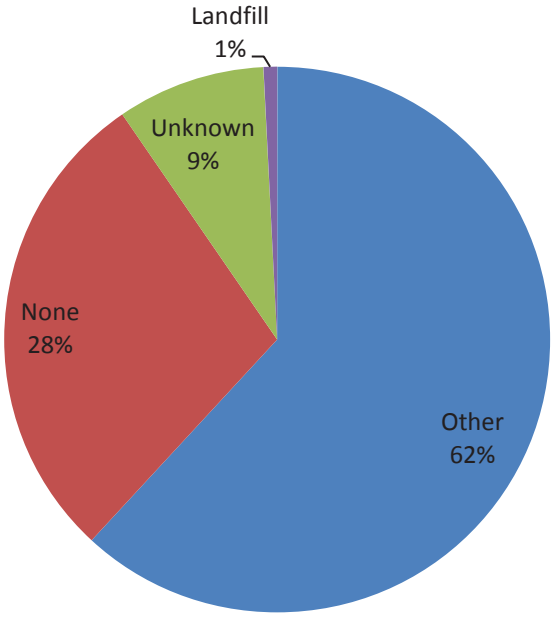

South Vale Verde Community Locations: Odor Descriptors
Bakery 0.4%
Auto Exhaust 0.1%
Fishy/Ammonia 0.1%
Musty/Moldy Compost 0.9%
Soapy 1.0%
Fragrant/Fruity 3.0%
Spoiled Food/Decomposition 3.0%
Dusty/Earthy 3.4%
Fecal 13.6%
No Odor 39.0%
Parks and Fields/Nature 35.4%


South Val Verde Community Locations: Suspected Odor Sources
Unknown 5%
Landfill 1%
None 39%
Other 55%

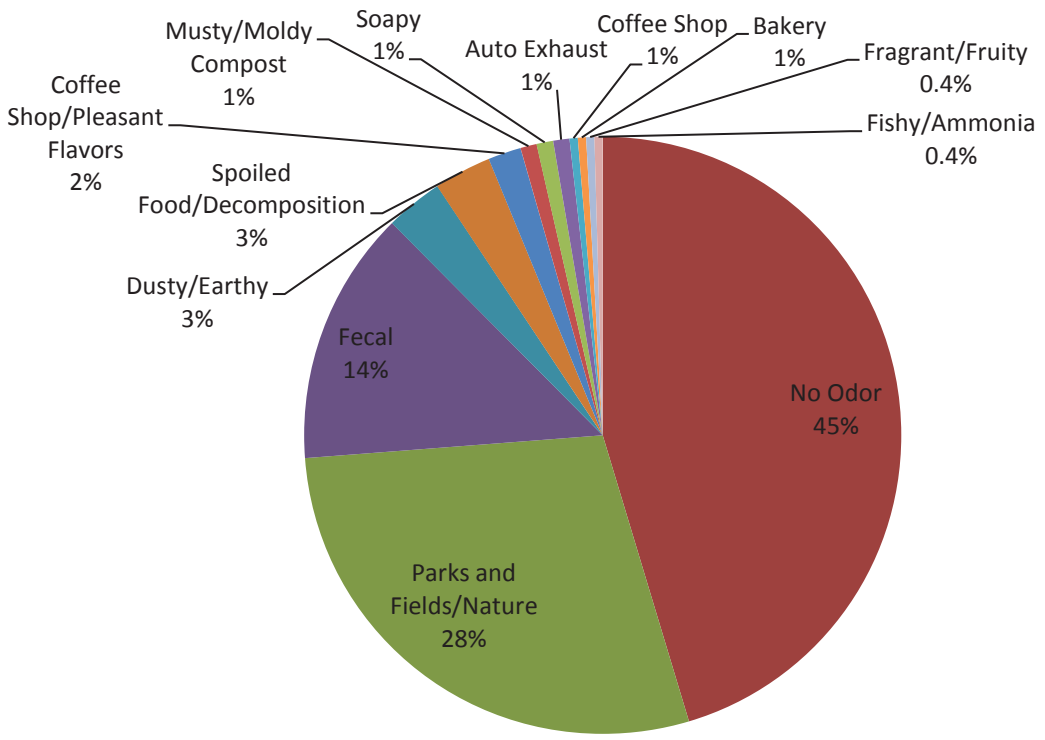
North Val Verde Community Locations: Odor Descriptors



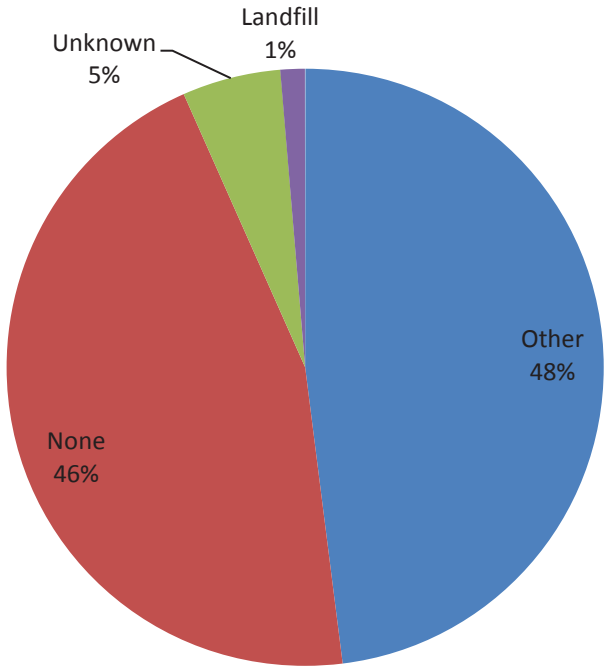
North Val Verde Community Locations: Suspected Odor Sources



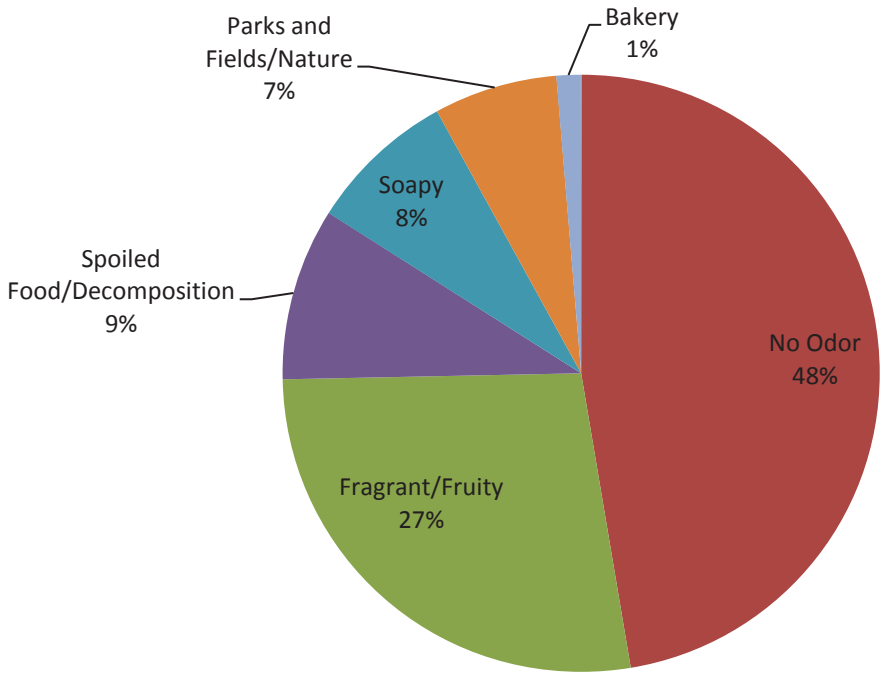
Del Valle Locations: Odor Descriptors



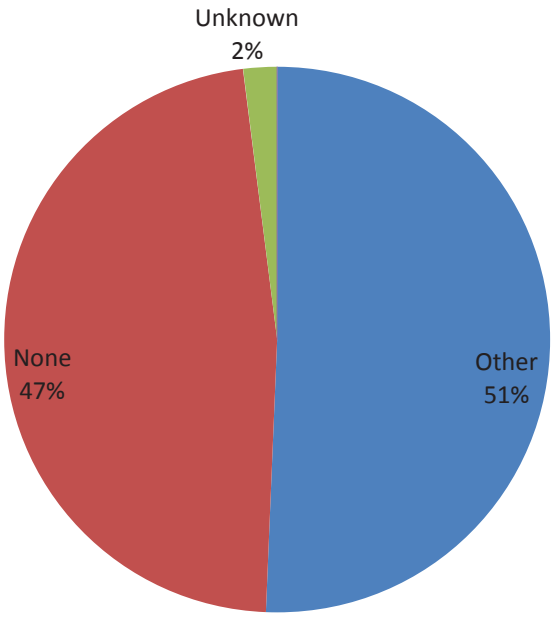
Del Valle Locations: Suspected Odor Sources

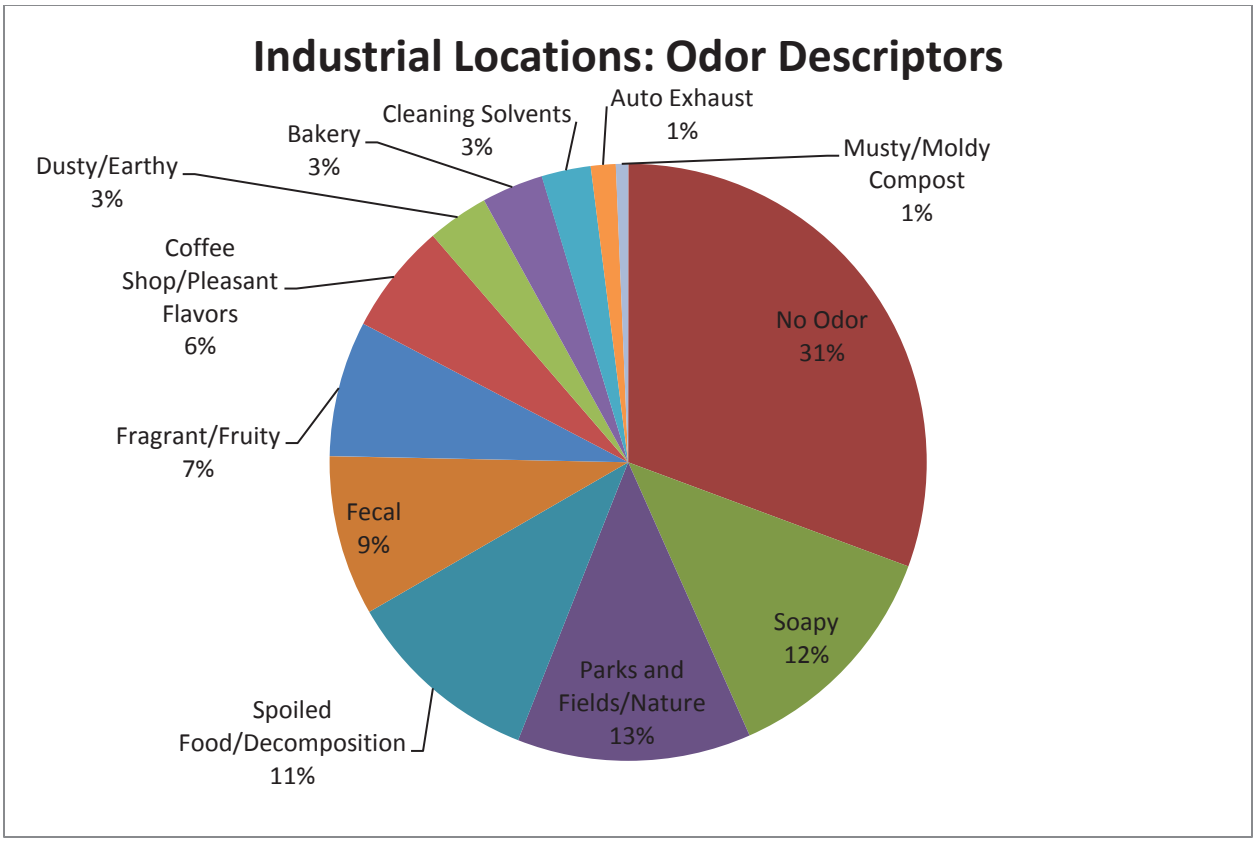


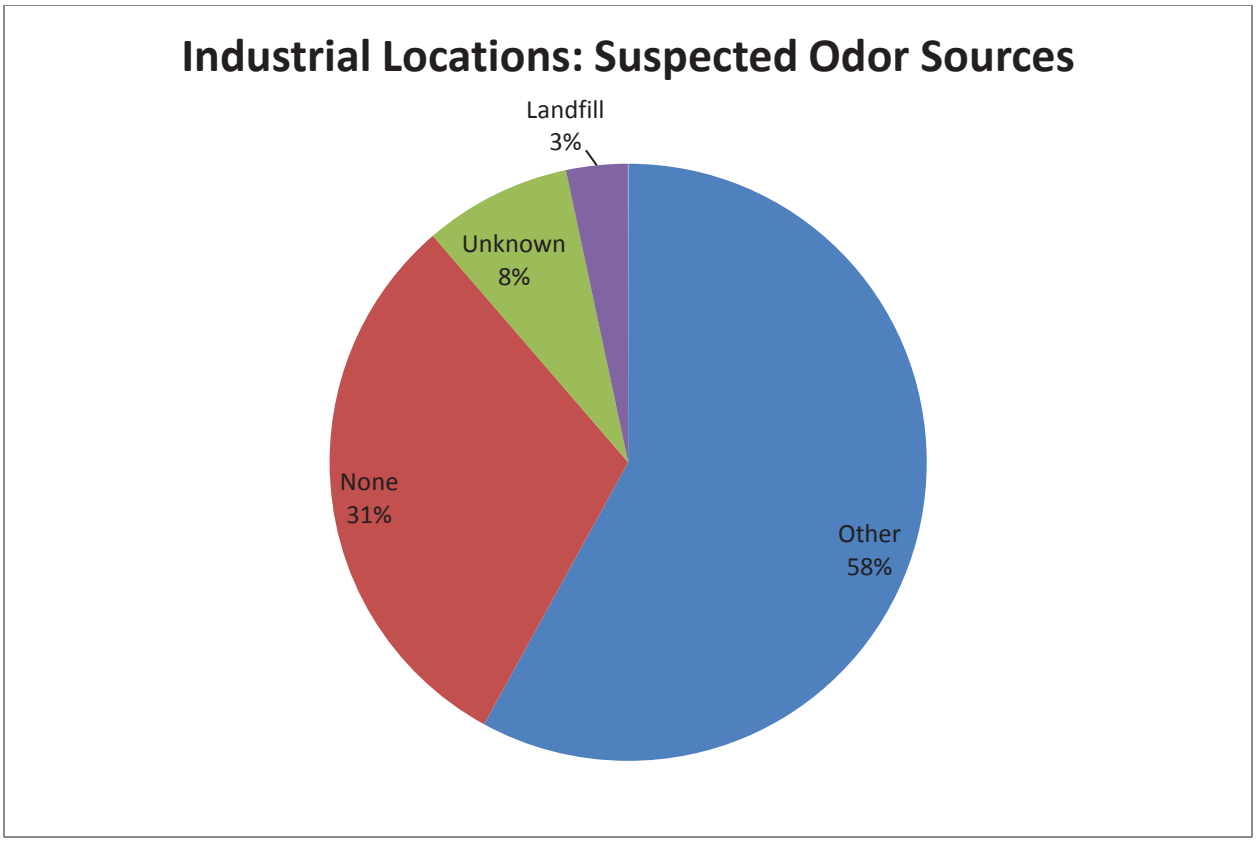
North Community Locations: Odor Descriptors

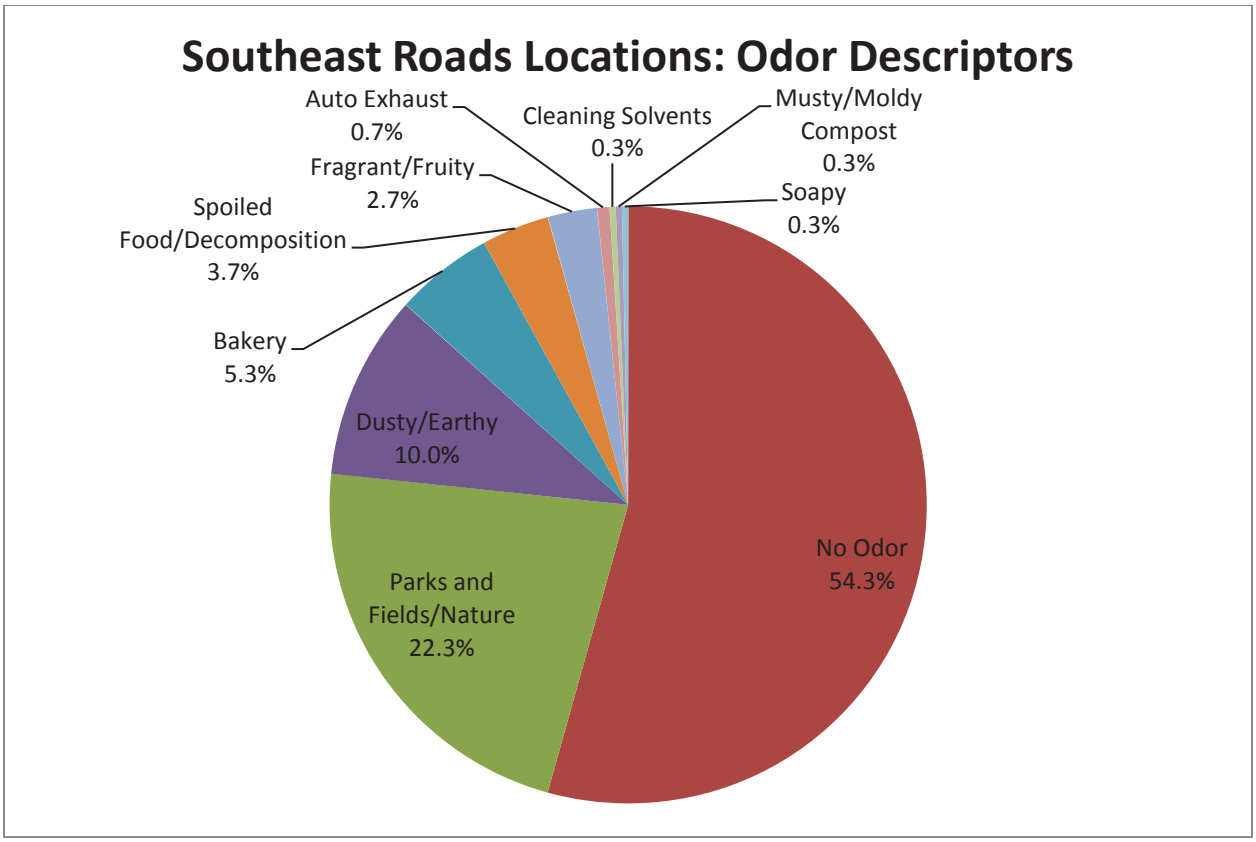


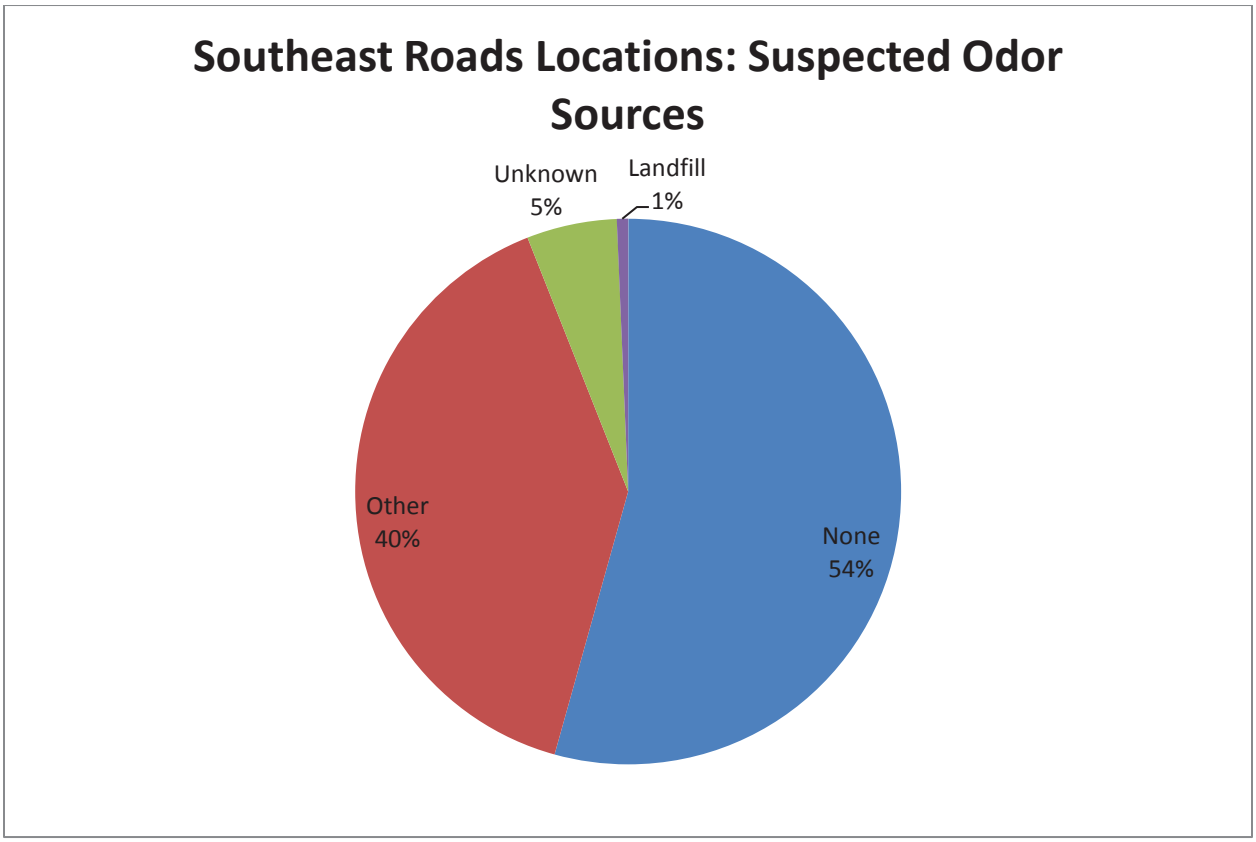
North Community Locations: Suspected Odor Sources

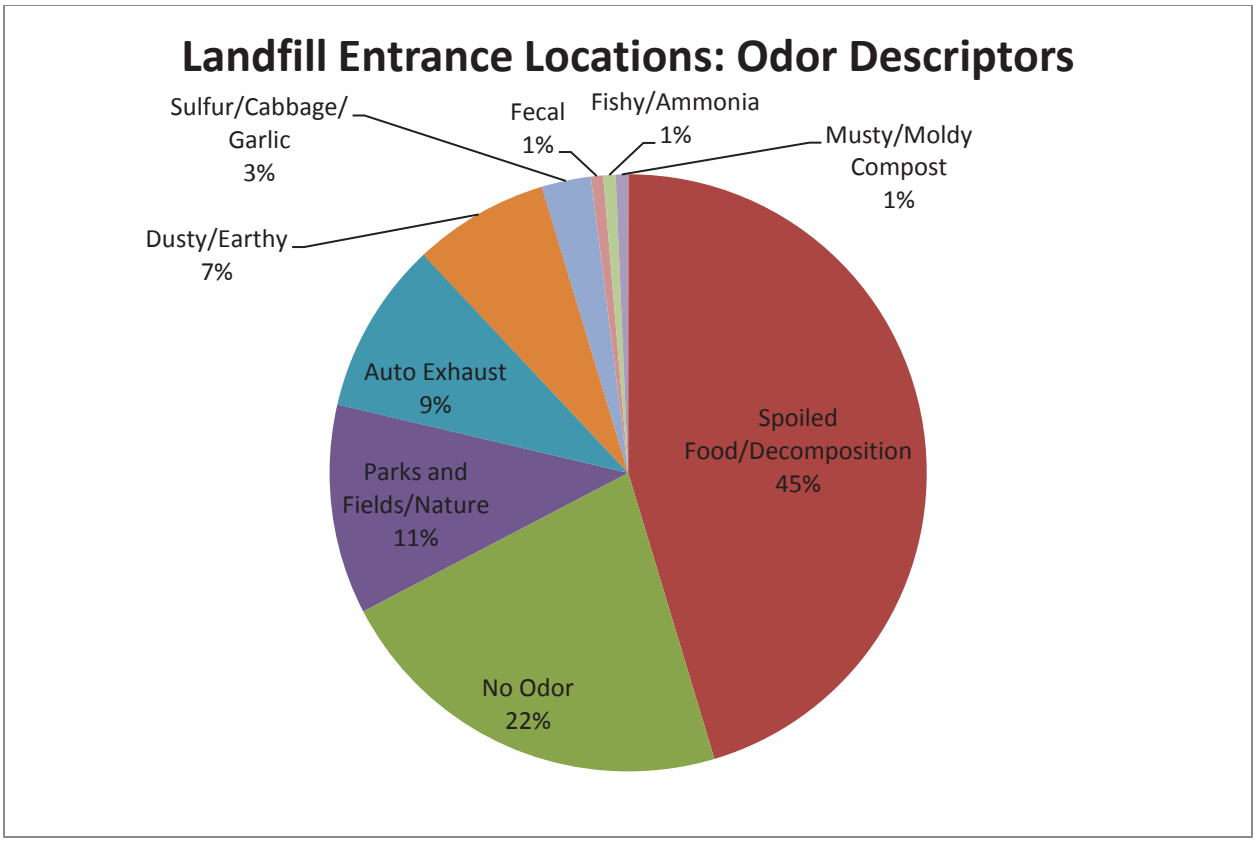


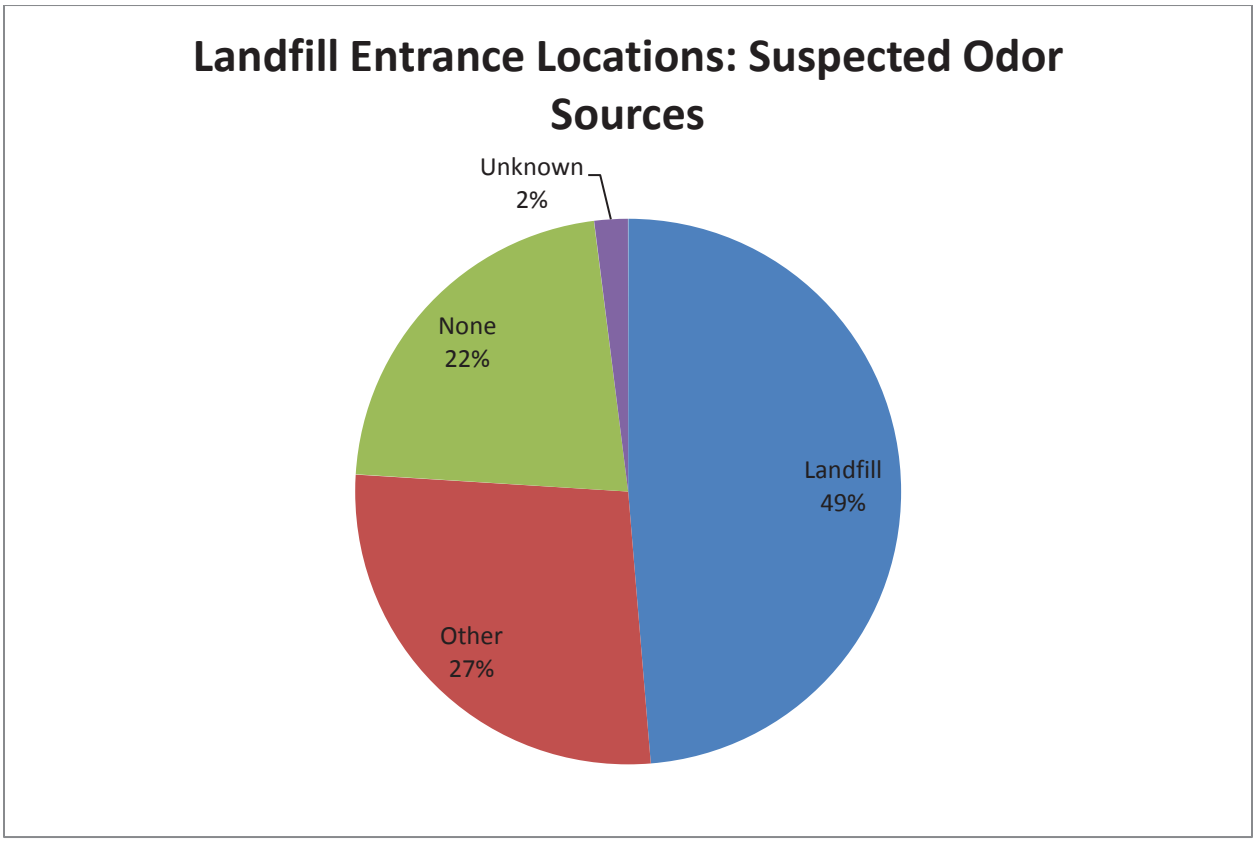

Industrial Locations: Odor Descriptors
Auto Exhaust 1%
Cleaning Solvents 3%
Bakery 3%
Dusty/Earthy 3%
Musty/Moldy Compost 1%
Coffee Shop/Pleasant Flavors 6%
No Odor 31%
Fragrant/Fruity 7%
Fecal 9%
Soapy 12%
Parks and Fields/Nature 13%
Spoiled Food/Decomposition 11%

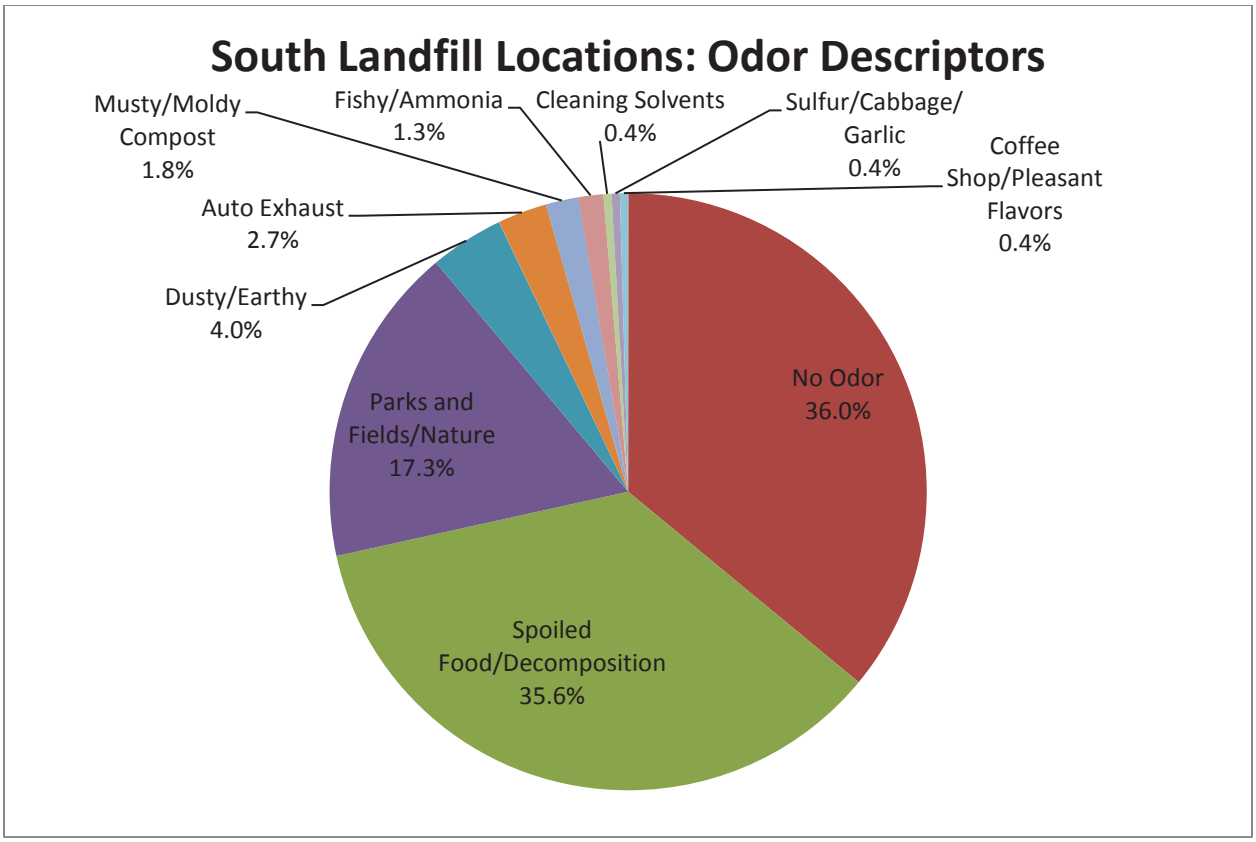

Industrial Locations: Suspected Odor Sources
Landfill 3%
Unknown 8%
None 31%
Other 58%

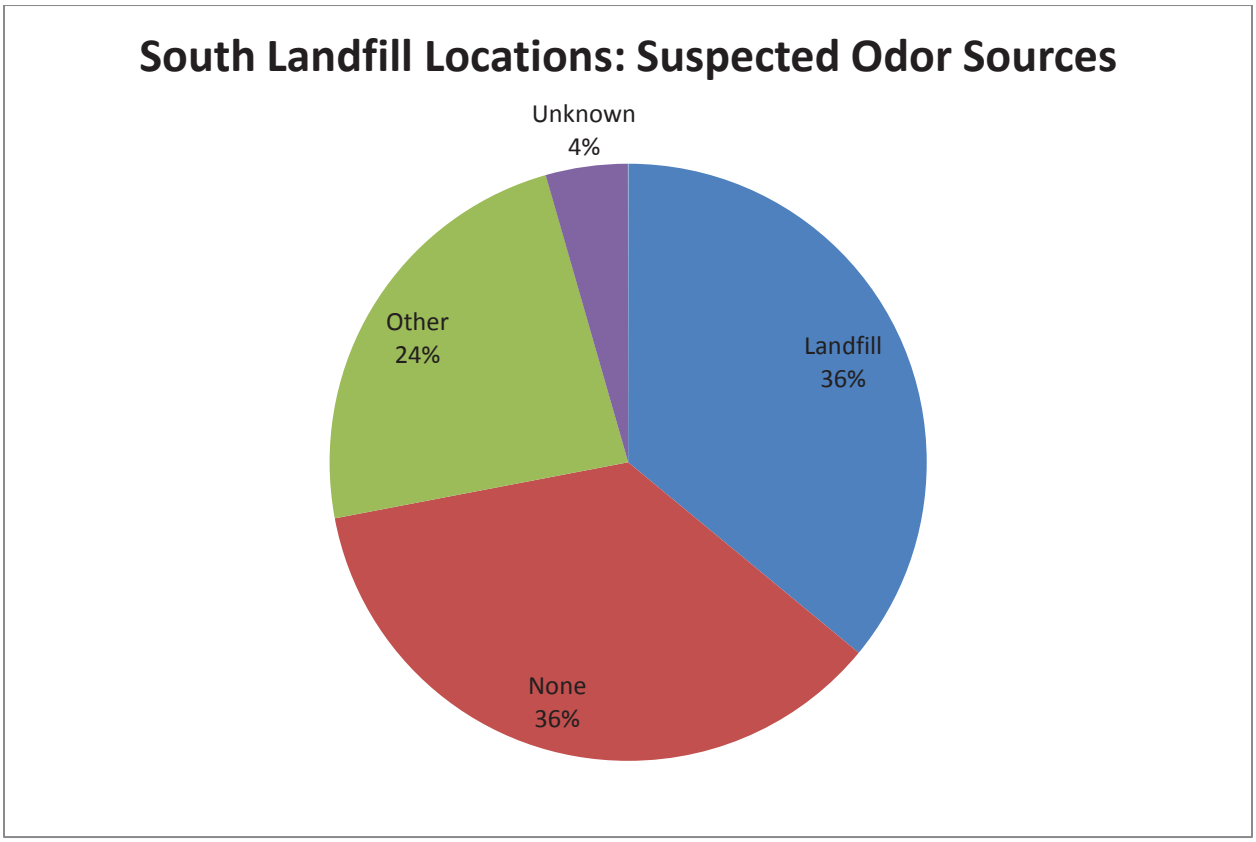

Southeast Roads Locations: Odor Descriptors
Auto Exhaust 0.7%
Cleaning Solvents 0.3%
Musty/Moldy Compost 0.3%
Fragrant/Fruity 2.7%
Soapy 0.3%
Spoiled Food/Decomposition 3.7%
Bakery 5.3%
Dusty/Earthy 10.0%
No Odor 54.3%
Parks and Fields/Nature 22.3%


Southeast Roads Locations: Suspected Odor Sources
Unknown 5%
Landfill 1%
Other 40%
None 54%

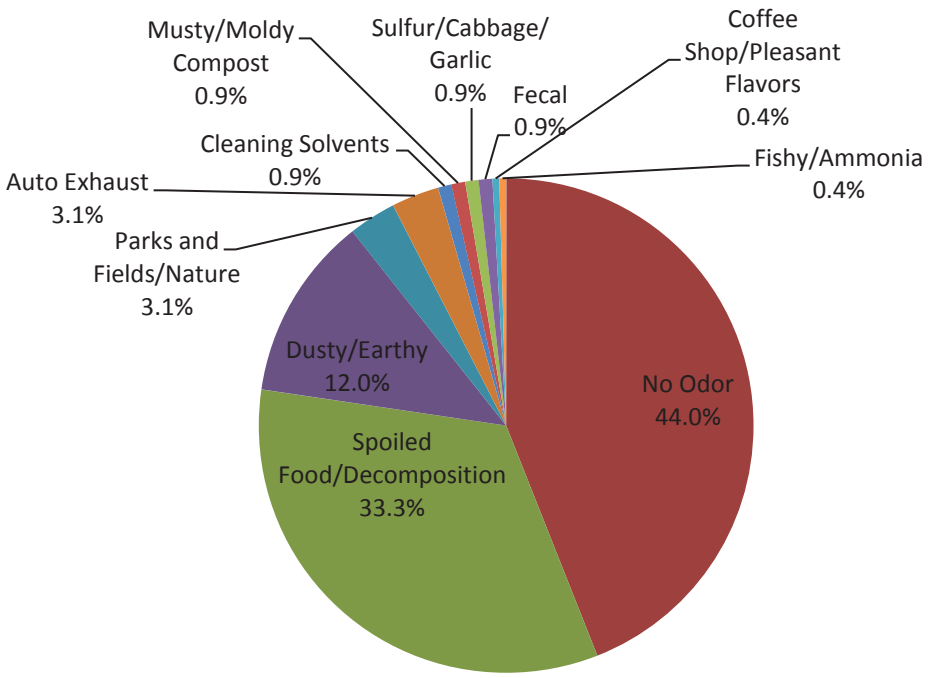

Landfill Entrance Locations: Odor Descriptors
Sulfur/Cabbage/ Garlic 3%
Fecal 1%
Fishy/Ammonia 1%
Musty/Moldy Compost 1%
Dusty/Earthy 7%
Auto Exhaust 9%
Spoiled Food/Decomposition 45%
Parks and Fields/Nature 11%
No Odor 22%


Landfill Entrance Locations: Suspected Odor Sources
Unknown 2%
None 22%
Landfill 49%
Other 27%

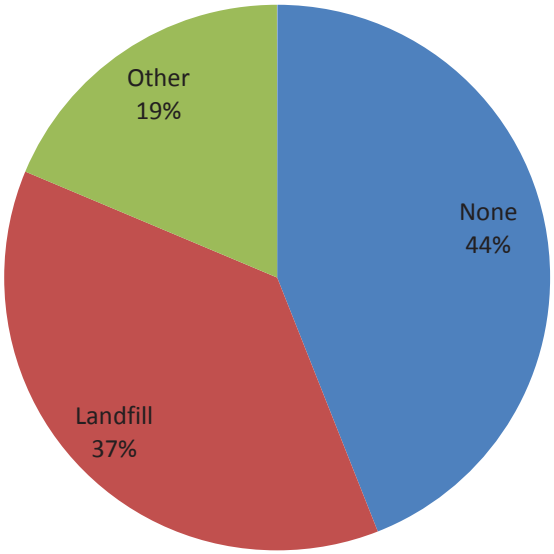

South Landfill Locations: Odor Descriptors
Musty/Moldy Compost 1.8%
Fishy/Ammonia 1.3%
Cleaning Solvents 0.4%
Sulfur/Cabbage/ Garlic 0.4%
Coffee Shop/Pleasant Flavors 0.4%
Auto Exhaust 2.7%
Dusty/Earthy 4.0%
Parks and Fields/Nature 17.3%
No Odor 36.0%
Spoiled Food/Decomposition 35.6%


South Landfill Locations: Suspected Odor Sources
Unknown 4%
Other 24%
Landfill 36%
None 36%

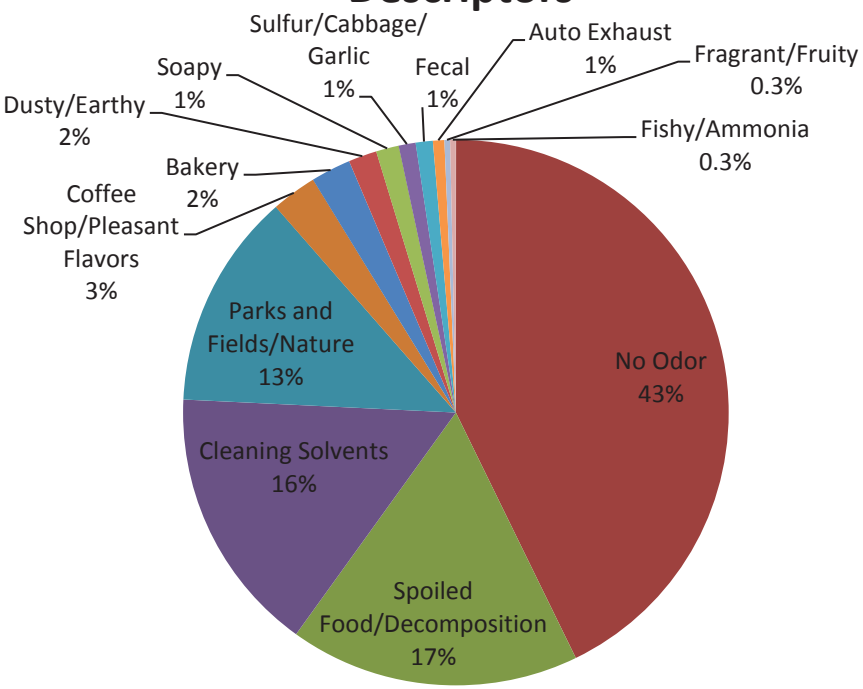
Southeast Landfill Perimeter Locations: Odor Descriptors



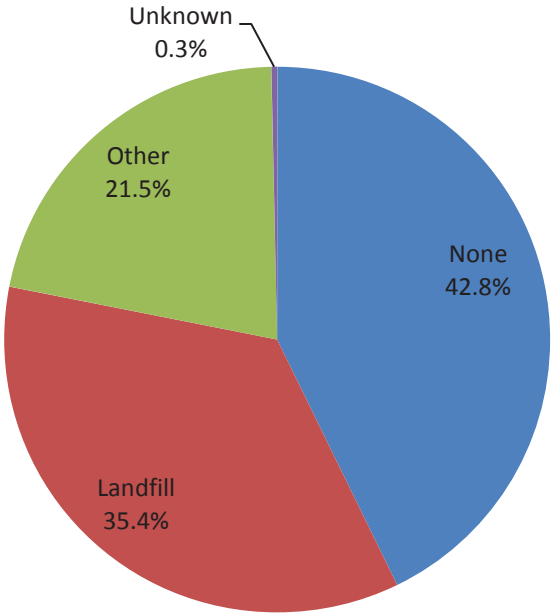
Southeast Landfill Perimeter Locations: Suspected Odor Sources



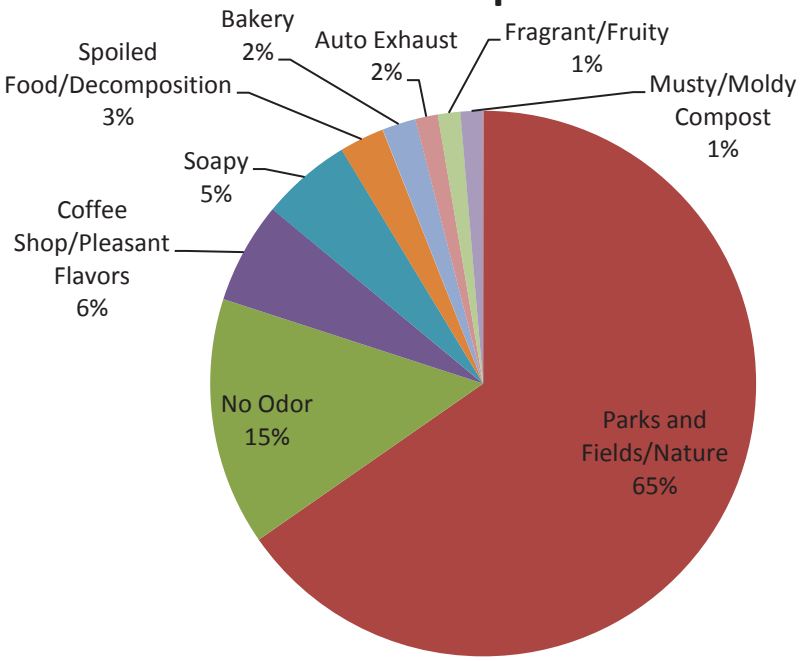
North Landfill Perimeter Locations: Odor Descriptors



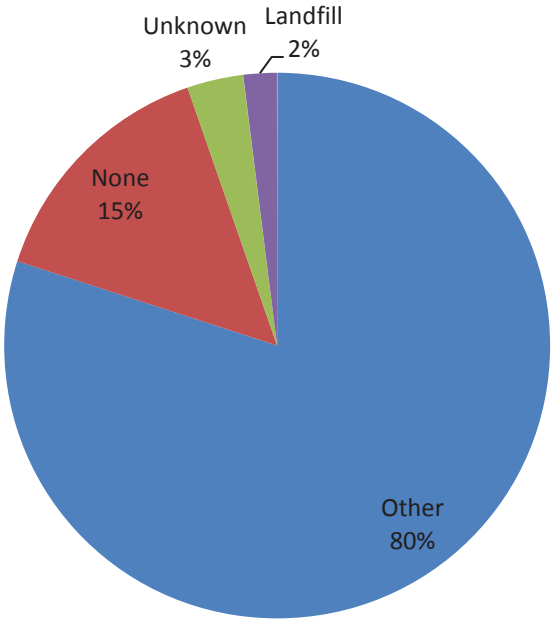
North Landfill Perimeter Locations: Suspected Odor Sources

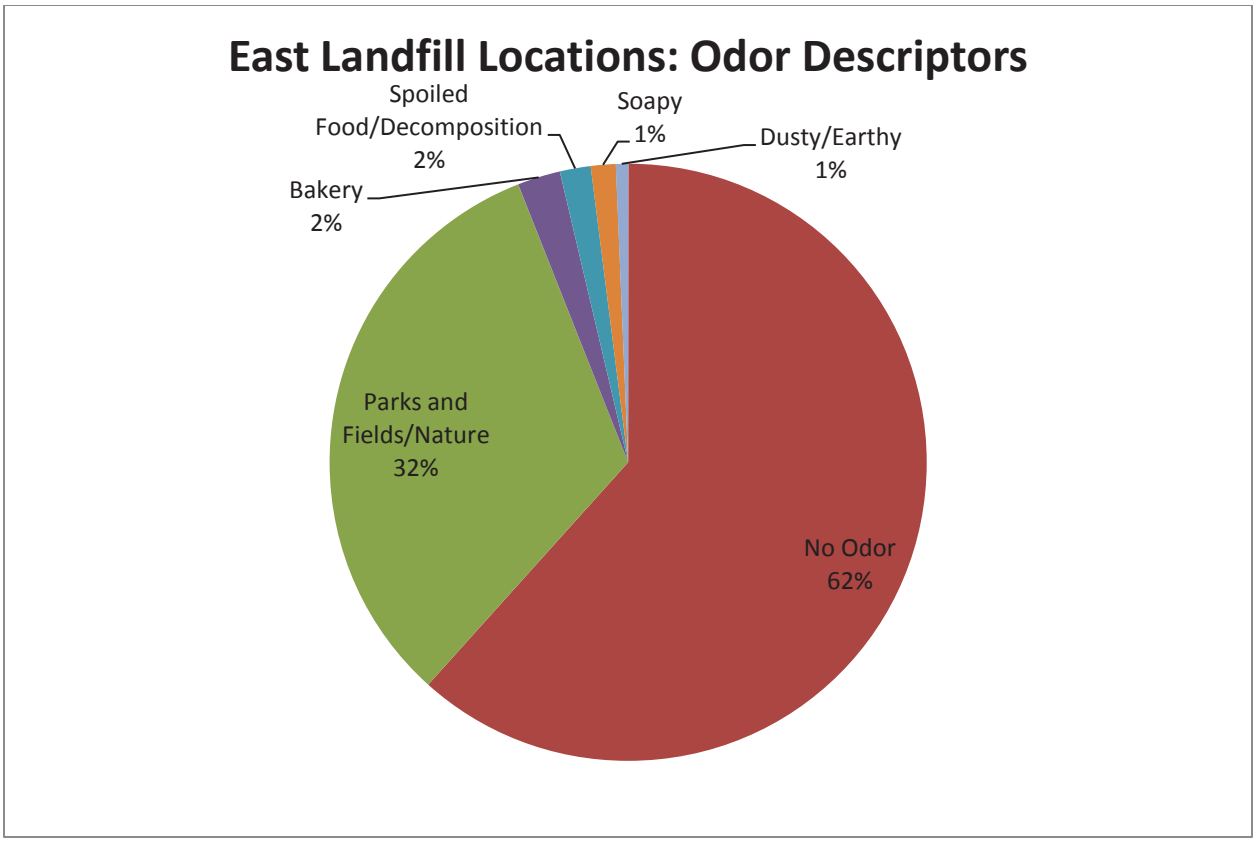


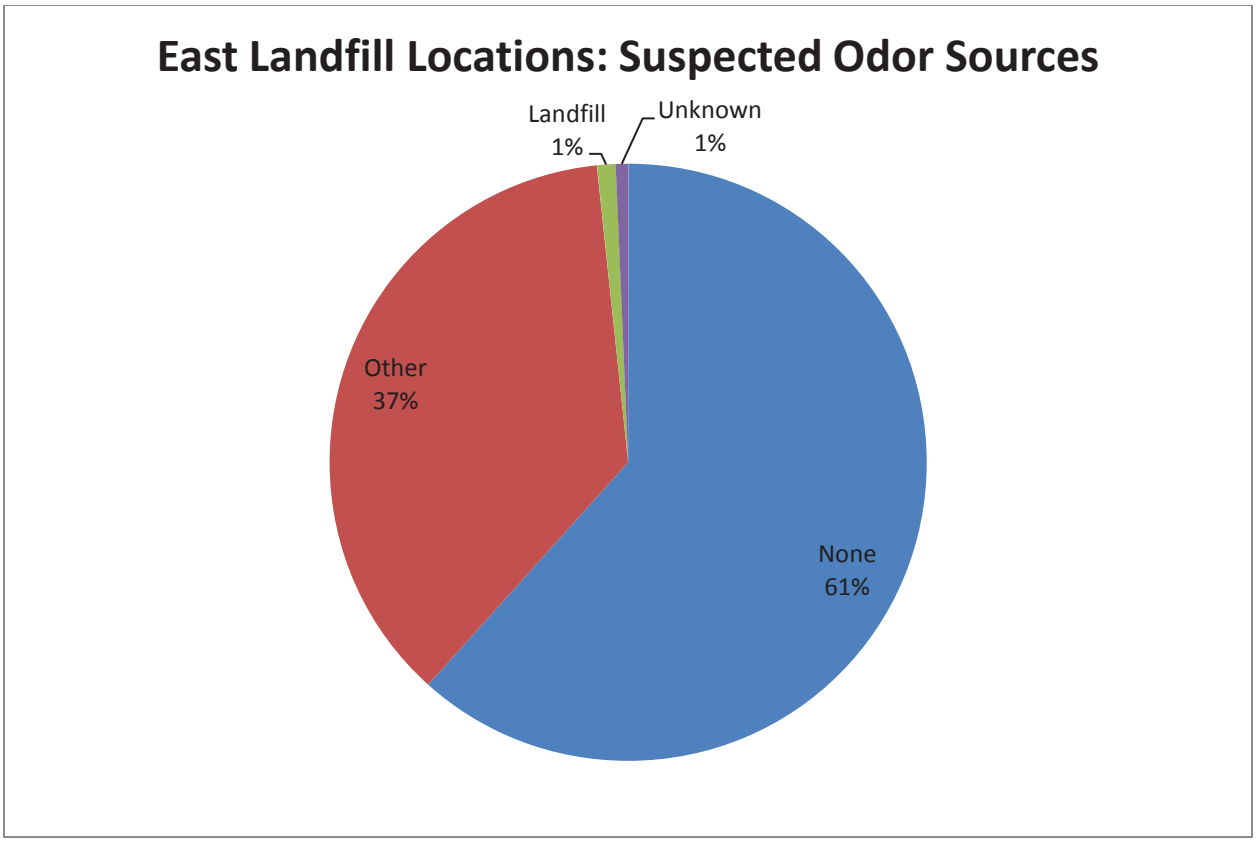
Northeast Landfill Ridgeline Locations: Odor Descriptors

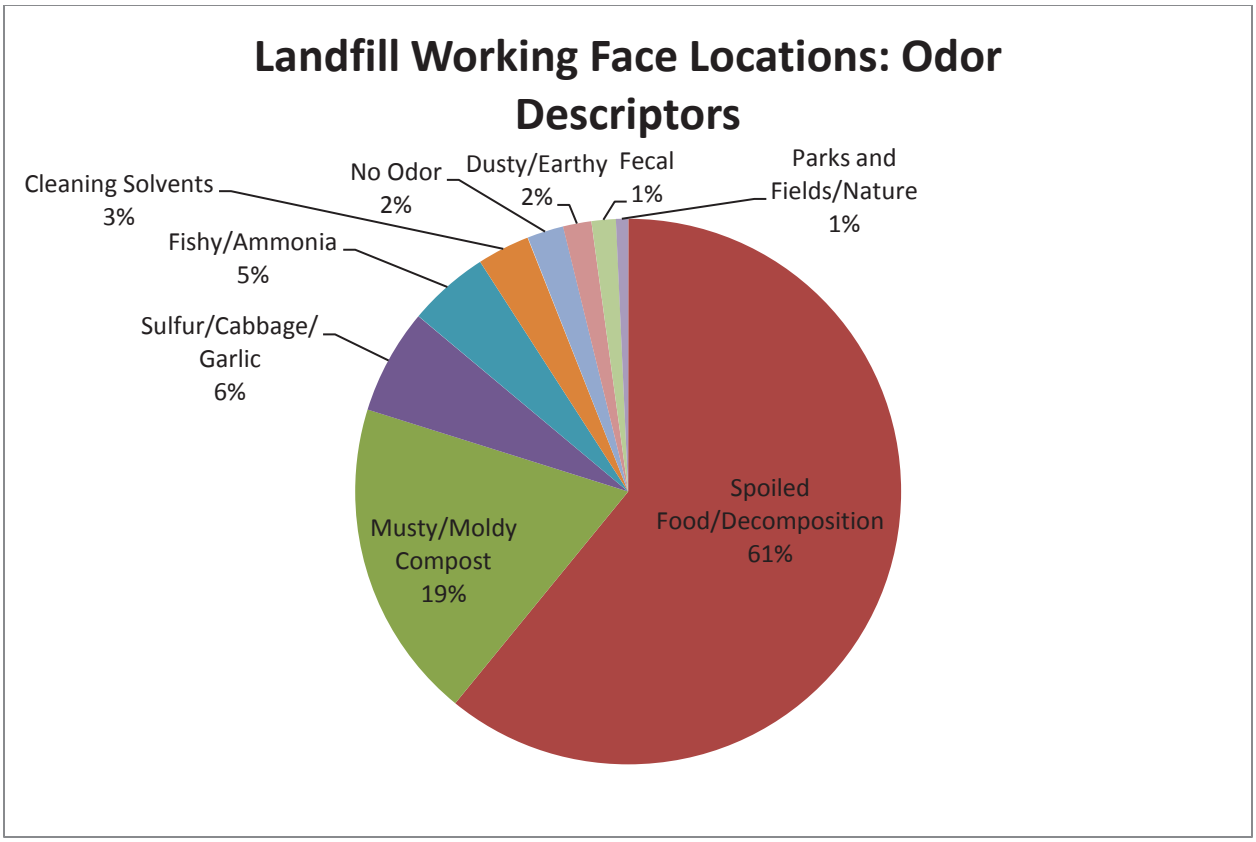


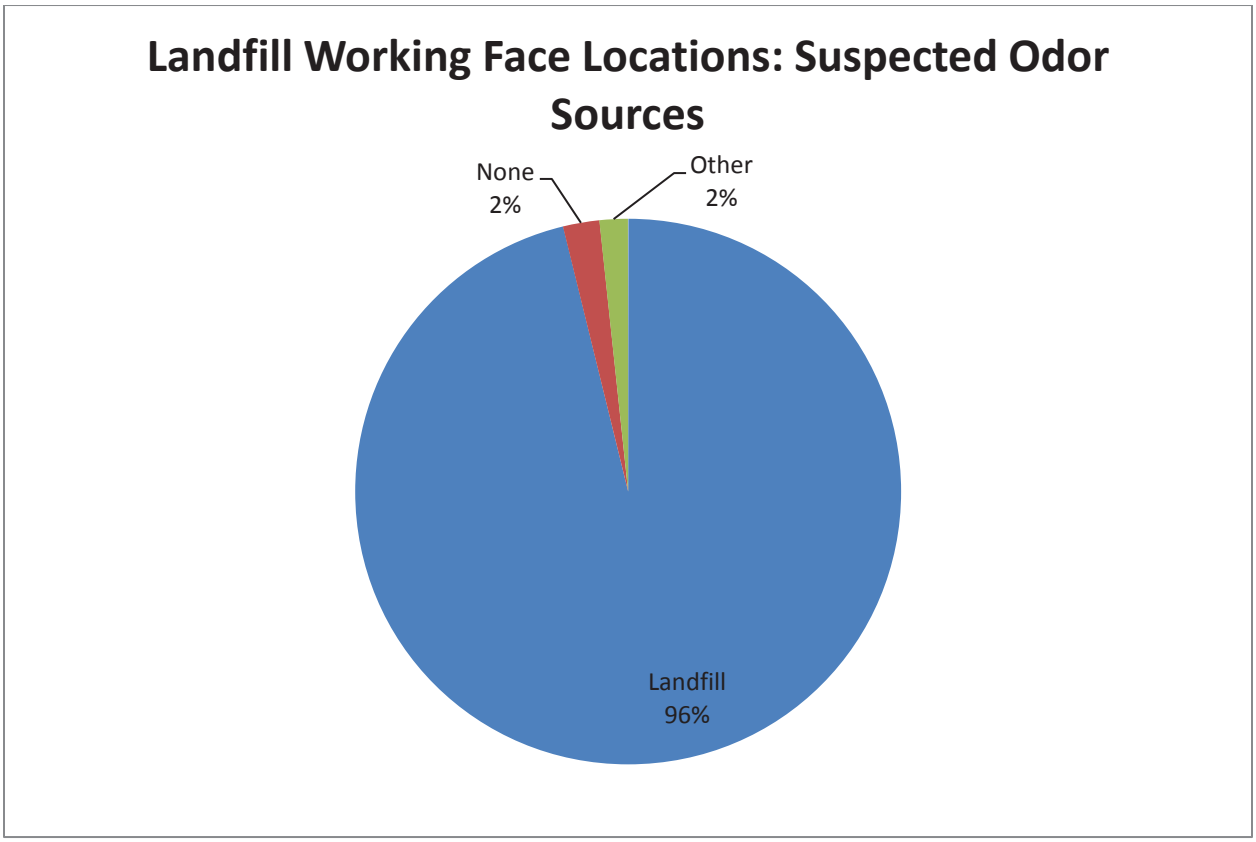
Northeast Landfill Ridgeline Locations: Suspected Odor Sources




East Landfill Locations: Odor Descriptors
Spoiled Food/Decomposition 2%
Soapy 1%
Dusty/Earthy 1%
Bakery 2%
Parks and Fields/Nature 32%
No Odor 62%


East Landfill Locations: Suspected Odor Sources
Landfill 1%
Unknown 1%
Other 37%
None 61%


Landfill Working Face Locations: Odor Descriptors
Cleaning Solvents 3%
No Odor 2%
Dusty/Earthy 2%
Fecal 1%
Parks and Fields/Nature 1%
Fishy/Ammonia 5%
Sulfur/Cabbage/ Garlic 6%
Musty/Moldy Compost 19%
Spoiled Food/Decomposition 61%


Landfill Working Face Locations: Suspected Odor Sources
None 2%
Other 2%
Landfill 96%

Attachment 1
Curriculum Vitae of Dr. Paul Rosenfeld

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
Santa Monica, California 90405
Attn: Paul Rosenfeld, Ph.D.
Mobil: (310) 795-2335
Office: (310) 452-5555
Fax: (310) 452-5550
Email: prosenfeld@swape.com

Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education:

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on VOC filtration.
M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.
B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience:

Dr. Rosenfeld is the Co-Founder and Principal Environmental Chemist at Soil Water Air Protection Enterprise (SWAPE). His focus is the fate and transport of environmental contaminants, risk assessment, and ecological restoration. Dr. Rosenfeld has a doctorate in soil chemistry and has evaluated odors from biosolids applications to soil and the effect of biosolids to agricultural crops. Dr. Rosenfeld has also evaluated odor emissions from the compost and food industry. His project experience ranges from monitoring and modeling of pollution sources as they relate to human and ecological health. Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing petroleum, chlorinated solvents, pesticides, radioactive waste, PCBs, PAHs, dioxins, furans, volatile organics, semi-volatile organics, perchlorate, heavy metals, asbestos, PFOA, unusual polymers, MtBE, fuel oxygenates and odor. Dr. Rosenfeld has also evaluated and modeled emissions from fracking, boilers, incinerators and other industrial and agricultural sources relating to nuisance and personal injury. Dr. Rosenfeld has evaluated greenhouse gas emissions using various modeling programs recommended by California Air Quality Management Districts.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist

Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist
Bureau of Land Management, Kremmling Colorado 1990; Scientist

Publications:

Chen, J. A., Zapata, A R., Sutherland, A. J., Molmen, D. R,. Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

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Rosenfeld P.E., and Suffet, I.H. (Mel) (2007). Anatomy of an Odor Wheel. *Water Science and Technology*.

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Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

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Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant*. The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993.

Deposition and/or Trial Testimony:

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the Court of Common Pleas for the Second Judicial Circuit, State of South Carolina, County of Aiken
David Anderson, et al., *Plaintiffs*, vs. Norfolk Southern Corporation, et al., *Defendants*.
Case Number: 2007-CP-02-1584

In the Circuit Court of Jefferson County Alabama
Jaeanette Moss Anthony, et al., *Plaintiffs*, vs. Drummond Company Inc., et al., *Defendants*
Civil Action No. CV 2008-2076
Rosenfeld Deposition: September 2010

In the Ninth Judicial District Court, Parish of Rapides, State of Louisiana
Roger Price, et al., *Plaintiffs*, vs. Roy O. Martin, L.P., et al., *Defendants*.
Civil Suit Number 224,041 Division G
Rosenfeld Deposition: September 2008

In the United States District Court, Western District Lafayette Division
Ackle et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.
Case Number 2:07CV1052
Rosenfeld Deposition: July 2009

In the United States District Court for the Southern District of Ohio
Carolyn Baker, et al., *Plaintiffs*, vs. Chevron Oil Company, et al., *Defendants*.
Case Number 1:05 CV 227
Rosenfeld Deposition: July 2008

In the Fourth Judicial District Court, Parish of Calcasieu, State of Louisiana

Craig Steven Arabie, et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.
Case Number 07-2738 G

In the Fourteenth Judicial District Court, Parish of Calcasieu, State of Louisiana
Leon B. Brydels, *Plaintiffs*, vs. Conoco, Inc., et al., *Defendants*.
Case Number 2004-6941 Division A

In the District Court of Tarrant County, Texas, 153rd Judicial District
Linda Faust, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, Witco Chemical Corporation A/K/A Witco Corporation, Solvents and Chemicals, Inc. and Koppers Industries, Inc., *Defendants*.
Case Number 153-212928-05
Rosenfeld Deposition: December 2006, October 2007
Rosenfeld Trial: January 2008

In the Superior Court of the State of California in and for the County of San Bernardino
Leroy Allen, et al., *Plaintiffs*, vs. Nutro Products, Inc., a California Corporation and DOES 1 to 100, inclusive, *Defendants*.
John Loney, Plaintiff, vs. James H. Didion, Sr.; Nutro Products, Inc.; DOES 1 through 20, inclusive, *Defendants*.
Case Number VCVVS044671
Rosenfeld Deposition: December 2009
Rosenfeld Trial: March 2010

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., *Plaintiffs*, vs. International Paper Company, *Defendant*.
Civil Action Number 2:09-cv-232-WHA-TFM
Rosenfeld Deposition: July 2010, June 2011

In the Superior Court of the State of California in and for the County of Los Angeles
Leslie Hensley and Rick Hensley, *Plaintiffs*, vs. Peter T. Hoss, as trustee on behalf of the Cone Fee Trust; Plains Exploration & Production Company, a Delaware corporation; Rayne Water Conditioning, Inc., a California Corporation; and DOES 1 through 100, *Defendants.*
Case Number SC094173
Rosenfeld Deposition: September 2008, October 2008

In the Superior Court of the State of California in and for the County of Santa Barbara, Santa Maria Branch
Clifford and Shirley Adelhelm, et al., all individually, *Plaintiffs*, vs. Unocal Corporation, a Delaware Corporation; Union Oil Company of California, a California corporation; Chevron Corporation, a California corporation; ConocoPhillips, a Texas corporation; Kerr-McGee Corporation, an Oklahoma corporation; and DOES 1 though 100, *Defendants.*
Case Number 1229251 (Consolidated with case number 1231299)
Rosenfeld Deposition: January 2008

In the United States District Court for Eastern District of Arkansas, Eastern District of Arkansas
Harry Stephens Farms, Inc, and Harry Stephens, individual and as managing partner of Stephens Partnership, *Plaintiffs*, vs. Helena Chemical Company, and Exxon Mobil Corp., successor to Mobil Chemical Co., *Defendants.*
Case Number 2:06-CV-00166 JMM (Consolidated with case number 4:07CV00278 JMM)
Rosenfeld Deposition: July 2010

In the United States District Court for the Western District of Arkansas, Texarkana Division
Rhonda Brasel, et al., *Plaintiffs*, vs. Weyerhaeuser Company and DOES 1 through 100, *Defendants.*
Civil Action Number 07-4037
Rosenfeld Deposition: March 2010
Rosenfeld Trial: October 2010

In the District Court of Texas 21st Judicial District of Burleson County
Dennis Davis, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, *Defendant.*
Case Number 25,151
Rosenfeld Trial: May 2009

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

Appendix H6
SCS Composting Report

Environmental Consultants
and Contractors

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SCS ENGINEERS

November 4, 2016
File No. 01202278.01

Mike Zischke and David Waite
Cox Castle and Nicholson
2029 Century Park East
Los Angeles CA 90067

Subject: Supplemental Air Quality Impact Assessment for Chiquita Landfill Compost Operation – Privileged and Confidential – Attorney Client Work Product

Dear Mike:

Per your request, SCS Engineers (SCS) is pleased to provide to Waste Connections, Inc. (WCI) this supplemental air quality impact evaluation for the proposed composting operation at Chiquita Canyon Landfill (Chiquita or Site) in Castiac, California. This supplemental air quality impact assessment (AQIA) would be used in the California Environmental Quality Act (CEQA) process for the proposed expansion of the Chiquita Canyon Landfill.

This analysis provides a quantitative assessment of emissions for the proposed composting operation, which can be integrated into the comprehensive analysis of air quality for the project in a recirculated chapter of the Draft Environmental Impact Report (EIR).

PROJECT SUMMARY

The impacts from landfill expansion-related emissions have been evaluated in the existing Draft EIR; however, the Project also includes composting 560 tons per day (tpd). Composting has previously occurred at the facility, but composting operations have not been performed for several years. Due to the disuse of formerly permitted composting capacity, the baseline composting operation for the purposes of this evaluation is no composting operation. All 560 tpd of composting operation proposed as part of the Project are considered "new" for purposes of this analysis.

The proposed composting operation will potentially be subject to South Coast Air Quality Management District (SCAQMD) composting rules, which include Rules 1133, 1133.1, 1133.2, and 1133.3. Rule 1133 requires that the composting operation obtain a permit to operate. Rule 1133.1 requires that chipping and grinding operations associated with composting operations maintain best management practices to prevent emissions. Rule 1133.2 imposes control requirements on co-composting operations which have waste streams that include more than 20 percent biosolids and/or manure. Rule 1133.3 imposes control requirements on greenwaste composting operations, including composting operations that combine greenwaste and food composting.

The operational details of the composting operation have not been selected at this early stage; however, it is known that the facility is expected to compost a mixed organics waste stream, including greenwaste and food waste. SCAQMD Rule 1133.3 requires composting operations with less than ten percent foodwaste to follow proscribed best management practices (BMPs). These BMPs include turning, watering, and covering the active composting phase with a finished compost cover and are expected to achieve emission reductions of 40 percent for volatile organic compounds (VOCs) and 20 percent for ammonia. Composting operations with more than ten percent foodwaste are required to achieve a control efficiency of 80 percent for both VOC and ammonia emissions. This 80 percent level of control is expected to require covered, aerated composting with control of VOCs using a biofilter. Developers are allowed, however, to propose alternative technologies to control VOC emissions.

EMISSIONS

There are three types of sources associated with air pollutant emissions that would result from the proposed composting operation. The first source is the composting operation itself. The composting process is a source of VOCs and ammonia, which must be permitted and controlled as required by SCAQMD Rule 1133.3. The second type of source associated with composting operations is mobile and portable equipment such as loaders and screens. These sources do not require a SCAQMD permit; nevertheless, they emit air pollutants that can contribute to poor air quality. The final source type is construction of the composting facility. Construction emissions are emitted only during the construction of a facility and result from the equipment used in construction, soil operations to prepare the site, and other temporary sources.

Process Emissions

Rule 1133.3 requires the use an emission factor of 4.25 pounds of VOC per ton feedstock during the active phase and 0.42 pounds of VOC per ton feedstock during the curing phase and 0.46 pounds of ammonia per ton during active composting and 0.20 pounds of ammonia per ton of feedstock during curing for the composting operation. The first scenario assumes that the composted material includes more than ten percent foodwaste and is subject to the control requirements that are expected to result in a control efficiency of 80 percent. ***Table 1*** shows the VOC emissions from the composting process. The composting operation will also generate ammonia emissions; however, there is no SCAQMD CEQA standard for ammonia emissions. Ammonia does pose a health risk, which must be addressed during permitting of the composting operation.

Table 1 - Chiquita Canyon Compost Operation VOC Emissions - Greater than 10% Foodwaste

Process Rate	VOC Emission Factor	Uncontrolled VOC Emissions	Controlled VOC Emissions	Ammonia Emission Factor	Uncontrolled Ammonia Emissions	Controlled Ammonia Emissions
(tpd)	(lb/ton processed)	(lb/day)	(lb/day)	(lb/ton processed)	(lb/day)	(lb/day)
560	4.67	2,615	523	0.66	370	74

For the first scenario, the VOC emissions associated with the proposed composting operating will require a permit modification for the Site. During this permitting process, SCAQMD rules will require that the Site offset the new VOC emissions with VOC offsets from elsewhere in the SCAQMD. This requirement of the permitting process will result in no net increase in the VOC emissions as the increase in VOC emissions from Chiquita is balanced by a corresponding reduction elsewhere in the District.

The second scenario assumes that the compost operation includes less than ten percent foodwaste and is subject to the BMP requirements that are expected to result in an overall control efficiency of 40 percent for VOCs and 20 percent for ammonia during the active phase. Emissions during the curing phase would not be controlled. The emissions for this scenario are presented in ***Table 2***.

Table 2 - Chiquita Canyon Compost Operation VOC Emissions - Less than 10% Foodwaste

Process Rate	VOC Emission Factor	Uncontrolled VOC Emissions	Controlled VOC Emissions	Ammonia Emission Factor	Uncontrolled Ammonia Emissions	Controlled Ammonia Emissions
(tpd)	(lb/ton processed)	(lb/day)	(lb/day)	(lb/ton processed)	(lb/day)	(lb/day)
560	4.67	2,615	1,663	0.66	370	318

For the second scenario, composting could be done in windrows and would not require a permit for the composting process. Because no permit would be required, there would be no requirement to offset VOC emissions from the composting process itself. Other sources at the facility, including some equipment, may require stationary source permitting.

Equipment Emissions

Some heavy equipment will be required for the composting operation. The equipment is likely to include diesel engines and other combustion sources. Combustion is a source of several criteria pollutants, including VOCs, carbon monoxide (CO), oxides of nitrogen (NOx), particulate matter (PM) (including respirable particulate matter [PM10] and fine particulate matter [PM2.5]), and oxides of sulfur (SOx). This equipment was not included in the existing evaluation for the Chiquita expansion and should be quantified. The composting method and operational details are

not determined at this time, so the composting operation emissions will be quantified based on the equipment use of other recently analyzed composting operations.

The project selected as a comparable project is the Sonoma County Central Disposal Site (CDS), which underwent a CEQA evaluation finalized in 2013 (State clearinghouse number 2008122007). The CDS project was a 70-acre composting facility located in the City of Petaluma. The project had a throughput of 200,000 tons per year (tpy), equivalent to 550 tpd.

Equipment emissions were calculated using emission factors obtained from California Emissions Estimator Model (CalEEMod) documentation and calculated in CalEEMod. Emissions were calculated assuming that three acres were disturbed per day. Composting equipment included seven loaders, one water truck, one forklift, and three other pieces of material handling equipment, consistent with the equipment in the CDS CEQA document. Each piece of equipment was assumed to operate for 2.6 hours per day. WCI will be using equipment with Tier 4f compliant engines, so emissions of PM2.5, PM10, NOx, CO and VOCs were calculated outside of CalEEMod. Emission factors used in those calculations are shown in ***Table 3***. Emissions of those pollutants are show in in ***Table 4***. Other operating emissions, including dust and SOx from equipment are shown in ***Table 5***.

In addition to the use of Tier 4f equipment, the Project proposes to include dust control measures as part of the Project itself. These measures include watering the construction site suspension of earthmoving activities during high wind, and other control measures. These control measures are expected to achieve control effectiveness of 75 percent for dust from earthmoving and 55 percent for vehicle travel on unpaved roads. These measures would be in addition to the dust control measures already implemented at the Site.

Table 3 - Chiquita Canyon Operating Equipment Emission Factors

Equipment	PM Emission Factor (g/bhp-hr)	NOx Emission Factor (g/bhp-hr)	CO Emission Factor (g/bhp-hr)	VOC Emission Factor (g/bhp-hr)
Dozer	0.008	0.26	2.2	0.06
Water Truck	0.008	0.26	2.2	0.06
Forklift	0.008	0.26	3.7	0.06
Material Handling Equipment	0.008	0.26	2.2	0.06
Material Handling Equipment	0.008	0.26	2.2	0.06
Material Handling Equipment	0.008	0.26	3.7	0.06

Table 4 - Chiquita Canyon Operating Equipment Engine Emissions

Equipment	Count	Horsepower	Load Factor	PM Emissions (lb/day)	NOx Emissions (lb/day)	CO Emissions (lb/day)	VOC Emissions (lb/day)
Dozer	7	235	0.40	0.030	0.980	8.3	0.23
Water Truck	1	275	0.38	0.005	0.16	1.32	0.036
Forklift	1	93	0.20	0.001	0.03	0.39	0.006
Material Handling Equipment	1	580	0.40	0.011	0.35	2.92	0.08
Material Handling Equipment	1	260	0.40	0.005	0.15	1.31	0.036
Material Handling Equipment	1	139	0.40	0.003	0.08	1.18	0.019
Total				0.054	1.75	15.4	0.40

Table 5 –Chiquita Canyon Operating Equipment Emissions

Pollutant	VOC	NOx	CO	SOx	PM10	PM2.5
Engine Emission Rate (lb/day)	0.40	1.75	15.4	0.039	0.054	0.054
On-site Dust Emission Rate (lb/day)					4.22	1.97

Construction Emissions

Construction of the compost facility would require the use of heavy equipment such as scrapers, dozers, and loaders. Consequently, it will result in equipment emissions of a nature similar to that of the equipment emissions, though they would not be ongoing.

Conservatively, it is assumed that a 41-acre area would be utilized for composting. While it is likely that some of the previous operation would be suitable for the proposed composting operation resulting in less construction, the assumption that a new facility will be required provides a conservative estimate of construction emissions.

Construction emissions were calculated using the California Emissions Estimator Model (CalEEMod). The construction was assumed to occur over 41 acres and to be consistent with general heavy industrial use. ***Table 6*** shows a summary of construction emissions for construction prior to 2020 and ***Table 7*** shows a summary of the emissions for post-2020 construction. ***Attachment A*** includes the complete CalEEMod output. Note that wile construction would occur three times, the emissions from construction were modeled for once for 2019 and once for after 2020. After 2020, off-road construction equipment would utilize Tier 4f engines in diesel equipment. Increasing prevalence of pollution control would result for slightly lower emissions from construction in later years, but that decrease is relatively small.

Table 6 - Chiquita Canyon Maximum Daily Construction Emissions (2019)

Phase	VOC	NOx	CO	SOx	PM10	PM2.5	PM10 (dust)	PM2.5 (dust)
Paving On-Site	1.43	14.94	14.37	0.022	0.81	0.74	0	0
Paving Off-Site	0.05	0.08	0.97	0.003	0.002	0.002	0.23	0.06
Grading On-Site	4.89	54.20	40.30	0.062	2.50	2.30	2.17	0.90
Grading Off-Site	0.07	0.10	1.29	0.004	0.002	0.002	0.30	0.08
Site Prep On-site	4.02	42.50	34.80	0.039	2.15	1.98	4.52	2.48
Site Prep Off Site	0.06	0.09	1.16	0.003	0.002	0.002	0.27	0.07
Maximum single phase	4.96	54.30	41.59	0.066	2.50	2.30	4.79	2.55

All emissions in lb/day

Table 7 - Chiquita Canyon Maximum Daily Construction Emissions (2020)

Phase	VOC	NOx	CO	SOx	PM10	PM2.5	PM10 (dust)	PM2.5 (dust)
Paving On-Site	0.27	1.19	16.93	0.022	0.04	0.04	0	0
Paving Off-Site	0.05	0.07	0.90	0.003	0.002	0.002	0.23	0.06
Grading On-Site	0.76	3.28	34.78	0.062	0.10	0.10	2.11	0.89
Grading Off-Site	0.06	0.10	1.20	0.004	0.002	0.002	0.30	0.08
Site Prep On-site	0.48	2.06	21.24	0.039	0.06	0.06	4.52	2.48
Site Prep Off Site	0.06	0.09	1.08	0.003	0.002	0.002	0.27	0.07
Maximum single phase	0.82	3.38	35.98	0.07	0.10	0.10	4.79	2.55

All emissions in lb/day

Greenhouse Gas Discussion

Composting is considered by CARB to result in a net reduction in GHG emissions. CARB developed an overall GHG reduction factor in the *Method for Estimating Greenhouse Gas Emission Reductions from Compost from Commercial Organic Waste* document (CARB 2011). In that document, CARB concluded that composting results in an overall reduction in GHG emissions of 0.42 metric tons of carbon dioxide equivalent (MTCO2e) per ton of feedstock composted. This Compost Emission Reduction Factor (CERF) includes both the reduction in emissions through factors such as decreased water use and the increase in emissions resulting from the transportation of compost feedstock. Emissions included in the development of the CERF are shown in ***Table 8***.

Table 8 - CERF Components

Components	Emissions Reduction (MTCO2e/ton)
Increased carbon storage	0.26
Decreased water use	0.02
Decreased soil erosion	0.13
Decreased fertilizer use	0.13
Decreased herbicide use	0
Transportation	-0.008
Process equipment emissions	-0.008
Fugitive methane emissions	-0.078
Fugitive nitrous oxide emissions	-0.025
Total	0.42

SUMMARY

This focused AQIA provides information about the air quality impacts associated with the proposed composting operation at the Site. These impacts represent a conservative approach to the quantification of the emissions and represent an upper bound for emissions. Further refinement of the composting facility design and operations is likely to result in a facility with lower emissions.

We look forward to assisting you with this matter, and look forward to your timely response. Please contact John Henkelman at (916) 361-1297 or jhenkelman@scsengineers.com if you have any questions about this proposal or wish to discuss this matter further.

Sincerely,

John Henkelman
Senior Project Professional
SCS ENGINEERS

Patrick S. Sullivan, R.E.P.A., C.P.P.
Senior Vice President
SCS ENGINEERS

Attachment:
CalEEMod Output

References

CARB**,** *Method for Estimating Greenhouse Gas Emission Reductions from Compost from Commercial Organic Waste*, November 2011
Environ, *California Emissions Estimator Model User's Guide*, July 2013
ESA**,** *Sonoma County Waste Management Agency Compost Facility Recirculated Draft Environmental Impact Report*, October 2012
SCAQMD, Rule 1133, January 2003
SCAQMD, Rule 1133.1, July 2011
SCAQMD, Rule 1133.2, January 2003
SCAQMD, Rule 1133.3, July 2011

Attachments

Chiquita Canyon Compost

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	0.00	1000sqft	41.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - permitted composting area

Construction Phase - Operating emissions modeled as light grading

Off-road Equipment -

Off-road Equipment -

Grading - operating emissions assume 3 acres per day disturbed

Construction Off-road Equipment Mitigation - Enhanced fugitive dust control practices employed, per 11/16/15 email from Brenda Eels of CH2m
Tier 4f engines per 11/16/15 email from Brenda Eels of CH2m

Operational Off-Road Equipment - no comment

Table Name	Column Name	Default Value	New Value
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tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	75
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tblVehicleEF	LDT2	3.1160e-003	2.6090e-003
tblVehicleEF	LDT2	0.10	0.13
tblVehicleEF	LDT2	0.14	0.19
tblVehicleEF	LDT2	0.09	0.11
tblVehicleEF	LDT2	0.02	0.05
tblVehicleEF	LDT2	0.39	0.53
tblVehicleEF	LDT2	0.12	0.25
tblVehicleEF	LDT2	5.1360e-003	5.1590e-003
tblVehicleEF	LDT2	1.0320e-003	1.0520e-003
tblVehicleEF	LDT2	0.10	0.13
tblVehicleEF	LDT2	0.14	0.19
tblVehicleEF	LDT2	0.09	0.11
tblVehicleEF	LDT2	0.04	0.08
tblVehicleEF	LDT2	0.39	0.53
tblVehicleEF	LDT2	0.13	0.26
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	7.9630e-003	0.02
tblVehicleEF	LDT2	1.03	1.87

tblVehicleEF	LDT2	2.10	3.92
tblVehicleEF	LDT2	363.32	444.39
tblVehicleEF	LDT2	77.44	93.47
tblVehicleEF	LDT2	0.18	0.18
tblVehicleEF	LDT2	0.11	0.22
tblVehicleEF	LDT2	0.18	0.37
tblVehicleEF	LDT2	1.9220e-003	2.2420e-003
tblVehicleEF	LDT2	3.3600e-003	2.8450e-003
tblVehicleEF	LDT2	1.7830e-003	2.0520e-003
tblVehicleEF	LDT2	3.1160e-003	2.6090e-003
tblVehicleEF	LDT2	0.06	0.08
tblVehicleEF	LDT2	0.15	0.20
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.02	0.05
tblVehicleEF	LDT2	0.48	0.67
tblVehicleEF	LDT2	0.14	0.30
tblVehicleEF	LDT2	4.8080e-003	4.8340e-003
tblVehicleEF	LDT2	1.0410e-003	1.0680e-003
tblVehicleEF	LDT2	0.06	0.08
tblVehicleEF	LDT2	0.15	0.20
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.03	0.07
tblVehicleEF	LDT2	0.48	0.67
tblVehicleEF	LDT2	0.15	0.32
tblVehicleEF	LHD1	1.2790e-003	1.3160e-003
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	0.19	0.19

tblVehicleEF	LHD1	0.99	1.79
tblVehicleEF	LHD1	4.05	5.57
tblVehicleEF	LHD1	7.69	8.41
tblVehicleEF	LHD1	527.90	580.48
tblVehicleEF	LHD1	41.65	45.00
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.05	0.05
tblVehicleEF	LHD1	0.97	1.51
tblVehicleEF	LHD1	1.31	1.49
tblVehicleEF	LHD1	4.7400e-004	4.8600e-004
tblVehicleEF	LHD1	0.05	0.05
tblVehicleEF	LHD1	8.9470e-003	8.9400e-003
tblVehicleEF	LHD1	6.6120e-003	9.0460e-003
tblVehicleEF	LHD1	9.0900e-004	1.5360e-003
tblVehicleEF	LHD1	4.3600e-004	4.4700e-004
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	2.2370e-003	2.2350e-003
tblVehicleEF	LHD1	6.0870e-003	8.3250e-003
tblVehicleEF	LHD1	8.4100e-004	1.4050e-003
tblVehicleEF	LHD1	2.6010e-003	3.1280e-003
tblVehicleEF	LHD1	0.07	0.08
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	1.6220e-003	1.7380e-003
tblVehicleEF	LHD1	0.07	0.13
tblVehicleEF	LHD1	0.41	0.45
tblVehicleEF	LHD1	0.37	0.51
tblVehicleEF	LHD1	5.8160e-003	5.8570e-003
tblVehicleEF	LHD1	5.3700e-004	5.6000e-004

tblVehicleEF	LHD1	2.6010e-003	3.1280e-003
tblVehicleEF	LHD1	0.07	0.08
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	1.6220e-003	1.7380e-003
tblVehicleEF	LHD1	0.09	0.15
tblVehicleEF	LHD1	0.41	0.45
tblVehicleEF	LHD1	0.39	0.54
tblVehicleEF	LHD1	1.2790e-003	1.3160e-003
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	0.19	0.19
tblVehicleEF	LHD1	1.00	1.81
tblVehicleEF	LHD1	3.28	4.51
tblVehicleEF	LHD1	7.69	8.41
tblVehicleEF	LHD1	527.90	580.48
tblVehicleEF	LHD1	41.65	45.00
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.05	0.05
tblVehicleEF	LHD1	0.90	1.40
tblVehicleEF	LHD1	1.26	1.43
tblVehicleEF	LHD1	4.7400e-004	4.8600e-004
tblVehicleEF	LHD1	0.05	0.05
tblVehicleEF	LHD1	8.9470e-003	8.9400e-003
tblVehicleEF	LHD1	6.6120e-003	9.0460e-003
tblVehicleEF	LHD1	9.0900e-004	1.5360e-003
tblVehicleEF	LHD1	4.3600e-004	4.4700e-004
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	2.2370e-003	2.2350e-003

tblVehicleEF	LHD1	6.0870e-003	8.3250e-003
tblVehicleEF	LHD1	8.4100e-004	1.4050e-003
tblVehicleEF	LHD1	4.0630e-003	4.9240e-003
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.5050e-003	2.8030e-003
tblVehicleEF	LHD1	0.07	0.13
tblVehicleEF	LHD1	0.40	0.44
tblVehicleEF	LHD1	0.32	0.45
tblVehicleEF	LHD1	5.8160e-003	5.8580e-003
tblVehicleEF	LHD1	5.2400e-004	5.4100e-004
tblVehicleEF	LHD1	4.0630e-003	4.9240e-003
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.5050e-003	2.8030e-003
tblVehicleEF	LHD1	0.09	0.15
tblVehicleEF	LHD1	0.40	0.44
tblVehicleEF	LHD1	0.35	0.48
tblVehicleEF	LHD1	1.2790e-003	1.3160e-003
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	0.19	0.19
tblVehicleEF	LHD1	0.98	1.78
tblVehicleEF	LHD1	4.09	5.63
tblVehicleEF	LHD1	7.69	8.41
tblVehicleEF	LHD1	527.90	580.48
tblVehicleEF	LHD1	41.65	45.00
tblVehicleEF	LHD1	0.04	0.04

tblVehicleEF	LHD1	0.05	0.05
tblVehicleEF	LHD1	0.95	1.48
tblVehicleEF	LHD1	1.31	1.49
tblVehicleEF	LHD1	4.7400e-004	4.8600e-004
tblVehicleEF	LHD1	0.05	0.05
tblVehicleEF	LHD1	8.9470e-003	8.9400e-003
tblVehicleEF	LHD1	6.6120e-003	9.0460e-003
tblVehicleEF	LHD1	9.0900e-004	1.5360e-003
tblVehicleEF	LHD1	4.3600e-004	4.4700e-004
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	2.2370e-003	2.2350e-003
tblVehicleEF	LHD1	6.0870e-003	8.3250e-003
tblVehicleEF	LHD1	8.4100e-004	1.4050e-003
tblVehicleEF	LHD1	2.7470e-003	3.4760e-003
tblVehicleEF	LHD1	0.08	0.09
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	1.6340e-003	1.7930e-003
tblVehicleEF	LHD1	0.07	0.13
tblVehicleEF	LHD1	0.45	0.49
tblVehicleEF	LHD1	0.37	0.51
tblVehicleEF	LHD1	5.8160e-003	5.8570e-003
tblVehicleEF	LHD1	5.3800e-004	5.6100e-004
tblVehicleEF	LHD1	2.7470e-003	3.4760e-003
tblVehicleEF	LHD1	0.08	0.09
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	1.6340e-003	1.7930e-003
tblVehicleEF	LHD1	0.09	0.15
tblVehicleEF	LHD1	0.45	0.49

tblVehicleEF	LHD1	0.39	0.55
tblVehicleEF	LHD2	1.0040e-003	1.0310e-003
tblVehicleEF	LHD2	7.6960e-003	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.15	0.15
tblVehicleEF	LHD2	0.65	1.35
tblVehicleEF	LHD2	2.35	3.71
tblVehicleEF	LHD2	8.47	9.26
tblVehicleEF	LHD2	509.73	560.08
tblVehicleEF	LHD2	28.53	31.29
tblVehicleEF	LHD2	6.6920e-003	6.6160e-003
tblVehicleEF	LHD2	0.10	0.10
tblVehicleEF	LHD2	1.53	2.41
tblVehicleEF	LHD2	0.86	1.01
tblVehicleEF	LHD2	1.0380e-003	1.0680e-003
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	9.9660e-003	9.9780e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.7500e-004	1.0880e-003
tblVehicleEF	LHD2	9.5500e-004	9.8300e-004
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	2.4910e-003	2.4940e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.4000e-004	9.7200e-004
tblVehicleEF	LHD2	1.4640e-003	2.0850e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	9.5400e-004	1.1570e-003

tblVehicleEF	LHD2	0.07	0.12
tblVehicleEF	LHD2	0.24	0.31
tblVehicleEF	LHD2	0.22	0.34
tblVehicleEF	LHD2	5.5480e-003	5.5800e-003
tblVehicleEF	LHD2	3.6000e-004	3.8600e-004
tblVehicleEF	LHD2	1.4640e-003	2.0850e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	9.5400e-004	1.1570e-003
tblVehicleEF	LHD2	0.08	0.14
tblVehicleEF	LHD2	0.24	0.31
tblVehicleEF	LHD2	0.23	0.36
tblVehicleEF	LHD2	1.0040e-003	1.0310e-003
tblVehicleEF	LHD2	7.6960e-003	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.15	0.15
tblVehicleEF	LHD2	0.66	1.36
tblVehicleEF	LHD2	1.91	3.04
tblVehicleEF	LHD2	8.47	9.26
tblVehicleEF	LHD2	509.73	560.08
tblVehicleEF	LHD2	28.53	31.29
tblVehicleEF	LHD2	6.6920e-003	6.6160e-003
tblVehicleEF	LHD2	0.10	0.10
tblVehicleEF	LHD2	1.44	2.27
tblVehicleEF	LHD2	0.83	0.97
tblVehicleEF	LHD2	1.0380e-003	1.0680e-003
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	9.9660e-003	9.9780e-003

tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.7500e-004	1.0880e-003
tblVehicleEF	LHD2	9.5500e-004	9.8300e-004
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	2.4910e-003	2.4940e-003
tblVehicleEF	LHD2	0.01	0.02
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tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.4470e-003	1.8480e-003
tblVehicleEF	LHD2	0.07	0.12
tblVehicleEF	LHD2	0.23	0.30
tblVehicleEF	LHD2	0.19	0.30
tblVehicleEF	LHD2	5.5480e-003	5.5800e-003
tblVehicleEF	LHD2	3.5300e-004	3.7400e-004
tblVehicleEF	LHD2	2.2620e-003	3.2560e-003
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	1.4470e-003	1.8480e-003
tblVehicleEF	LHD2	0.08	0.14
tblVehicleEF	LHD2	0.23	0.30
tblVehicleEF	LHD2	0.21	0.32
tblVehicleEF	LHD2	1.0040e-003	1.0310e-003
tblVehicleEF	LHD2	7.6960e-003	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.15	0.15
tblVehicleEF	LHD2	0.65	1.35

tblVehicleEF	LHD2	2.38	3.76
tblVehicleEF	LHD2	8.47	9.26
tblVehicleEF	LHD2	509.73	560.08
tblVehicleEF	LHD2	28.53	31.29
tblVehicleEF	LHD2	6.6920e-003	6.6160e-003
tblVehicleEF	LHD2	0.10	0.10
tblVehicleEF	LHD2	1.51	2.37
tblVehicleEF	LHD2	0.87	1.01
tblVehicleEF	LHD2	1.0380e-003	1.0680e-003
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	9.9660e-003	9.9780e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.7500e-004	1.0880e-003
tblVehicleEF	LHD2	9.5500e-004	9.8300e-004
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	2.4910e-003	2.4940e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.4000e-004	9.7200e-004
tblVehicleEF	LHD2	1.5100e-003	2.3100e-003
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	9.4600e-004	1.1820e-003
tblVehicleEF	LHD2	0.07	0.12
tblVehicleEF	LHD2	0.26	0.34
tblVehicleEF	LHD2	0.22	0.35
tblVehicleEF	LHD2	5.5480e-003	5.5800e-003
tblVehicleEF	LHD2	3.6100e-004	3.8700e-004
tblVehicleEF	LHD2	1.5100e-003	2.3100e-003

tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	9.4600e-004	1.1820e-003
tblVehicleEF	LHD2	0.08	0.14
tblVehicleEF	LHD2	0.26	0.34
tblVehicleEF	LHD2	0.24	0.37
tblVehicleEF	MCY	20.47	24.45
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tblVehicleEF	MCY	141.21	145.96
tblVehicleEF	MCY	38.50	46.27
tblVehicleEF	MCY	4.3920e-003	4.3140e-003
tblVehicleEF	MCY	1.16	1.20
tblVehicleEF	MCY	0.31	0.31
tblVehicleEF	MCY	0.04	0.04
tblVehicleEF	MCY	3.1300e-004	6.8500e-004
tblVehicleEF	MCY	9.6300e-004	2.1930e-003
tblVehicleEF	MCY	0.02	0.02
tblVehicleEF	MCY	2.6300e-004	5.4900e-004
tblVehicleEF	MCY	8.0000e-004	1.7220e-003
tblVehicleEF	MCY	0.97	1.01
tblVehicleEF	MCY	0.41	0.49
tblVehicleEF	MCY	0.55	0.58
tblVehicleEF	MCY	2.38	2.55
tblVehicleEF	MCY	1.24	1.79
tblVehicleEF	MCY	2.06	2.17
tblVehicleEF	MCY	1.9650e-003	1.9460e-003
tblVehicleEF	MCY	6.5000e-004	6.9100e-004
tblVehicleEF	MCY	0.97	1.01

tblVehicleEF	MCY	0.41	0.49
tblVehicleEF	MCY	0.55	0.58
tblVehicleEF	MCY	2.61	2.80
tblVehicleEF	MCY	1.24	1.79
tblVehicleEF	MCY	2.21	2.33
tblVehicleEF	MCY	19.82	23.53
tblVehicleEF	MCY	8.80	8.72
tblVehicleEF	MCY	141.21	145.96
tblVehicleEF	MCY	38.50	46.27
tblVehicleEF	MCY	4.3920e-003	4.3140e-003
tblVehicleEF	MCY	1.01	1.05
tblVehicleEF	MCY	0.29	0.29
tblVehicleEF	MCY	0.04	0.04
tblVehicleEF	MCY	3.1300e-004	6.8500e-004
tblVehicleEF	MCY	9.6300e-004	2.1930e-003
tblVehicleEF	MCY	0.02	0.02
tblVehicleEF	MCY	2.6300e-004	5.4900e-004
tblVehicleEF	MCY	8.0000e-004	1.7220e-003
tblVehicleEF	MCY	1.65	1.71
tblVehicleEF	MCY	0.51	0.58
tblVehicleEF	MCY	1.05	1.09
tblVehicleEF	MCY	2.32	2.47
tblVehicleEF	MCY	1.16	1.69
tblVehicleEF	MCY	1.81	1.89
tblVehicleEF	MCY	1.9530e-003	1.9290e-003
tblVehicleEF	MCY	6.2300e-004	6.6600e-004
tblVehicleEF	MCY	1.65	1.71
tblVehicleEF	MCY	0.51	0.58

tblVehicleEF	MCY	1.05	1.09
tblVehicleEF	MCY	2.55	2.71
tblVehicleEF	MCY	1.16	1.69
tblVehicleEF	MCY	1.95	2.03
tblVehicleEF	MCY	20.37	24.35
tblVehicleEF	MCY	10.06	9.77
tblVehicleEF	MCY	141.21	145.96
tblVehicleEF	MCY	38.50	46.27
tblVehicleEF	MCY	4.3920e-003	4.3140e-003
tblVehicleEF	MCY	1.13	1.17
tblVehicleEF	MCY	0.31	0.31
tblVehicleEF	MCY	0.04	0.04
tblVehicleEF	MCY	3.1300e-004	6.8500e-004
tblVehicleEF	MCY	9.6300e-004	2.1930e-003
tblVehicleEF	MCY	0.02	0.02
tblVehicleEF	MCY	2.6300e-004	5.4900e-004
tblVehicleEF	MCY	8.0000e-004	1.7220e-003
tblVehicleEF	MCY	1.09	1.14
tblVehicleEF	MCY	0.54	0.65
tblVehicleEF	MCY	0.54	0.58
tblVehicleEF	MCY	2.38	2.56
tblVehicleEF	MCY	1.48	2.07
tblVehicleEF	MCY	2.08	2.19
tblVehicleEF	MCY	1.9640e-003	1.9450e-003
tblVehicleEF	MCY	6.5100e-004	6.9200e-004
tblVehicleEF	MCY	1.09	1.14
tblVehicleEF	MCY	0.54	0.65
tblVehicleEF	MCY	0.54	0.58

tblVehicleEF	MCY	2.61	2.80
tblVehicleEF	MCY	1.48	2.07
tblVehicleEF	MCY	2.23	2.35
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	1.77	2.63
tblVehicleEF	MDV	3.76	5.50
tblVehicleEF	MDV	488.74	582.41
tblVehicleEF	MDV	102.89	120.26
tblVehicleEF	MDV	0.14	0.14
tblVehicleEF	MDV	0.22	0.34
tblVehicleEF	MDV	0.35	0.54
tblVehicleEF	MDV	2.1710e-003	2.4330e-003
tblVehicleEF	MDV	3.5260e-003	3.3330e-003
tblVehicleEF	MDV	2.0090e-003	2.2350e-003
tblVehicleEF	MDV	3.2650e-003	3.0670e-003
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.20	0.19
tblVehicleEF	MDV	0.09	0.08
tblVehicleEF	MDV	0.05	0.08
tblVehicleEF	MDV	0.60	0.60
tblVehicleEF	MDV	0.32	0.48
tblVehicleEF	MDV	6.2060e-003	6.2070e-003
tblVehicleEF	MDV	1.3410e-003	1.3600e-003
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.20	0.19
tblVehicleEF	MDV	0.09	0.08
tblVehicleEF	MDV	0.07	0.11

tblVehicleEF	MDV	0.60	0.60
tblVehicleEF	MDV	0.34	0.51
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	1.96	2.88
tblVehicleEF	MDV	2.96	4.34
tblVehicleEF	MDV	514.22	612.09
tblVehicleEF	MDV	102.89	120.26
tblVehicleEF	MDV	0.14	0.14
tblVehicleEF	MDV	0.19	0.30
tblVehicleEF	MDV	0.33	0.50
tblVehicleEF	MDV	2.1710e-003	2.4330e-003
tblVehicleEF	MDV	3.5260e-003	3.3330e-003
tblVehicleEF	MDV	2.0090e-003	2.2350e-003
tblVehicleEF	MDV	3.2650e-003	3.0670e-003
tblVehicleEF	MDV	0.15	0.14
tblVehicleEF	MDV	0.21	0.20
tblVehicleEF	MDV	0.13	0.12
tblVehicleEF	MDV	0.05	0.08
tblVehicleEF	MDV	0.57	0.57
tblVehicleEF	MDV	0.27	0.41
tblVehicleEF	MDV	6.5340e-003	6.5270e-003
tblVehicleEF	MDV	1.3270e-003	1.3400e-003
tblVehicleEF	MDV	0.15	0.14
tblVehicleEF	MDV	0.21	0.20
tblVehicleEF	MDV	0.13	0.12
tblVehicleEF	MDV	0.07	0.12
tblVehicleEF	MDV	0.57	0.57

tblVehicleEF	MDV	0.29	0.44
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	1.72	2.55
tblVehicleEF	MDV	3.88	5.67
tblVehicleEF	MDV	481.25	573.56
tblVehicleEF	MDV	102.89	120.26
tblVehicleEF	MDV	0.14	0.14
tblVehicleEF	MDV	0.21	0.33
tblVehicleEF	MDV	0.35	0.54
tblVehicleEF	MDV	2.1710e-003	2.4330e-003
tblVehicleEF	MDV	3.5260e-003	3.3330e-003
tblVehicleEF	MDV	2.0090e-003	2.2350e-003
tblVehicleEF	MDV	3.2650e-003	3.0670e-003
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.22	0.21
tblVehicleEF	MDV	0.09	0.08
tblVehicleEF	MDV	0.04	0.08
tblVehicleEF	MDV	0.70	0.70
tblVehicleEF	MDV	0.32	0.49
tblVehicleEF	MDV	6.1100e-003	6.1120e-003
tblVehicleEF	MDV	1.3430e-003	1.3630e-003
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.22	0.21
tblVehicleEF	MDV	0.09	0.08
tblVehicleEF	MDV	0.07	0.11
tblVehicleEF	MDV	0.70	0.70
tblVehicleEF	MDV	0.34	0.52

tblVehicleEF	MH	1.58	6.10
tblVehicleEF	MH	6.03	10.50
tblVehicleEF	MH	601.02	661.46
tblVehicleEF	MH	27.96	33.48
tblVehicleEF	MH	2.1400e-003	2.0750e-003
tblVehicleEF	MH	1.24	1.87
tblVehicleEF	MH	0.68	0.95
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	8.5770e-003	8.5900e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	6.4800e-004	2.1430e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	2.1440e-003	2.1470e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	5.9500e-004	1.8330e-003
tblVehicleEF	MH	0.93	1.48
tblVehicleEF	MH	0.06	0.10
tblVehicleEF	MH	0.39	0.57
tblVehicleEF	MH	0.06	0.19
tblVehicleEF	MH	1.58	2.10
tblVehicleEF	MH	0.34	0.66
tblVehicleEF	MH	6.6210e-003	6.7320e-003
tblVehicleEF	MH	4.1500e-004	5.2500e-004
tblVehicleEF	MH	0.93	1.48
tblVehicleEF	MH	0.06	0.10
tblVehicleEF	MH	0.39	0.57
tblVehicleEF	MH	0.08	0.23
tblVehicleEF	MH	1.58	2.10

tblVehicleEF	MH	0.36	0.71
tblVehicleEF	MH	1.62	6.14
tblVehicleEF	MH	4.80	8.39
tblVehicleEF	MH	601.02	661.46
tblVehicleEF	MH	27.96	33.48
tblVehicleEF	MH	2.1400e-003	2.0750e-003
tblVehicleEF	MH	1.14	1.71
tblVehicleEF	MH	0.65	0.91
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	8.5770e-003	8.5900e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	6.4800e-004	2.1430e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	2.1440e-003	2.1470e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	5.9500e-004	1.8330e-003
tblVehicleEF	MH	1.43	2.28
tblVehicleEF	MH	0.06	0.10
tblVehicleEF	MH	0.61	0.92
tblVehicleEF	MH	0.06	0.19
tblVehicleEF	MH	1.55	2.06
tblVehicleEF	MH	0.29	0.56
tblVehicleEF	MH	6.6210e-003	6.7320e-003
tblVehicleEF	MH	3.9500e-004	4.8900e-004
tblVehicleEF	MH	1.43	2.28
tblVehicleEF	MH	0.06	0.10
tblVehicleEF	MH	0.61	0.92
tblVehicleEF	MH	0.08	0.23

tblVehicleEF	MH	1.55	2.06
tblVehicleEF	MH	0.31	0.60
tblVehicleEF	MH	1.58	6.09
tblVehicleEF	MH	6.06	10.57
tblVehicleEF	MH	601.02	661.46
tblVehicleEF	MH	27.96	33.48
tblVehicleEF	MH	2.1400e-003	2.0750e-003
tblVehicleEF	MH	1.21	1.83
tblVehicleEF	MH	0.68	0.96
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	8.5770e-003	8.5900e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	6.4800e-004	2.1430e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	2.1440e-003	2.1470e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	5.9500e-004	1.8330e-003
tblVehicleEF	MH	1.06	1.77
tblVehicleEF	MH	0.08	0.13
tblVehicleEF	MH	0.40	0.62
tblVehicleEF	MH	0.06	0.19
tblVehicleEF	MH	1.67	2.22
tblVehicleEF	MH	0.34	0.67
tblVehicleEF	MH	6.6210e-003	6.7310e-003
tblVehicleEF	MH	4.1600e-004	5.2700e-004
tblVehicleEF	MH	1.06	1.77
tblVehicleEF	MH	0.08	0.13
tblVehicleEF	MH	0.40	0.62

tblVehicleEF	MH	0.08	0.23
tblVehicleEF	MH	1.67	2.22
tblVehicleEF	MH	0.36	0.72
tblVehicleEF	MHD	7.4570e-003	9.1490e-003
tblVehicleEF	MHD	3.5470e-003	7.4500e-003
tblVehicleEF	MHD	1.89	1.98
tblVehicleEF	MHD	0.68	1.65
tblVehicleEF	MHD	14.46	23.23
tblVehicleEF	MHD	572.02	606.65
tblVehicleEF	MHD	914.66	1,009.37
tblVehicleEF	MHD	49.61	61.80
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	4.69	7.20
tblVehicleEF	MHD	1.64	4.51
tblVehicleEF	MHD	1.63	2.33
tblVehicleEF	MHD	0.01	0.04
tblVehicleEF	MHD	0.11	0.11
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.04	0.12
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tblVehicleEF	MHD	0.01	0.04
tblVehicleEF	MHD	0.05	0.05
tblVehicleEF	MHD	2.8150e-003	2.8090e-003
tblVehicleEF	MHD	0.04	0.11
tblVehicleEF	MHD	1.2830e-003	3.7970e-003
tblVehicleEF	MHD	2.3710e-003	4.0820e-003
tblVehicleEF	MHD	0.09	0.17
tblVehicleEF	MHD	0.16	0.20

tblVehicleEF	MHD	1.5040e-003	2.3050e-003
tblVehicleEF	MHD	0.09	0.21
tblVehicleEF	MHD	0.42	0.69
tblVehicleEF	MHD	0.86	1.62
tblVehicleEF	MHD	6.0640e-003	5.8760e-003
tblVehicleEF	MHD	9.7510e-003	9.8450e-003
tblVehicleEF	MHD	8.0400e-004	1.0420e-003
tblVehicleEF	MHD	2.3710e-003	4.0820e-003
tblVehicleEF	MHD	0.09	0.17
tblVehicleEF	MHD	0.18	0.22
tblVehicleEF	MHD	1.5040e-003	2.3050e-003
tblVehicleEF	MHD	0.11	0.24
tblVehicleEF	MHD	0.42	0.69
tblVehicleEF	MHD	0.92	1.73
tblVehicleEF	MHD	7.0270e-003	8.6220e-003
tblVehicleEF	MHD	3.5470e-003	7.4500e-003
tblVehicleEF	MHD	1.37	1.44
tblVehicleEF	MHD	0.69	1.66
tblVehicleEF	MHD	11.66	19.26
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tblVehicleEF	MHD	914.66	1,009.37
tblVehicleEF	MHD	49.61	61.80
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	4.84	7.43
tblVehicleEF	MHD	1.54	4.24
tblVehicleEF	MHD	1.56	2.23
tblVehicleEF	MHD	9.3480e-003	0.04
tblVehicleEF	MHD	0.11	0.11

tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.04	0.12
tblVehicleEF	MHD	1.4000e-003	4.5390e-003
tblVehicleEF	MHD	8.6000e-003	0.03
tblVehicleEF	MHD	0.05	0.05
tblVehicleEF	MHD	2.8150e-003	2.8090e-003
tblVehicleEF	MHD	0.04	0.11
tblVehicleEF	MHD	1.2830e-003	3.7970e-003
tblVehicleEF	MHD	3.6620e-003	6.4320e-003
tblVehicleEF	MHD	0.09	0.18
tblVehicleEF	MHD	0.15	0.19
tblVehicleEF	MHD	2.2930e-003	3.7370e-003
tblVehicleEF	MHD	0.09	0.21
tblVehicleEF	MHD	0.41	0.67
tblVehicleEF	MHD	0.76	1.40
tblVehicleEF	MHD	6.4240e-003	6.2250e-003
tblVehicleEF	MHD	9.7510e-003	9.8450e-003
tblVehicleEF	MHD	7.5700e-004	9.7300e-004
tblVehicleEF	MHD	3.6620e-003	6.4320e-003
tblVehicleEF	MHD	0.09	0.18
tblVehicleEF	MHD	0.17	0.21
tblVehicleEF	MHD	2.2930e-003	3.7370e-003
tblVehicleEF	MHD	0.11	0.24
tblVehicleEF	MHD	0.41	0.67
tblVehicleEF	MHD	0.81	1.50
tblVehicleEF	MHD	8.0500e-003	9.8770e-003
tblVehicleEF	MHD	3.5470e-003	7.4500e-003
tblVehicleEF	MHD	2.60	2.73

tblVehicleEF	MHD	0.68	1.65
tblVehicleEF	MHD	14.80	23.70
tblVehicleEF	MHD	525.09	556.87
tblVehicleEF	MHD	914.66	1,009.37
tblVehicleEF	MHD	49.61	61.80
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	4.48	6.88
tblVehicleEF	MHD	1.61	4.42
tblVehicleEF	MHD	1.64	2.34
tblVehicleEF	MHD	0.01	0.05
tblVehicleEF	MHD	0.11	0.11
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.04	0.12
tblVehicleEF	MHD	1.4000e-003	4.5390e-003
tblVehicleEF	MHD	0.01	0.05
tblVehicleEF	MHD	0.05	0.05
tblVehicleEF	MHD	2.8150e-003	2.8090e-003
tblVehicleEF	MHD	0.04	0.11
tblVehicleEF	MHD	1.2830e-003	3.7970e-003
tblVehicleEF	MHD	2.5280e-003	4.6170e-003
tblVehicleEF	MHD	0.10	0.21
tblVehicleEF	MHD	0.17	0.21
tblVehicleEF	MHD	1.5250e-003	2.4180e-003
tblVehicleEF	MHD	0.09	0.21
tblVehicleEF	MHD	0.46	0.74
tblVehicleEF	MHD	0.88	1.65
tblVehicleEF	MHD	5.5660e-003	5.3940e-003
tblVehicleEF	MHD	9.7510e-003	9.8450e-003

tblVehicleEF	MHD	8.1000e-004	1.0500e-003
tblVehicleEF	MHD	2.5280e-003	4.6170e-003
tblVehicleEF	MHD	0.10	0.21
tblVehicleEF	MHD	0.20	0.24
tblVehicleEF	MHD	1.5250e-003	2.4180e-003
tblVehicleEF	MHD	0.11	0.24
tblVehicleEF	MHD	0.46	0.74
tblVehicleEF	MHD	0.94	1.76
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	2.8030e-003	3.2540e-003
tblVehicleEF	OBUS	2.74	2.30
tblVehicleEF	OBUS	0.97	1.83
tblVehicleEF	OBUS	8.82	11.72
tblVehicleEF	OBUS	534.88	573.90
tblVehicleEF	OBUS	1,017.85	1,092.67
tblVehicleEF	OBUS	32.78	37.32
tblVehicleEF	OBUS	1.9430e-003	1.9230e-003
tblVehicleEF	OBUS	4.65	7.28
tblVehicleEF	OBUS	2.29	5.66
tblVehicleEF	OBUS	1.25	1.58
tblVehicleEF	OBUS	9.5470e-003	0.06
tblVehicleEF	OBUS	0.10	0.09
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.04	0.10
tblVehicleEF	OBUS	5.8000e-004	1.2710e-003
tblVehicleEF	OBUS	8.7830e-003	0.05
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	2.6470e-003	2.6000e-003

tblVehicleEF	OBUS	0.04	0.09
tblVehicleEF	OBUS	5.3500e-004	1.1010e-003
tblVehicleEF	OBUS	9.6800e-004	1.0180e-003
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.47	0.49
tblVehicleEF	OBUS	5.3200e-004	4.9100e-004
tblVehicleEF	OBUS	0.12	0.21
tblVehicleEF	OBUS	0.33	0.29
tblVehicleEF	OBUS	0.54	0.75
tblVehicleEF	OBUS	5.6700e-003	5.5590e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	5.1900e-004	5.8600e-004
tblVehicleEF	OBUS	9.6800e-004	1.0180e-003
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.53	0.56
tblVehicleEF	OBUS	5.3200e-004	4.9100e-004
tblVehicleEF	OBUS	0.14	0.24
tblVehicleEF	OBUS	0.33	0.29
tblVehicleEF	OBUS	0.58	0.80
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	2.8030e-003	3.2540e-003
tblVehicleEF	OBUS	1.99	1.67
tblVehicleEF	OBUS	0.98	1.85
tblVehicleEF	OBUS	7.13	9.57
tblVehicleEF	OBUS	566.66	607.99
tblVehicleEF	OBUS	1,017.85	1,092.67
tblVehicleEF	OBUS	32.78	37.32
tblVehicleEF	OBUS	1.9430e-003	1.9230e-003

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tblVehicleEF	OBUS	1.20	1.52
tblVehicleEF	OBUS	8.0480e-003	0.05
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tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.04	0.10
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tblVehicleEF	OBUS	2.6470e-003	2.6000e-003
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tblVehicleEF	OBUS	0.44	0.46
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tblVehicleEF	OBUS	1.4480e-003	1.5430e-003
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.50	0.53
tblVehicleEF	OBUS	7.8500e-004	7.6700e-004
tblVehicleEF	OBUS	0.14	0.24

tblVehicleEF	OBUS	0.32	0.28
tblVehicleEF	OBUS	0.51	0.70
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	2.8030e-003	3.2540e-003
tblVehicleEF	OBUS	3.78	3.17
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tblVehicleEF	OBUS	491.00	526.81
tblVehicleEF	OBUS	1,017.85	1,092.67
tblVehicleEF	OBUS	32.78	37.32
tblVehicleEF	OBUS	1.9430e-003	1.9230e-003
tblVehicleEF	OBUS	4.44	6.96
tblVehicleEF	OBUS	2.24	5.56
tblVehicleEF	OBUS	1.25	1.59
tblVehicleEF	OBUS	0.01	0.07
tblVehicleEF	OBUS	0.10	0.09
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.04	0.10
tblVehicleEF	OBUS	5.8000e-004	1.2710e-003
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tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	2.6470e-003	2.6000e-003
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tblVehicleEF	OBUS	5.3500e-004	1.1010e-003
tblVehicleEF	OBUS	9.8800e-004	1.1260e-003
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.50	0.53
tblVehicleEF	OBUS	5.2500e-004	5.0500e-004

tblVehicleEF	OBUS	0.12	0.21
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tblVehicleEF	OBUS	0.55	0.76
tblVehicleEF	OBUS	5.2050e-003	5.1030e-003
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tblVehicleEF	OBUS	5.2200e-004	5.9000e-004
tblVehicleEF	OBUS	9.8800e-004	1.1260e-003
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.57	0.60
tblVehicleEF	OBUS	5.2500e-004	5.0500e-004
tblVehicleEF	OBUS	0.14	0.24
tblVehicleEF	OBUS	0.35	0.31
tblVehicleEF	OBUS	0.59	0.81
tblVehicleEF	SBUS	4.4530e-003	5.3980e-003
tblVehicleEF	SBUS	5.5860e-003	7.5320e-003
tblVehicleEF	SBUS	1.05	1.04
tblVehicleEF	SBUS	2.96	5.50
tblVehicleEF	SBUS	27.16	35.83
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tblVehicleEF	SBUS	1,037.25	1,149.21
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tblVehicleEF	SBUS	5.7600e-004	6.0200e-004
tblVehicleEF	SBUS	7.58	8.19
tblVehicleEF	SBUS	7.03	8.40
tblVehicleEF	SBUS	2.02	2.33
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	0.57	0.58
tblVehicleEF	SBUS	0.01	0.01

tblVehicleEF	SBUS	0.05	0.09
tblVehicleEF	SBUS	3.6960e-003	8.0580e-003
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	0.24	0.25
tblVehicleEF	SBUS	2.7470e-003	2.7610e-003
tblVehicleEF	SBUS	0.04	0.08
tblVehicleEF	SBUS	3.4060e-003	6.8660e-003
tblVehicleEF	SBUS	0.03	0.04
tblVehicleEF	SBUS	0.21	0.30
tblVehicleEF	SBUS	0.10	0.12
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.30	0.45
tblVehicleEF	SBUS	1.95	2.32
tblVehicleEF	SBUS	1.66	2.50
tblVehicleEF	SBUS	5.7980e-003	5.6340e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	1.7600e-003	1.9890e-003
tblVehicleEF	SBUS	0.03	0.04
tblVehicleEF	SBUS	0.21	0.30
tblVehicleEF	SBUS	0.11	0.13
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.33	0.50
tblVehicleEF	SBUS	1.95	2.32
tblVehicleEF	SBUS	1.77	2.68
tblVehicleEF	SBUS	4.1970e-003	5.0870e-003
tblVehicleEF	SBUS	5.5860e-003	7.5320e-003
tblVehicleEF	SBUS	0.76	0.76
tblVehicleEF	SBUS	3.03	5.46

tblVehicleEF	SBUS	23.01	30.86
tblVehicleEF	SBUS	579.49	616.28
tblVehicleEF	SBUS	1,037.25	1,149.21
tblVehicleEF	SBUS	115.53	132.92
tblVehicleEF	SBUS	5.7600e-004	6.0200e-004
tblVehicleEF	SBUS	7.82	8.46
tblVehicleEF	SBUS	6.62	7.90
tblVehicleEF	SBUS	1.91	2.20
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.57	0.58
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.05	0.09
tblVehicleEF	SBUS	3.6960e-003	8.0580e-003
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.24	0.25
tblVehicleEF	SBUS	2.7470e-003	2.7610e-003
tblVehicleEF	SBUS	0.04	0.08
tblVehicleEF	SBUS	3.4060e-003	6.8660e-003
tblVehicleEF	SBUS	0.05	0.06
tblVehicleEF	SBUS	0.21	0.31
tblVehicleEF	SBUS	0.09	0.11
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	0.30	0.45
tblVehicleEF	SBUS	1.79	2.14
tblVehicleEF	SBUS	1.49	2.20
tblVehicleEF	SBUS	6.1430e-003	5.9690e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	1.6900e-003	1.9010e-003

tblVehicleEF	SBUS	0.05	0.06
tblVehicleEF	SBUS	0.21	0.31
tblVehicleEF	SBUS	0.10	0.12
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	0.34	0.50
tblVehicleEF	SBUS	1.79	2.14
tblVehicleEF	SBUS	1.59	2.36
tblVehicleEF	SBUS	4.8080e-003	5.8270e-003
tblVehicleEF	SBUS	5.5860e-003	7.5320e-003
tblVehicleEF	SBUS	1.45	1.44
tblVehicleEF	SBUS	2.94	5.49
tblVehicleEF	SBUS	27.94	36.79
tblVehicleEF	SBUS	502.12	533.99
tblVehicleEF	SBUS	1,037.25	1,149.21
tblVehicleEF	SBUS	115.53	132.92
tblVehicleEF	SBUS	5.7600e-004	6.0200e-004
tblVehicleEF	SBUS	7.24	7.83
tblVehicleEF	SBUS	6.92	8.26
tblVehicleEF	SBUS	2.04	2.36
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	0.57	0.58
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.05	0.09
tblVehicleEF	SBUS	3.6960e-003	8.0580e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	0.24	0.25
tblVehicleEF	SBUS	2.7470e-003	2.7610e-003
tblVehicleEF	SBUS	0.04	0.08

tblVehicleEF	SBUS	3.4060e-003	6.8660e-003
tblVehicleEF	SBUS	0.04	0.05
tblVehicleEF	SBUS	0.25	0.38
tblVehicleEF	SBUS	0.10	0.13
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.29	0.45
tblVehicleEF	SBUS	2.30	2.74
tblVehicleEF	SBUS	1.69	2.56
tblVehicleEF	SBUS	5.3230e-003	5.1720e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	1.7730e-003	2.0050e-003
tblVehicleEF	SBUS	0.04	0.05
tblVehicleEF	SBUS	0.25	0.38
tblVehicleEF	SBUS	0.12	0.14
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.33	0.50
tblVehicleEF	SBUS	2.30	2.74
tblVehicleEF	SBUS	1.81	2.74
tblVehicleEF	UBUS	4.38	5.67
tblVehicleEF	UBUS	9.86	11.01
tblVehicleEF	UBUS	1,917.54	2,172.38
tblVehicleEF	UBUS	27.32	30.02
tblVehicleEF	UBUS	2.4910e-003	2.5300e-003
tblVehicleEF	UBUS	10.91	13.44
tblVehicleEF	UBUS	1.17	1.24
tblVehicleEF	UBUS	0.68	0.68
tblVehicleEF	UBUS	0.18	0.21
tblVehicleEF	UBUS	6.0900e-004	8.7100e-004

tblVehicleEF	UBUS	0.29	0.29
tblVehicleEF	UBUS	0.16	0.20
tblVehicleEF	UBUS	5.6400e-004	7.7100e-004
tblVehicleEF	UBUS	5.4570e-003	5.8700e-003
tblVehicleEF	UBUS	0.09	0.10
tblVehicleEF	UBUS	3.0100e-003	3.2100e-003
tblVehicleEF	UBUS	0.72	0.84
tblVehicleEF	UBUS	0.78	0.70
tblVehicleEF	UBUS	0.73	0.80
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	4.8100e-004	5.0200e-004
tblVehicleEF	UBUS	5.4570e-003	5.8700e-003
tblVehicleEF	UBUS	0.09	0.10
tblVehicleEF	UBUS	3.0100e-003	3.2100e-003
tblVehicleEF	UBUS	0.80	0.93
tblVehicleEF	UBUS	0.78	0.70
tblVehicleEF	UBUS	0.78	0.86
tblVehicleEF	UBUS	4.44	5.69
tblVehicleEF	UBUS	8.28	9.29
tblVehicleEF	UBUS	1,917.54	2,172.38
tblVehicleEF	UBUS	27.32	30.02
tblVehicleEF	UBUS	2.4910e-003	2.5300e-003
tblVehicleEF	UBUS	10.28	12.66
tblVehicleEF	UBUS	1.12	1.18
tblVehicleEF	UBUS	0.68	0.68
tblVehicleEF	UBUS	0.18	0.21
tblVehicleEF	UBUS	6.0900e-004	8.7100e-004
tblVehicleEF	UBUS	0.29	0.29

tblVehicleEF	UBUS	0.16	0.20
tblVehicleEF	UBUS	5.6400e-004	7.7100e-004
tblVehicleEF	UBUS	8.0610e-003	8.7030e-003
tblVehicleEF	UBUS	0.10	0.11
tblVehicleEF	UBUS	4.5490e-003	4.9630e-003
tblVehicleEF	UBUS	0.73	0.85
tblVehicleEF	UBUS	0.73	0.65
tblVehicleEF	UBUS	0.65	0.72
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	4.5400e-004	4.7300e-004
tblVehicleEF	UBUS	8.0610e-003	8.7030e-003
tblVehicleEF	UBUS	0.10	0.11
tblVehicleEF	UBUS	4.5490e-003	4.9630e-003
tblVehicleEF	UBUS	0.81	0.94
tblVehicleEF	UBUS	0.73	0.65
tblVehicleEF	UBUS	0.70	0.77
tblVehicleEF	UBUS	4.37	5.66
tblVehicleEF	UBUS	9.99	11.15
tblVehicleEF	UBUS	1,917.54	2,172.38
tblVehicleEF	UBUS	27.32	30.02
tblVehicleEF	UBUS	2.4910e-003	2.5300e-003
tblVehicleEF	UBUS	10.70	13.18
tblVehicleEF	UBUS	1.18	1.24
tblVehicleEF	UBUS	0.68	0.68
tblVehicleEF	UBUS	0.18	0.21
tblVehicleEF	UBUS	6.0900e-004	8.7100e-004
tblVehicleEF	UBUS	0.29	0.29
tblVehicleEF	UBUS	0.16	0.20

tblVehicleEF	UBUS	5.6400e-004	7.7100e-004
tblVehicleEF	UBUS	6.2690e-003	6.8710e-003
tblVehicleEF	UBUS	0.12	0.13
tblVehicleEF	UBUS	3.2440e-003	3.5260e-003
tblVehicleEF	UBUS	0.72	0.84
tblVehicleEF	UBUS	0.92	0.81
tblVehicleEF	UBUS	0.73	0.81
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	4.8300e-004	5.0500e-004
tblVehicleEF	UBUS	6.2690e-003	6.8710e-003
tblVehicleEF	UBUS	0.12	0.13
tblVehicleEF	UBUS	3.2440e-003	3.5260e-003
tblVehicleEF	UBUS	0.80	0.93
tblVehicleEF	UBUS	0.92	0.81
tblVehicleEF	UBUS	0.78	0.87

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.6144	49.4795	39.6290	0.0655	18.3372	2.2642	20.2701	10.0025	2.0831	11.7808	0.0000	6,250.2177	6,250.2177	1.9456	0.0000	6,291.0760
Total	**4.6144**	**49.4795**	**39.6290**	**0.0655**	**18.3372**	**2.2642**	**20.2701**	**10.0025**	**2.0831**	**11.7808**	**0.0000**	**6,250.2177**	**6,250.2177**	**1.9456**	**0.0000**	**6,291.0760**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.8207	3.3734	35.9820	0.0655	4.7875	0.1031	4.8530	2.5545	0.1029	2.6198	0.0000	6,250.2177	6,250.2177	1.9456	0.0000	6,291.0760
Total	**0.8207**	**3.3734**	**35.9820**	**0.0655**	**4.7875**	**0.1031**	**4.8530**	**2.5545**	**0.1029**	**2.6198**	**0.0000**	**6,250.2177**	**6,250.2177**	**1.9456**	**0.0000**	**6,291.0760**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**82.22**	**93.18**	**9.20**	**0.00**	**73.89**	**95.45**	**76.06**	**74.46**	**95.06**	**77.76**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2020	5/31/2020	5	21	
2	Grading	Grading	6/1/2020	6/30/2020	5	22	
3	Paving	Paving	7/1/2020	7/31/2020	5	23	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 50

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.7250	38.8640	32.9264	0.0391		1.9309	1.9309		1.7764	1.7764		3,792.2816	3,792.2816	1.2265		3,818.0381
Total	**3.7250**	**38.8640**	**32.9264**	**0.0391**	**18.0663**	**1.9309**	**19.9971**	**9.9307**	**1.7764**	**11.7071**		**3,792.2816**	**3,792.2816**	**1.2265**		**3,818.0381**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0578	0.0860	1.0829	3.4100e-003	0.2709	2.0200e-003	0.2730	0.0719	1.8700e-003	0.0737		245.2580	245.2580	0.0111		245.4909
Total	**0.0578**	**0.0860**	**1.0829**	**3.4100e-003**	**0.2709**	**2.0200e-003**	**0.2730**	**0.0719**	**1.8700e-003**	**0.0737**		**245.2580**	**245.2580**	**0.0111**		**245.4909**

3.2 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5166	0.0000	4.5166	2.4827	0.0000	2.4827			0.0000			0.0000
Off-Road	0.4757	2.0615	21.2415	0.0391		0.0634	0.0634		0.0634	0.0634	0.0000	3,792.2816	3,792.2816	1.2265		3,818.0381
Total	**0.4757**	**2.0615**	**21.2415**	**0.0391**	**4.5166**	**0.0634**	**4.5800**	**2.4827**	**0.0634**	**2.5461**	**0.0000**	**3,792.2816**	**3,792.2816**	**1.2265**		**3,818.0381**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0578	0.0860	1.0829	3.4100e-003	0.2709	2.0200e-003	0.2730	0.0719	1.8700e-003	0.0737		245.2580	245.2580	0.0111		245.4909
Total	**0.0578**	**0.0860**	**1.0829**	**3.4100e-003**	**0.2709**	**2.0200e-003**	**0.2730**	**0.0719**	**1.8700e-003**	**0.0737**		**245.2580**	**245.2580**	**0.0111**		**245.4909**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.4323	0.0000	8.4323	3.5705	0.0000	3.5705			0.0000			0.0000
Off-Road	4.5501	49.3839	38.4257	0.0617		2.2619	2.2619		2.0810	2.0810		5,977.7088	5,977.7088	1.9333		6,018.3084
Total	**4.5501**	**49.3839**	**38.4257**	**0.0617**	**8.4323**	**2.2619**	**10.6943**	**3.5705**	**2.0810**	**5.6515**		**5,977.7088**	**5,977.7088**	**1.9333**		**6,018.3084**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0642	0.0956	1.2032	3.7800e-003	0.3010	2.2400e-003	0.3033	0.0798	2.0800e-003	0.0819		272.5089	272.5089	0.0123		272.7676
Total	**0.0642**	**0.0956**	**1.2032**	**3.7800e-003**	**0.3010**	**2.2400e-003**	**0.3033**	**0.0798**	**2.0800e-003**	**0.0819**		**272.5089**	**272.5089**	**0.0123**		**272.7676**

3.3 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1081	0.0000	2.1081	0.8926	0.0000	0.8926			0.0000			0.0000
Off-Road	0.7564	3.2778	34.7787	0.0617		0.1009	0.1009		0.1009	0.1009	0.0000	5,977.7088	5,977.7088	1.9333		6,018.3084
Total	**0.7564**	**3.2778**	**34.7787**	**0.0617**	**2.1081**	**0.1009**	**2.2089**	**0.8926**	**0.1009**	**0.9935**	**0.0000**	**5,977.7088**	**5,977.7088**	**1.9333**		**6,018.3084**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0642	0.0956	1.2032	3.7800e-003	0.3010	2.2400e-003	0.3033	0.0798	2.0800e-003	0.0819		272.5089	272.5089	0.0123		272.7676
Total	**0.0642**	**0.0956**	**1.2032**	**3.7800e-003**	**0.3010**	**2.2400e-003**	**0.3033**	**0.0798**	**2.0800e-003**	**0.0819**		**272.5089**	**272.5089**	**0.0123**		**272.7676**

3.4 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3301	13.7845	14.3523	0.0223		0.7390	0.7390		0.6799	0.6799		2,160.7571	2,160.7571	0.6988		2,175.4326
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3301**	**13.7845**	**14.3523**	**0.0223**		**0.7390**	**0.7390**		**0.6799**	**0.6799**		**2,160.7571**	**2,160.7571**	**0.6988**		**2,175.4326**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0717	0.9024	2.8400e-003	0.2258	1.6800e-003	0.2275	0.0599	1.5600e-003	0.0614		204.3816	204.3816	9.2400e-003		204.5757
Total	**0.0482**	**0.0717**	**0.9024**	**2.8400e-003**	**0.2258**	**1.6800e-003**	**0.2275**	**0.0599**	**1.5600e-003**	**0.0614**		**204.3816**	**204.3816**	**9.2400e-003**		**204.5757**

3.4 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2745	1.1895	16.9276	0.0223		0.0366	0.0366		0.0366	0.0366	0.0000	2,160.7571	2,160.7571	0.6988		2,175.4326
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2745**	**1.1895**	**16.9276**	**0.0223**		**0.0366**	**0.0366**		**0.0366**	**0.0366**	**0.0000**	**2,160.7571**	**2,160.7571**	**0.6988**		**2,175.4326**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0717	0.9024	2.8400e-003	0.2258	1.6800e-003	0.2275	0.0599	1.5600e-003	0.0614		204.3816	204.3816	9.2400e-003		204.5757
Total	**0.0482**	**0.0717**	**0.9024**	**2.8400e-003**	**0.2258**	**1.6800e-003**	**0.2275**	**0.0599**	**1.5600e-003**	**0.0614**		**204.3816**	**204.3816**	**9.2400e-003**		**204.5757**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	18.50	10.10	7.90	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.516610	0.060517	0.179979	0.140587	0.041566	0.006616	0.015092	0.027587	0.001923	0.002530	0.004314	0.000602	0.002075

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Chiquita Canyon Compost

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	0.00	1000sqft	41.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2014
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - permitted composting area

Construction Phase - Operating emissions modeled as light grading

Off-road Equipment -

Off-road Equipment - equipment from CDS EIR

Off-road Equipment -

Grading - operating emissions assume 3 acres per day disturbed

Construction Off-road Equipment Mitigation - Enhanced fugitive dust control practices employed, per 11/16/15 email from Brenda Eels of CH2m. 75% control for earthmoving dust, 55% for unpaved roads

Operational Off-Road Equipment - no comment

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	75
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	75
tblConstructionPhase	NumDays	75.00	20.00
tblConstructionPhase	NumDays	75.00	22.00
tblConstructionPhase	NumDays	55.00	23.00
tblConstructionPhase	NumDays	30.00	23.00
tblConstructionPhase	PhaseStartDate	6/1/2019	6/3/2019
tblConstructionPhase	PhaseStartDate	6/29/2019	7/1/2019
tblGrading	AcresOfGrading	0.00	66.00
tblLandUse	LotAcreage	0.00	41.00
tblOffRoadEquipment	HorsePower	255.00	235.00
tblOffRoadEquipment	HorsePower	89.00	93.00
tblOffRoadEquipment	HorsePower	400.00	275.00
tblOffRoadEquipment	HorsePower	167.00	580.00
tblOffRoadEquipment	HorsePower	167.00	260.00
tblOffRoadEquipment	HorsePower	167.00	139.00
tblOffRoadEquipment	LoadFactor	0.40	0.59
tblOffRoadEquipment	LoadFactor	0.20	0.30
tblOffRoadEquipment	LoadFactor	0.38	0.57
tblOffRoadEquipment	LoadFactor	0.40	0.59
tblOffRoadEquipment	LoadFactor	0.40	0.59
tblOffRoadEquipment	LoadFactor	0.40	0.59
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Operating
tblOffRoadEquipment	PhaseName		Operating
tblOffRoadEquipment	PhaseName		Operating
tblOffRoadEquipment	PhaseName		Operating
tblOffRoadEquipment	PhaseName		Operating
tblOffRoadEquipment	UsageHours	8.00	2.60
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	4.9599	54.3008	41.5792	0.0655	18.3372	2.5072	20.4897	10.0025	2.3066	11.9828	0.0000	6,395.3152	6,395.3152	1.9466	0.0000	6,436.1930
Total	**4.9599**	**54.3008**	**41.5792**	**0.0655**	**18.3372**	**2.5072**	**20.4897**	**10.0025**	**2.3066**	**11.9828**	**0.0000**	**6,395.3152**	**6,395.3152**	**1.9466**	**0.0000**	**6,436.1930**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	4.9599	54.3008	41.5792	0.0655	4.7875	2.5072	6.9400	2.5545	2.3066	4.5348	0.0000	6,395.3152	6,395.3152	1.9466	0.0000	6,436.1930
Total	**4.9599**	**54.3008**	**41.5792**	**0.0655**	**4.7875**	**2.5072**	**6.9400**	**2.5545**	**2.3066**	**4.5348**	**0.0000**	**6,395.3152**	**6,395.3152**	**1.9466**	**0.0000**	**6,436.1930**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**73.89**	**0.00**	**66.13**	**74.46**	**0.00**	**62.16**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2019	5/31/2019	5	23	
2	Grading	Grading	6/3/2019	6/28/2019	5	20	
3	Paving	Paving	7/1/2019	7/31/2019	5	23	
4	Operating	Grading	8/1/2019	8/30/2019	5	22	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 50

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Operating	Forklifts	1	2.60	93	0.30
Operating	Off-Highway Trucks	1	2.60	275	0.57
Operating	Other Material Handling Equipment	1	2.60	580	0.59
Operating	Other Material Handling Equipment	1	2.60	260	0.59
Operating	Other Material Handling Equipment	1	2.60	139	0.59
Operating	Rubber Tired Dozers	7	2.60	235	0.59

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Operating	12	30.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0188	42.5046	34.8088	0.0391		2.1505	2.1505		1.9784	1.9784		3,876.7233	3,876.7233	1.2266		3,902.4810
Total	**4.0188**	**42.5046**	**34.8088**	**0.0391**	**18.0663**	**2.1505**	**20.2167**	**9.9307**	**1.9784**	**11.9091**		**3,876.7233**	**3,876.7233**	**1.2266**		**3,902.4810**

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0618	0.0927	1.1613	3.4100e-003	0.2709	2.0300e-003	0.2730	0.0719	1.8800e-003	0.0737		255.6028	255.6028	0.0117		255.8486
Total	**0.0618**	**0.0927**	**1.1613**	**3.4100e-003**	**0.2709**	**2.0300e-003**	**0.2730**	**0.0719**	**1.8800e-003**	**0.0737**		**255.6028**	**255.6028**	**0.0117**		**255.8486**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5166	0.0000	4.5166	2.4827	0.0000	2.4827			0.0000			0.0000
Off-Road	4.0188	42.5046	34.8088	0.0391		2.1505	2.1505		1.9784	1.9784	0.0000	3,876.7233	3,876.7233	1.2266		3,902.4810
Total	**4.0188**	**42.5046**	**34.8088**	**0.0391**	**4.5166**	**2.1505**	**6.6670**	**2.4827**	**1.9784**	**4.4611**	**0.0000**	**3,876.7233**	**3,876.7233**	**1.2266**		**3,902.4810**

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0618	0.0927	1.1613	3.4100e-003	0.2709	2.0300e-003	0.2730	0.0719	1.8800e-003	0.0737		255.6028	255.6028	0.0117		255.8486
Total	**0.0618**	**0.0927**	**1.1613**	**3.4100e-003**	**0.2709**	**2.0300e-003**	**0.2730**	**0.0719**	**1.8800e-003**	**0.0737**		**255.6028**	**255.6028**	**0.0117**		**255.8486**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.8912	54.1978	40.2888	0.0617		2.5049	2.5049		2.3045	2.3045		6,111.3121	6,111.3121	1.9336		6,151.9167
Total	**4.8912**	**54.1978**	**40.2888**	**0.0617**	**8.6733**	**2.5049**	**11.1783**	**3.5965**	**2.3045**	**5.9010**		**6,111.3121**	**6,111.3121**	**1.9336**		**6,151.9167**

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0687	0.1030	1.2903	3.7800e-003	0.3010	2.2600e-003	0.3033	0.0798	2.0900e-003	0.0819		284.0031	284.0031	0.0130		284.2762
Total	**0.0687**	**0.1030**	**1.2903**	**3.7800e-003**	**0.3010**	**2.2600e-003**	**0.3033**	**0.0798**	**2.0900e-003**	**0.0819**		**284.0031**	**284.0031**	**0.0130**		**284.2762**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1683	0.0000	2.1683	0.8991	0.0000	0.8991			0.0000			0.0000
Off-Road	4.8912	54.1978	40.2888	0.0617		2.5049	2.5049		2.3045	2.3045	0.0000	6,111.3121	6,111.3121	1.9336		6,151.9167
Total	**4.8912**	**54.1978**	**40.2888**	**0.0617**	**2.1683**	**2.5049**	**4.6733**	**0.8991**	**2.3045**	**3.2037**	**0.0000**	**6,111.3121**	**6,111.3121**	**1.9336**		**6,151.9167**

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0687	0.1030	1.2903	3.7800e-003	0.3010	2.2600e-003	0.3033	0.0798	2.0900e-003	0.0819		284.0031	284.0031	0.0130		284.2762
Total	**0.0687**	**0.1030**	**1.2903**	**3.7800e-003**	**0.3010**	**2.2600e-003**	**0.3033**	**0.0798**	**2.0900e-003**	**0.0819**		**284.0031**	**284.0031**	**0.0130**		**284.2762**

3.4 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4259	14.9353	14.3652	0.0223		0.8094	0.8094		0.7447	0.7447		2,208.9731	2,208.9731	0.6989		2,223.6499
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4259**	**14.9353**	**14.3652**	**0.0223**		**0.8094**	**0.8094**		**0.7447**	**0.7447**		**2,208.9731**	**2,208.9731**	**0.6989**		**2,223.6499**

3.4 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0515	0.0773	0.9678	2.8400e-003	0.2258	1.6900e-003	0.2275	0.0599	1.5700e-003	0.0614		213.0024	213.0024	9.7500e-003		213.2072
Total	**0.0515**	**0.0773**	**0.9678**	**2.8400e-003**	**0.2258**	**1.6900e-003**	**0.2275**	**0.0599**	**1.5700e-003**	**0.0614**		**213.0024**	**213.0024**	**9.7500e-003**		**213.2072**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4259	14.9353	14.3652	0.0223		0.8094	0.8094		0.7447	0.7447	0.0000	2,208.9731	2,208.9731	0.6989		2,223.6499
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4259**	**14.9353**	**14.3652**	**0.0223**		**0.8094**	**0.8094**		**0.7447**	**0.7447**	**0.0000**	**2,208.9731**	**2,208.9731**	**0.6989**		**2,223.6499**

3.4 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0515	0.0773	0.9678	2.8400e-003	0.2258	1.6900e-003	0.2275	0.0599	1.5700e-003	0.0614		213.0024	213.0024	9.7500e-003		213.2072
Total	**0.0515**	**0.0773**	**0.9678**	**2.8400e-003**	**0.2258**	**1.6900e-003**	**0.2275**	**0.0599**	**1.5700e-003**	**0.0614**		**213.0024**	**213.0024**	**9.7500e-003**		**213.2072**

3.5 Operating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					16.8818	0.0000	16.8818	7.8743	0.0000	7.8743			0.0000			0.0000
Off-Road	4.3278	45.9418	18.5400	0.0390		2.2007	2.2007		2.0247	2.0247		3,861.9449	3,861.9449	1.2219		3,887.6044
Total	**4.3278**	**45.9418**	**18.5400**	**0.0390**	**16.8818**	**2.2007**	**19.0825**	**7.8743**	**2.0247**	**9.8990**		**3,861.9449**	**3,861.9449**	**1.2219**		**3,887.6044**

3.5 Operating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1031	0.1545	1.9355	5.6800e-003	0.4516	3.3900e-003	0.4550	0.1197	3.1400e-003	0.1229		426.0047	426.0047	0.0195		426.4144
Total	**0.1031**	**0.1545**	**1.9355**	**5.6800e-003**	**0.4516**	**3.3900e-003**	**0.4550**	**0.1197**	**3.1400e-003**	**0.1229**		**426.0047**	**426.0047**	**0.0195**		**426.4144**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.2204	0.0000	4.2204	1.9686	0.0000	1.9686			0.0000			0.0000
Off-Road	4.3278	45.9418	18.5400	0.0390		2.2007	2.2007		2.0247	2.0247	0.0000	3,861.9449	3,861.9449	1.2219		3,887.6044
Total	**4.3278**	**45.9418**	**18.5400**	**0.0390**	**4.2204**	**2.2007**	**6.4212**	**1.9686**	**2.0247**	**3.9932**	**0.0000**	**3,861.9449**	**3,861.9449**	**1.2219**		**3,887.6044**

3.5 Operating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1031	0.1545	1.9355	5.6800e-003	0.4516	3.3900e-003	0.4550	0.1197	3.1400e-003	0.1229		426.0047	426.0047	0.0195		426.4144
Total	**0.1031**	**0.1545**	**1.9355**	**5.6800e-003**	**0.4516**	**3.3900e-003**	**0.4550**	**0.1197**	**3.1400e-003**	**0.1229**		**426.0047**	**426.0047**	**0.0195**		**426.4144**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	18.50	10.10	7.90	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.516610	0.060517	0.179979	0.140587	0.041566	0.006616	0.015092	0.027587	0.001923	0.002530	0.004314	0.000602	0.002075

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Appendix I
Noise

Noise Appendix I-1
Noise Monitoring Site Photographs





Site 1
Short-Term Background
Noise Monitoring Location
Windsor Road / Hunstock Street





Site 2
Short-Term Background
Noise Monitoring Location
Wolcott Way / Franklin Parkway





Site 3
Long-Term Background
Noise Monitoring Location
Extension Area (East)





Site 4
Long-Term Background
Noise Monitoring Location
Property Line of Landfill (West)

Noise Appendix I-2
Measured Existing Noise Levels

Short-term Noise Level Measurement Data

Date: 9/16/05	Project: Chiquita Canyon Landfill

Monitoring Location: #1 – In the community of Val Verde at the intersection of Windsor Road and Hunstock Street (directly across the street from the residence 28959 Windsor Road)

Equipment: Sound level meter LD 824

Weather: Temp. 75 – 80°F clear Wind Conditions: calm Humidity: 50%

Measurement Start Time	Duration (mins)	L_{eq}	L_{min}	L_{max}	SEL	L_n				
						L_8	L_{25}	L_{50}	L_{90}	
2:25 p.m.	15	51.6	41.9	75.7	81.1	53.5	50.7	48.4	44.7	

Notes (site characteristics, pertinent distances, elevations, traffic speed, other):

The monitoring equipment was set up at the closest (approximate) location to the Chiquita Canyon Landfill (in the Val Verde community). The equipment was located directly across the street from a residence (28959 Windsor Road) at the gate to a hillside that was marked private property.

Data by: Walter Gonzales

CH2MHILL

Short-term Noise Level Measurement Data

Date: 9/16/05	Project: Chiquita Canyon Landfill

Monitoring Location: #2 – North of SR-126, at the proposed new entrance to the landfill. The intersection of Wolcott Way and Franklin Parkway.

Equipment: Sound level meter LD 824

Weather: Temp. 75 – 80°F clear Wind Conditions: calm Humidity: 50%

Measurement Start Time	Duration (mins)	L_{eq}	L_{min}	L_{max}	SEL	L_n				
						L_8	L_{25}	L_{50}	L_{90}	
2:55 p.m.	15	57.2	47.3	71.9	86.8	58.9	56.2	52.2	45.8	

Notes (site characteristics, pertinent distances, elevations, traffic speed, other):

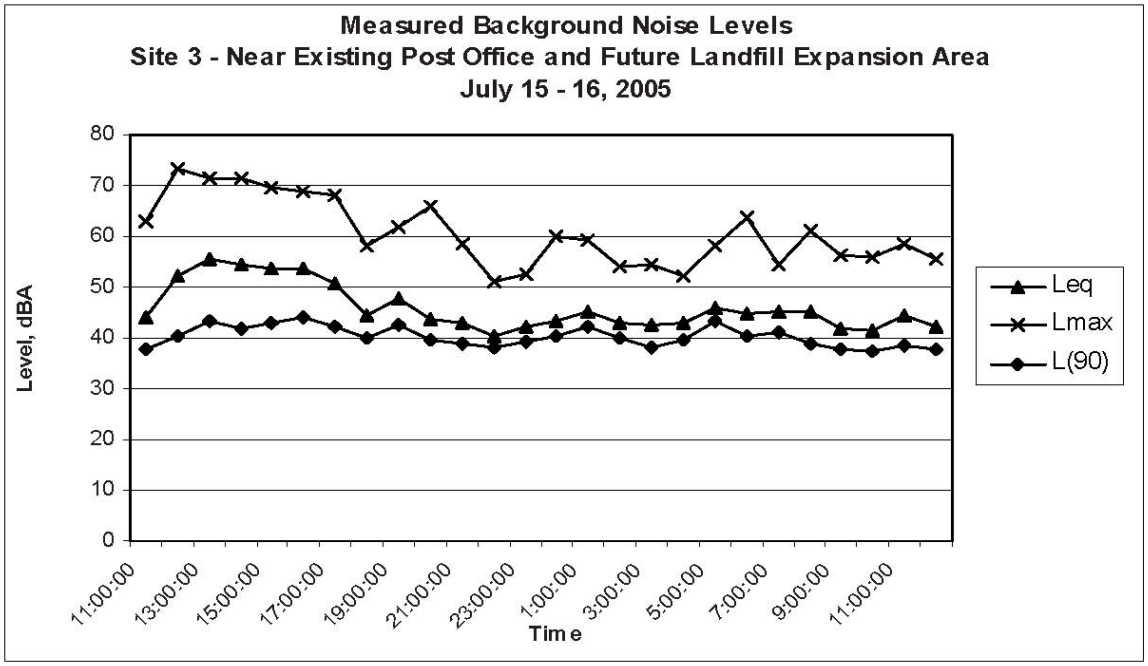
The microphone and monitor were set up approximately 250 feet from SR–126, at the end of Wolcott Way where it turns/curves into Franklin Parkway. There is a significant level of noise coming from SR–126. There was an occasional car driving west on Franklin Parkway towards Wolcott.

Data by: Walter Gonzales

CH2MHILL

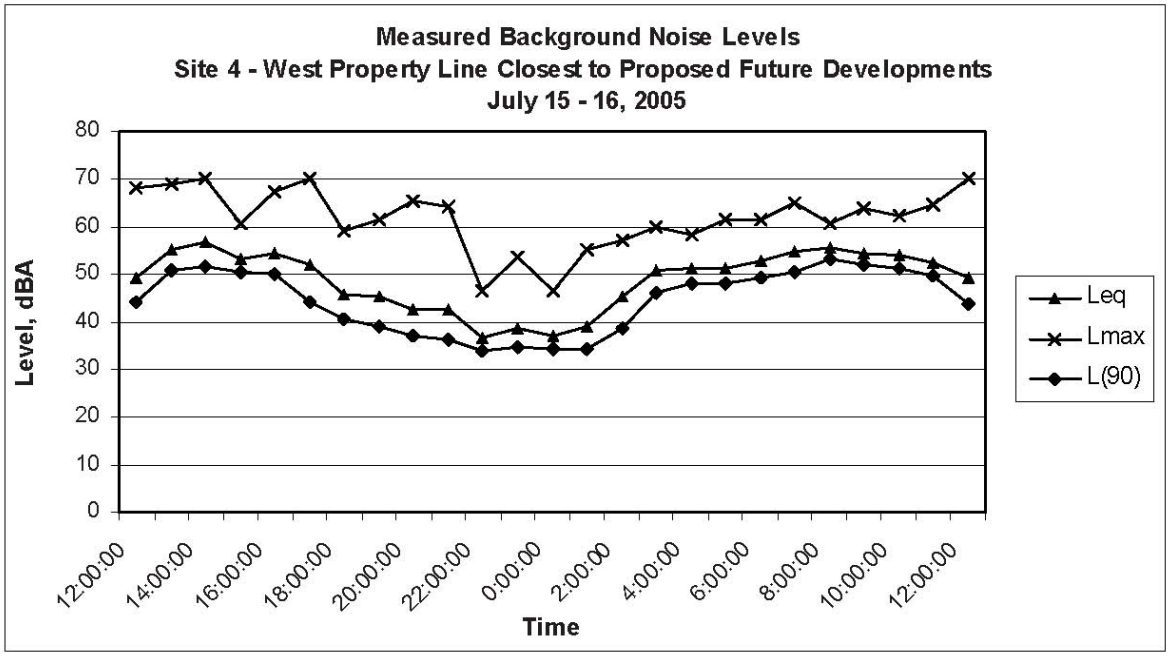
Measured Background Noise Levels
Site 3 - Near Existing Post Office and Future Landfill Expansion Area
July 15 - 16, 2005

Date	Time	Duration	Leq	Lmax	Lmin	L(8)	L(25)	L(50)	L(90)
15-Sep	11:00:00	3600	44.2	62.9	35.6	47.6	43.4	40.8	37.6
15-Sep	12:00:00	3600	52.2	73.5	37.1	56.5	52.2	47.5	40.5
15-Sep	13:00:00	3600	55.6	71.6	37.7	60.4	56	51.3	43.2
15-Sep	14:00:00	3600	54.4	71.3	38.7	59.5	54.5	49.7	41.9
15-Sep	15:00:00	3600	53.8	69.8	37.6	58.7	53.9	48.6	42.8
15-Sep	16:00:00	3600	53.8	68.8	39.8	58.3	53.6	49.7	44.1
15-Sep	17:00:00	3600	50.6	68	39	54.5	50.7	47.2	42.3
15-Sep	18:00:00	3600	44.6	58.2	38.1	47.8	44.3	42.7	40
15-Sep	19:00:00	3600	47.6	61.9	39.6	51.6	47.1	44.9	42.5
15-Sep	20:00:00	3600	43.6	66	37.8	43.7	42	41.1	39.7
15-Sep	21:00:00	3600	42.8	58.4	37	44.4	42.2	40.8	39
15-Sep	22:00:00	3600	40.4	51.2	35.8	42.1	40.4	39.5	38
15-Sep	23:00:00	3600	42.3	52.5	36.6	44.3	42.8	41.8	39.4
16-Sep	0:00:00	3600	43.3	59.9	38.5	45.6	43.8	42.4	40.3
16-Sep	1:00:00	3600	45	59.4	40.5	46.8	45.7	44.5	42.1
16-Sep	2:00:00	3600	42.8	53.9	37.9	45.1	43.2	41.9	40
16-Sep	3:00:00	3600	42.5	54.3	34	45.5	43.2	41.5	38.1
16-Sep	4:00:00	3600	43	52.4	37.7	45.7	44.1	42.2	39.6
16-Sep	5:00:00	3600	46	58.2	41.3	48.2	46.8	45.5	43.4
16-Sep	6:00:00	3600	44.9	63.8	37.3	48.4	45.1	43.6	40.2
16-Sep	7:00:00	3600	45.1	54.5	37.4	47.4	46.2	45	41
16-Sep	8:00:00	3600	45.2	61.2	35.2	49.1	46.1	43.6	38.8
16-Sep	9:00:00	3600	41.9	56.3	35.2	44.4	41.9	40.2	37.6
16-Sep	10:00:00	3600	41.6	56.1	35.2	44.5	41.8	39.9	37.4
16-Sep	11:00:00	3600	44.5	58.7	35.8	48.6	44.3	41.5	38.6
16-Sep	12:00:00	3600	42.3	55.7	35.8	45.8	42.2	40.2	37.7



Measured Background Noise Levels
Site 4 - West Property Line Closest to Proposed Future Developments
July 15 - 16, 2005

Date	Time	Duration	Leq	Lmax	Lmin	L(8)	L(25)	L(50)	L(90)
15-Sep-05	12:00:00	3600	49.1	68	39.9	51.7	49.4	47.2	44.1
15-Sep-05	13:00:00	3600	55.2	68.8	45.3	58.2	55.5	53.8	51
15-Sep-05	14:00:00	3600	56.6	70.3	48.9	60.6	56.6	54.2	51.5
15-Sep-05	15:00:00	3600	53.1	60.5	47.7	55.4	53.8	52.6	50.6
15-Sep-05	16:00:00	3600	54.5	67.5	45.7	57.4	54.6	52.9	50.2
15-Sep-05	17:00:00	3600	51.9	70.1	40.1	55.1	51.1	48.1	44.2
15-Sep-05	18:00:00	3600	45.6	59	36.8	48.8	46.3	44.2	40.5
15-Sep-05	19:00:00	3600	45.4	61.5	36.5	49.8	44.7	41.4	39
15-Sep-05	20:00:00	3600	42.7	65.5	34.6	42.2	40.8	39.2	36.9
15-Sep-05	21:00:00	3600	42.5	64.3	33.3	41.9	40.2	37.9	36.1
15-Sep-05	22:00:00	3600	36.8	46.6	30.8	39	37.1	35.9	33.8
15-Sep-05	23:00:00	3600	38.5	53.4	32.5	40.6	38.4	37	34.7
16-Sep-05	0:00:00	3600	37	46.4	32.2	39	37.8	36.5	34.3
16-Sep-05	1:00:00	3600	39	55	32.2	40.8	37.7	36.1	34.2
16-Sep-05	2:00:00	3600	45.3	57.1	35.5	48.6	46.4	44.5	38.6
16-Sep-05	3:00:00	3600	50.9	59.9	41.6	53.9	51.9	50.1	46.1
16-Sep-05	4:00:00	3600	51.4	58.5	44.3	54.1	52.4	50.8	48.1
16-Sep-05	5:00:00	3600	51.2	61.3	44.2	53.7	52.1	50.8	48.2
16-Sep-05	6:00:00	3600	52.7	61.4	44.6	55.2	53.6	52.1	49.2
16-Sep-05	7:00:00	3600	54.9	64.9	45.9	57.5	56	54.5	50.5
16-Sep-05	8:00:00	3600	55.4	60.6	50.6	57.2	55.9	55	53.3
16-Sep-05	9:00:00	3600	54.4	64	50.1	56.4	55.2	54.1	52.1
16-Sep-05	10:00:00	3600	54	62.3	48.2	56.3	54.9	53.7	51.2
16-Sep-05	11:00:00	3600	52.6	64.6	47.3	54.8	53.1	51.9	49.7
16-Sep-05	12:00:00	3600	49.2	70.3	40.3	51.3	48.6	46.8	43.8



Appendix J
Water Supply Assessment Addendum

VALENCIA WATER COMPANY

January 31, 2017

RESOLUTION TO APPROVE WATER SUPPLY ASSESSMENT ADDENDUM

FOR

CHIQUITA CANYON LANDFILL
County Project Number R2004-00559

WHEREAS, the State of California requires public water agencies' governing board's to review and approve water supply assessments made with respect to water supply planning, and

WHEREAS, notwithstanding that this corporation is not a public agency, the Board of Directors of this corporation received from management and evaluated the water supply assessment addendum regarding the commercial use project commonly known as Chiquita Canyon Landfill County Project Number R2004-00559, located in the northwestern portion of unincorporated Los Angeles County, California, and

WHEREAS, the Valencia Water Company (VWC) previously approved a water supply assessment for the proposed project on March 22, 2011 pursuant to the requirements of the California Water Code § 10910 et seq., and

NOW, THEREFORE BE IT RESOLVED that the water supply assessment addendum made by management for the commercial use project commonly known as Chiquita Canyon Landfill County Project Number R2004-00559, located in the northwestern portion of unincorporated Los Angeles County, California be and hereby is approved.

RESOLVED FURTHER, that any and all actions heretofore taken in furtherance of the matters authorized or contemplated by the foregoing resolution by each officer of VWC or member of the Board of Directors of VWC be, and they hereby are, ratified, approved and confirmed.

I, the undersigned, hereby certify that I am the duly appointed Secretary of VWC, and that at a meeting of the Board of VWC held on January 31, 2017, the foregoing Resolutions were duly and regularly adopted by said Board, and that said Resolutions have not been rescinded or amended since the date of adoption, and that the Resolutions are in full force and effect.

Date: January 31, 2017

Cristoval Perez, Secretary

WATER SUPPLY ASSESSMENT ADDENDUM

Chiquita Canyon Landfill Expansion County Project No. R2004-00559

Prepared for

County of Los Angeles
Department of Regional Planning

Prepared by
Valencia Water Company
24631 Avenue Rockefeller
Valencia, CA 91355
Ph: (661) 294-0828 Fax: (661) 294-3806
www.valenciawater.com

CH2M HILL, Inc.
6 Hutton Centre Drive, Suite 700
Santa Ana, CA 92707

January 2017

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Exhibits

A 2011 Chiquita Canyon Landfill Water Supply Assessment

Acronyms and Abbreviations

2015 UWMP	2015 Urban Water Management Plan
af	acre-feet
afy	acre-feet per year
Basin	Santa Clara River Valley Groundwater Basin, East Subbasin (Basin No. 4-4.07)
BO	Biological Opinion
Buena Vista	Buena Vista Water Storage District
CCL	Chiquita Canyon Landfill
CEQA	California Environmental Quality Act
CLWA	Castaic Lake Water Agency
CPUC	California Public Utilities Commission
CVP	Central Valley Project
DCR	Delivery Capability Report
DDW	Division of Drinking Water
DWR	California Department of Water Resources
EIR	Environmental Impact Report
ESA	Endangered Species Act
NCWD	Newhall County Water District
NMFS	National Marine Fisheries Service
RRBWSD	Rosedale-Rio Bravo Water Storage District
SB	Senate Bill
SCH	State Clearinghouse
SCVWR	Santa Clarita Valley Water Report
SCWD	Santa Clarita Water Division of Castaic Lake Water Agency
SWP	State Water Project
USFWS	U.S. Fish and Wildlife Service
UWMP Act	California Urban Water Management Planning Act
VWC	Valencia Water Company
WRP	Water Reclamation Plant
WSA	Water Supply Assessment

SECTION 1

Introduction

This report provides updated information to demonstrate adequate water supply for the Chiquita Canyon Landfill (CCL) Master Plan Revision, Los Angeles County Project No. R2004-00559 (Proposed Project). The Project is located in an unincorporated area of the Santa Clarita Valley in northern Los Angeles County (County).

A Water Supply Assessment (WSA) is required for any project that is subject to CEQA and that proposes, among other things, an industrial, manufacturing or processing plant occupying more than 40 acres or having more than 650,000 square feet of floor area. The Proposed Project is a qualifying project under this definition.

A WSA was previously approved for the Proposed Project by the Valencia Water Company (VWC) Board of Directors in 2011, pursuant to the requirements of California Water Code §10910 et seq., which requires public water agencies, parties or purveyors that may supply water to certain proposed development projects to prepare a WSA for use in environmental documentation for such projects, pursuant to the *California Environmental Quality Act* (CEQA). The previously approved WSA is attached as Exhibit A.

The WSA provides information to the County for its consideration in making a determination, based on the entire record, as to whether there is a sufficient water supply available to meet the Proposed Project's water demand, in addition to VWC's existing and planned future uses, including agricultural and manufacturing uses.

Because VWC adopted a new urban water management plan, the County requested that VWC update the previous 2011 WSA for the Proposed Project. This WSA Addendum reflects the best available information as of the date of this report, including information from the 2015 Urban Water Management Plan (2015 UWMP), prepared for Castaic Lake Water Agency (CLWA), CLWA Santa Clarita Water Division, Newhall County Water District, VWC, and Los Angeles County Waterworks District No. 36, prepared by Nancy Clemm, Kennedy Jenks Consultants, Luhdorff & Scalmanini, and Stacy Miller Public Affairs. CLWA, VWC, and other water purveyors adopted the 2015 UWMP on June 8, 2016.

1.1 Chiquita Canyon Landfill Expansion

The Project site consists of approximately 639 acres and is located in the northwestern portion of unincorporated Los Angeles County, approximately 3 miles west of the Interstate 5 and State Route (SR) 126 intersection. The Proposed Project is located in Section 15, Township 4 North, Range 17 West, San Bernardino Baseline and Meridian. The Proposed Project latitude and longitude are 34°25'N and 118°39'W, respectively. The general location of the Proposed Project is shown in Figure 1.

The Project site is adjacent to VWC's existing service area and VWC is the operator of the public water system that will provide water to the Proposed Project. Newhall Land and Farming Company currently provide CCL with water from an offsite irrigation well, with temporary construction water provided by VWC.

The Proposed Project includes the following elements:

- Development of a new entrance and support facilities
- Better utilization of the landfill's potential disposal capacity through a lateral extension of the existing waste footprint and increased maximum elevation
- Increased daily disposal limits

- Acceptance of all nonhazardous wastes permitted at a Class III solid waste disposal landfill, exclusive of sludge
- Continued operation of the landfill
- New design features
- Environmental monitoring
- Development of a Household Hazardous Waste Facility (HHWF)
- Mixed organics processing/composting operation
- Set-aside of land for potential future waste conversion technology

As part of the Proposed Project, the site entrance would be relocated to Wolcott Way. Vehicles traveling to the site would turn from SR 126 onto Wolcott Way, which is a signalized intersection, and then west onto a landfill access road. A gate located on the access road would control access to the site.

The Proposed Project would expand the permitted landfill footprint by approximately 143 acres into the existing landfill entrance area, East Canyon, and North Canyon. The landfill footprint would increase from the currently permitted approximately 257 acres to approximately 400 acres. The Proposed Project would also increase the maximum elevation to 1,573 feet, an increase of approximately 143 feet from the currently permitted 1,430 feet maximum elevation.

The Proposed Project includes an increase of daily and weekly disposal tonnage. The permitted maximum daily disposal tonnage would increase from 6,000 tons to 12,000 tons. The permitted maximum weekly disposal tonnage would increase from 30,000 to 60,000 tons. This increase in daily and weekly disposal tonnage would allow Chiquita Canyon Landfill to be responsive to the current and anticipated disposal needs of the residents of the Santa Clarita Valley and the greater Los Angeles County area. Assuming the disposal rates under the Proposed Project begin in 2024, the landfill would reach capacity in approximately 24 years and would commence the closure process at that time.

At build-out, non-potable water demand for the Landfill is estimated to be approximately 150 acre-feet per year (afy) and will be served by VWC. CCL currently uses an average of 93 acre-feet of non-potable water per year, currently served by the Newhall Land and Farming company irrigation well. Drinking water is provided to employees by a bottled-water distributor who delivers drinking water by truck and this would continue with the Proposed Project. Projected buildout demands presented in this Addendum evaluates an increased demand of 57 afy of non-potable water over 2009 levels which is consistent with the WSA previously obtained for the Proposed Project, approved by VWC's governing board on March 22, 2011.

1.2 Purpose of this Addendum

The purpose of this Addendum is to provide the County with updated supply information from the 2015 UWMP, including whether the total projected water supply determined to be available during normal, single dry, and multiple dry water years over the next 35 years will be able to meet the projected water demand associated with the Proposed Project, in addition to VWC's existing and planned future water uses, including agriculture and manufacturing uses. The Addendum will be included along with the previously approved 2011 WSA in the Environmental Impact Report (EIR) prepared by the County for the Project pursuant to CEQA.

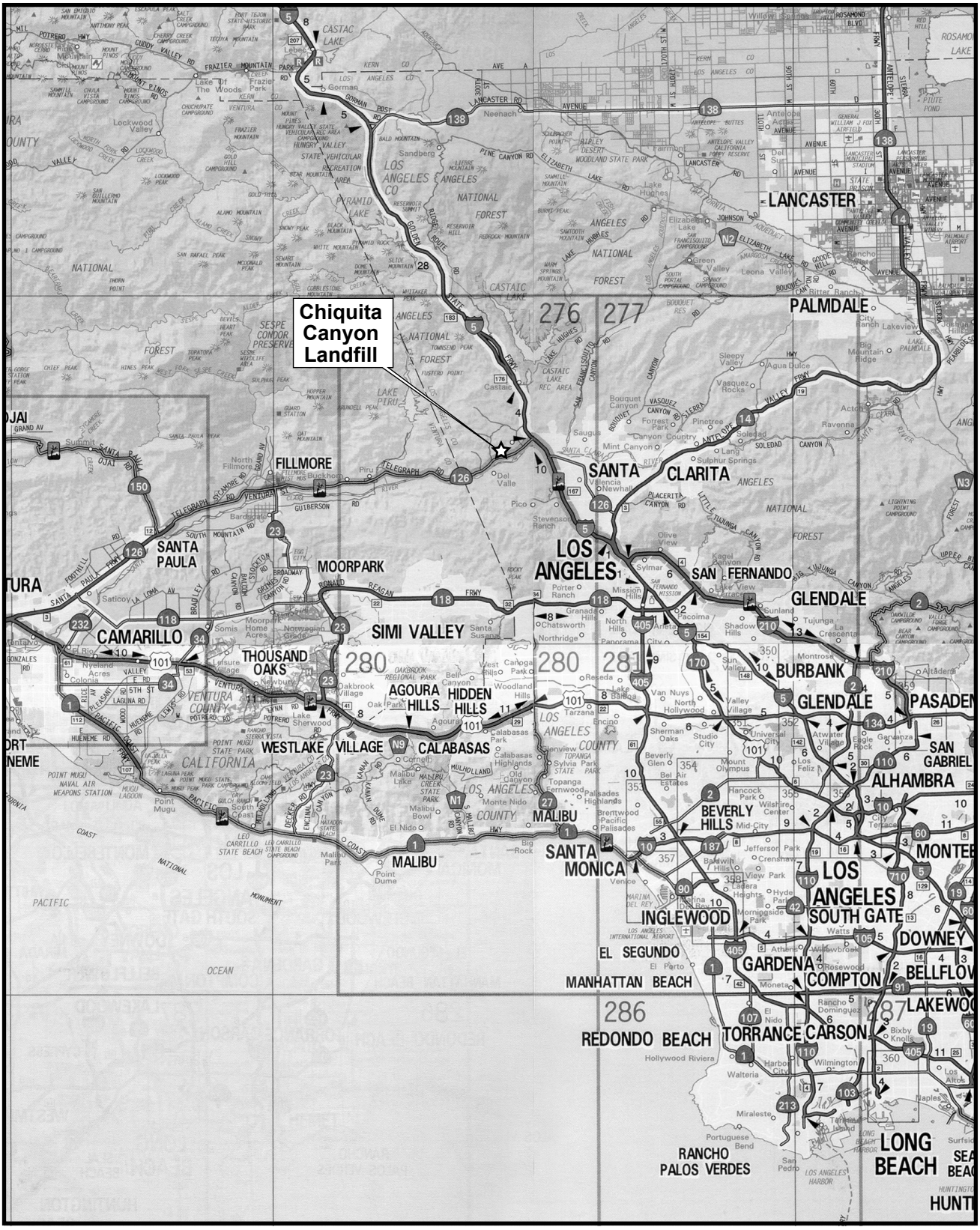


Figure 1.
Regional Location Map
Chiquita Canyon Landfill
Master Plan Revision

Source: Thomas Guide, California Road Atlas, 22nd Edition, 2004.

1.3 2015 UWMP and Recent Events Affecting the SWP System

The California Urban Water Management Planning Act (UWMP Act) requires that urban water suppliers assess water supply reliability by comparing total projected water use with the expected water supply over the next 20 years in 5-year increments based upon an average or normal hydrology year. The UWMP Act also requires an assessment for a single dry year and multiple dry years. It is the stated goal of CLWA and the Water Purveyors to deliver a reliable and high quality water supply for their customers, even during dry periods. Water suppliers are permitted to work together to develop a regional plan for the CLWA service area. This approach has been adopted by CLWA and the Water Purveyors, which jointly sponsored the 2015 UWMP. The 2015 UWMP was adopted by CLWA's Board of Directors on June 8, 2016 and by VWC's Board of Directors on June 29, 2016. The 2015 UWMP is a compilation of information collected from various water resource documents listed in Section 1.6. The 2015 UWMP contains information on water use, water resources, recycled water, water quality, reliability planning, demand management measures, best management practices, and water shortage contingency planning.

This Addendum also includes information prepared by DWR regarding the reliability of imported water supplies delivered from the SWP. In December 2007, a federal court imposed interim rules that restrict the operations of both the SWP and the Central Valley Project (CVP) while a new federal Biological Opinion (BO) for the Delta smelt was prepared by the U.S. Fish and Wildlife Service (USFWS) in 2008. Several fish species listed under the federal Endangered Species Act (ESA) as threatened or endangered are found in the Delta. The continued viability of populations of these species in the Delta depends in part on Delta flow levels. For this reason, the USFWS and National Marine Fisheries Service (NMFS) have issued several BOs since the 1990s on the effects of coordinated SWP/CVP operations on several listed species. These BOs affect the SWP's water delivery capability for two reasons. Most notably, they include terms that restrict SWP exports from the Delta to specific amounts at certain times under certain conditions.

On November 14, 2008, the California Fish and Game Commission listed the longfin smelt as a threatened species under the California ESA. The Commission also voted to change the state-protected status of the Delta smelt from threatened to endangered. In response, on December 9, 2008, the State Water Contractors and others filed litigation challenging the Commission's decision on the longfin smelt. The litigation is still pending, and the outcome of the litigation cannot be predicted at this time.

On December 15, 2008, the USFWS issued the new BO for the Delta smelt. The new BO continues restrictions on SWP and CVP operations that have been in place under the federal court's interim rules concerning the Delta smelt. However, the BO also imposed new requirements for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary that may further erode SWP water delivery reliability under the current, constrained operations.

On January 4, 2009, the NMFS, which has responsibility for anadromous fish and oceanic species, issued a BO based on its review of the proposed long-term coordinated CVP/SWP operations in the Central Valley of California and their effects on listed fish and designated and proposed critical habitats. Specifically, the 2009 BO concluded that the CVP/SWP operations are likely to jeopardize continued existence of federally-listed Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley steelhead, green sturgeon, and Southern Resident killer whales, and to jeopardize the designated critical habitats of the salmon, steelhead, and sturgeon.

The 2009 BO contains new measures causing water supply impacts, in addition to requiring a number of habitat measures and associated studies. According to the NMFS, the 2009 BO's restrictions on CVP/SWP operations will impact an estimated five to seven percent of the available annual water on average moved by the federal and state pumping plants, or about 330,000 afy; however, water

operations will not be affected by the 2009 BO immediately and will be tied to water year type. The 2009 BO also includes exception procedures for drought and health and safety issues.

On March 5, 2009, the State Water Contractors and others filed litigation challenging the new BO. The District Court found both BOs were not legally sufficient and remanded them to the agencies for further review and analysis. However, the decisions were then appealed to the Ninth Circuit, and in two separate decisions (March 2014 for the USFWS BO and December 2014 for the NMFS BO) the Ninth Circuit reversed in part and affirmed in part the District Court rulings, finding the BOs complied with the ESA and upholding them in their entirety. As a result, the operational rules specified in the 2008 and 2009 BOs continue to be legally required (DWR SWP Delivery Capability Report, 2015).

In July 2015, DWR released the update to its Delivery Capability Report, which is issued biennially to indicate how much SWP water is available during varying hydrologic scenarios (i.e., normal and dry years). The DWR 2015 SWP Delivery Capability Report (July 2015) noted the average long-term reliability of SWP supply remained at 62 percent from the 2013 Report. Using the percentages from the DWR 2015 SWP Delivery Capability Report and updated information related to other sources of supply in the Santa Clarita Valley, the tables presented in the CLWA 2015 UWMP are consistent with the best available information provided by DWR concerning the long-term reliability of SWP supply and other sources of supply.

The timing of the Proposed Project places it within the timeframe for calculating “planned future uses” within the 35-year water supply projection included in the 2015 UWMP. The information presented in this Addendum (changes and updated information regarding sources of supply) is based on the 2015 UWMP. CLWA and the retail Water Purveyors will continue to work diligently with the County and the City of Santa Clarita with regard to water conservation ordinances and the enforcement mechanisms to aggressively implement water conservation in the CLWA service area.

SECTION 2

Identification of Existing Water Supply Sources

2.1 Annual Existing Water Supply Entitlements, Water Rights, or Water Service Contracts

The 2015 UWMP summarizes the current water supplies available for the Project and the Santa Clarita Valley as a whole. Such supplies are derived from five primary sources:

- Groundwater from the Alluvial Aquifer;
- Groundwater from the Saugus Formation;
- SWP supplies and other imported sources;
- Dry-year groundwater banking programs; and
- Recycled water.

Within the CLWA service area, these sources of water supply can be characterized as: (1) local supplies, consisting of groundwater and recycled water; and (2) imported supplies, transported via the SWP consisting of SWP contract amounts, other imported water sources, and dry year supplies delivered from groundwater banking programs. As required by (Water Code §10910(d), Chapter 2 of the 2015 UWMP and the SCVWR 2015 document summarize the quantities of water used by each of the water purveyors in the Santa Clarita Valley to meet water demands since importation of SWP water began in 1980.

Potential future water sources include acquisition of additional imported water supplies, recycled water, desalination, storm water runoff, increased short-term pumping from the Saugus Formation during dry years, and additional groundwater banking programs. Demand-side management programs (conservation) are also considered an important component of water supply by CLWA, VWC, and the other retailers to reduce long-term water demands.

2.1.1 Imported Supplies

SWP Table A Amount. Since 1980, local supplies in the Santa Clarita Valley have been supplemented with imported water from the SWP. Imported water obtained from the SWP through CLWA is the largest source of water for municipal use in the Santa Clarita Valley. The SWP contractual Table A Amount, depending on annual allocation, along with other sources of imported water, currently meets around half of local demand. “Table A Amount” refers to the maximum amount of water a SWP contractor may request each year from the SWP. Table A is used in determining each contractor’s proportionate share, or allocation, of the total SWP water supply DWR determines to be available each year. The reliability of SWP supplies is subject to annual hydrology, water currently in storage, and planned improvements to the system. The Table A Amount is not equivalent to actual deliveries of water in any given year, unless there is a year with a 100% allocation.

CLWA has an annual Table A contract amount from the State Water Project in the amount of 95,200 af. This Table A Amount is a maximum and normally does not reflect the actual amount of water available to CLWA from the SWP, which varies from year to year. Each water supply source has its own reliability characteristics. In any given year, the variability in weather patterns around the state may affect the availability of supplies to the Santa Clarita Valley differently. For example, from 2000 through 2002,

Southern California experienced dry conditions in all three years. During the same period, Northern California experienced one dry year and two normal years. The Santa Clarita Valley is typical in terms of water management in Southern California; local groundwater supplies are used to a greater extent when imported supplies are less available due to dry conditions in the north, and larger amounts of imported water supplies are used during periods when Northern California has wetter conditions. This pattern of "conjunctive use" has been in effect since SWP supplies first came to the Santa Clarita Valley in 1980. SWP and other imported water supplies have supplemented the overall supply of the Santa Clarita Valley, which previously depended solely on local groundwater supplies. While each of the Santa Clarita Valley's available supply sources has some variability, the variability in SWP supplies has the largest effect on overall supply reliability. This is true, in part, due to the use of imported water to supply groundwater banking programs which increase reliability during dry years.

In an effort to assess the impact of these varying conditions on SWP supply reliability, the DWR issued its 2015 State Water Project Delivery Capability Report in July 2015. The report assists SWP contractors in assessing the reliability of the SWP component of their overall supplies. To provide a conservative analysis of Project impacts, the WSA prepared by VWC for the Project used the reduced reliability of Table A deliveries provided in the 2015 SWP Delivery Capability Report, which was the most current report available at the time the 2015 UWMP was prepared. The 2015 UWMP used DWR's 2015 SWP Delivery Capability Report to calculate projected deliveries to CLWA during normal, single dry, and multiple dry years.

As indicated in the 2015 SWP Delivery Capability Report, a variety of factors make forecasting water delivery reliability inherently challenging, such as water availability at the source, water rights with priority over the SWP, climate change, regulatory restrictions on SWP Delta exports, ongoing environmental and policy planning efforts, and Delta levee failure. Incorporating this uncertainty into its forecasts, the 2015 Delivery Capability Report indicates that the SWP could deliver 62 percent of the total Table A Amounts on a long-term average basis. This analysis also projects that SWP deliveries during multiple-year dry periods could average about 30 percent of total Table A Amounts and could possibly be as low as 11 percent during an unusually dry single year; however, the 2015 UWMP uses a 5 percent allocation which reflect the historic minimum allocation experienced in 2014. During multiple wet years, 76 to 86 percent of full Table A Amounts is projected to be available, and during a single wet year 98 percent of Table A Amounts could be available.

2.1.2 Existing Additional Water Sources

The following existing additional water sources are available to meet demands when necessary.

Buena Vista/Rosedale-Rio Bravo Water Storage District Water Acquisition: In early 2007, CLWA finalized a Water Acquisition Agreement with the Buena Vista Water Storage District (Buena Vista) and the Rosedale-Rio Bravo Water Storage District in Kern County. Under this Program, Buena Vista's high flow Kern River entitlements (and other acquired waters that may become available) are captured and recharged within RRBWSD's service area on an ongoing basis. CLWA will receive 11,000 af of these supplies annually through either exchange of Buena Vista's and RRBWSD's SWP supplies or through direct delivery of water to the California Aqueduct via the Cross Valley Canal. This water is 100 percent reliable on a year-to-year basis, and not subject to the annual fluctuations that can occur to the SWP in dry year conditions.

Nickel Water: The Newhall Ranch Specific Plan and Water Reclamation Plant Revised Draft Additional Analysis, November 2002 describes an additional source of water that has been acquired by the Newhall Ranch Specific Plan applicant for use. The Newhall Ranch Specific Plan applicant has secured 1,607 af of water under contract with Nickel Family LLC in Kern County. This water is 100 percent reliable on a year-to-year basis, and not subject to the annual fluctuations that can occur to the SWP in dry year conditions

(Newhall Ranch, 2002). Although this water is not available to the Project, it adds to the ability to meet total demands in the region, including those of the Project.

Flexible Storage Accounts: The 2015 UWMP describes that as a part of its Water Supply Contract with DWR, CLWA has access to a portion of the storage capacity of Castaic Lake. This Flexible Storage Account allows CLWA to borrow up to 4,684 af of the storage in Castaic Lake. Any amount that CLWA borrows must be replaced by CLWA within five years of its withdrawal. CLWA manages this storage by keeping the account full in normal and wet years and then delivering that stored amount (or portion of it) during dry periods. The account is refilled during the next year that adequate SWP supplies are available to CLWA to do so. CLWA has negotiated with Ventura County water agencies to obtain the use of their Flexible Storage Account. This will allow CLWA access to another 1,376 af of storage in Castaic Lake. CLWA access to this additional storage is available on a year-to-year basis through 2025.

Semitropic Water Storage District Banking: In 2002, CLWA entered into a temporary storage agreement with Semitropic, and stored an available portion of its Table A supply (24,000 af) in an account in Semitropic's program. In 2004, 32,522 af of CLWA's available 2003 Table A supply was stored in a second temporary Semitropic account. In accordance with the terms of CLWA's storage agreements with Semitropic, 90 percent of the banked amount, or a total of 50,870 af, was recoverable through 2013 to meet CLWA water demands when needed. CLWA executed an amendment for a 10-year extension of each banking agreement with Semitropic in April 2010. After storage withdrawals in 2009, 2010, and 2014 (and with 5,000 af given to Newhall Land in consideration for CLWA's use of Newhall Land's first priority extraction capacity), the storage balance available to CLWA was 35,970 af.

In 2015 CLWA entered into an agreement with Semitropic to participate in the Stored Water Recovery Unit (SWRU). Under this agreement, the two short-term accounts containing 35,970 af were transferred into this new program. Under the SWRU agreement, CLWA can store and recover additional water within a 15,000 af storage account. The term of the Semitropic Banking Program extends through 2035 with the option of a 10-year renewal. CLWA may withdraw up to 5,000 afy from its account.

Rosedale-Rio Bravo Water Storage District Water Banking: CLWA has entered into a long-term agreement with RRBWSD with a total storage capacity of 100,000 af. Between 2005 and 2012 CLWA delivered sufficient water from the SWP and other supplies to fill its 100,000 af account. CLWA began storing water in this program in 2005 and has stored water in 2005, 2006, 2007, 2010, 2011, and 2012. In 2012, the maximum storage capacity of 100,000 af was reached. Withdrawals from the water bank occurred in 2014 and 2015 for a total recovery of 5,822 af, leaving 94,178 af currently available for withdrawal. In 2016, CLWA delivered stored sufficient water in the program to refill it to its 100,000 af capacity.

Rosedale-Rio Bravo Water Storage District Water Banking 2-for-1 Program: CLWA executed a water 2-for-1 exchange program with RRBWSD in 2011, where CLWA can recover 1 af of water for each 2 af delivered (less losses). In 2011, CLWA delivered 15,602 af to the program, delivered another 3,584 af in 2012, and after program losses has 9,500 af of recoverable water. This program is currently at capacity.

West Kern Water District 2-for-1 Program: CLWA also has a two-for-one exchange program with the West Kern Water District in Kern County and delivered 5,000 af in 2011, resulting in a recoverable total of 2,500 af. In 2014, 2,000 af of water was withdrawn from the West Kern Water District exchange program leaving a balance of 500 af in the program.

Newhall Land – Semitropic Water Storage District Banking: In its agreement with Semitropic, Newhall Land has available to it a pumpback capacity of 4,950 afy and a storage capacity of 55,000 af. At the end of 2015, Newhall Land had a storage balance of 32,507 af. Newhall Land entered into this banking program in anticipation of the development of Newhall Ranch. Under its agreement with Semitropic, Newhall Land may assign its rights to this program to CLWA. The 2015 UWMP assumes for planning purposes that Newhall Ranch will be developed at some time in the future and that Newhall Land's

rights in this banking program will be transferred to CLWA at the time of development. In the meantime, it is assumed that Newhall Land will make its withdrawal capacity in this program available to CLWA for withdrawal of CLWA's own stored water supplies, as occurred in 2009 and 2014. This supply is assumed to be available to VWC and is planned to be used only in dry years. Although this water is not available to the Project, it adds to the ability to meet total demands, including those of the Project.

2.1.3 Groundwater

Over the last 25 years, the Water Purveyors have developed a groundwater operating plan that includes municipal, agricultural, and other smaller uses while maintaining the local basin in a sustainable condition (i.e., no long-term depletion of groundwater or interrelated surface water). The 2015 UWMP describes that the sole source of local groundwater for urban water supply in the Santa Clarita Valley is the groundwater basin identified in the DWR Bulletin 118 as the Santa Clara River Valley Groundwater Basin, East Subbasin (Basin No. 4-4.07) (henceforth "the Basin"). The Basin comprises two aquifer systems, the Alluvial Aquifer and the Saugus Formation. The Alluvial Aquifer generally underlies the Santa Clara River and its several tributaries, and the Saugus Formation underlies practically the entire Upper Santa Clara River area. There are also some scattered outcrops of Terrace deposits in the Basin that likely contain limited amounts of groundwater. Because these deposits are located in limited areas situated at elevations above the regional water table and are of limited thickness, they are of no practical significance as aquifers and consequently have not been developed for any significant water supply.

In 2003, CLWA with the cooperation of the Water Purveyors completed and adopted a Groundwater Management Plan (GWMP) in accordance with Water Code §10753. The management objectives of the Plan are to ensure the ongoing use of local groundwater by maintaining the Basin in good operating condition (no overdraft), protecting water quality, and preventing adverse impacts to surface waters. The passage of the Sustainable Groundwater Management Act (SGMA) in 2014 replaces the GWMP with a requirement that a Groundwater Sustainability Plan (GSP) be prepared by 2022 in those basins the DWR has identified as medium to high priority. The Basin has not been adjudicated and has not been identified as overdrafted or projected to be overdrafted by the Department of Water Resources in the most current Bulletin that characterizes the Basin (DWR Bulletin 118-80, 1980).

2.1.4 Planned Water Resources

Potential future water sources discussed in the 2015 UWMP include acquisition of additional imported water supplies, recycled water, desalination, stormwater runoff, increased dry year Saugus Formation pumping, and additional SWP reliability projects. Demand-side management programs (conservation) are also considered an important component of water supply resulting from efforts by VWC, CLWA, and the other retailers to reduce water demands on a long-term basis.

The 2015 UWMP specifically identifies the following future sources of supply consisting of water transfers, additional groundwater banking programs, increased dry year Saugus pumping, and additional recycled water as necessary to meet the total projected demands through 2050.

Transfers and Exchanges: As indicated in the 2015 UWMP, CLWA, as a SWP contractor, could acquire new imported water supplies on behalf of VWC through direct transfers or by contributing to the construction of new desalination facilities in other areas in exchange for imported water. One of the most important aspects of any resource planning process is flexibility. A flexible strategy minimizes unnecessary or redundant investments (or stranded costs). The voluntary transfer of water between willing sellers and buyers can be an effective means of achieving flexibility. However, not all water transfers have the same effectiveness in meeting resource needs. Through the resource planning process and ultimate implementation, several different types of water transfers could be undertaken. The most viable types of water transfers are core and option transfers and, as such, represent CLWA's

long-term strategy. The most recent cost for this type of transfer is estimated to be about $300 per afy (equivalent to $5,500 per af for Table A Amount) for core transfers (2015 UWMP).

The 2015 UWMP discusses water banking storage and pumpback capacity both north and south of the Tehachapi Mountains, the latter of which would provide an emergency supply in case of catastrophic outage along the California Aqueduct. With short-term storage now existing in the Semitropic program and long-term storage now existing with RRBWSD, CLWA has shifted attention to identification of programs south of the Tehachapis.

Increased Dry-year Saugus Formation Pumping: The 2015 UWMP concludes that pumping from the Saugus Formation in a given year is tied directly to the availability of other water supplies, particularly from the SWP. During average-year conditions within the SWP system, Saugus pumping ranges between 7,500 and 15,000 afy. Planned dry-year pumping from the Saugus Formation ranges between 15,000 and 25,000 afy during a drought year and can increase to between 21,000 and 25,000 afy if SWP deliveries are reduced for two consecutive years and between 21,000 and 35,000 afy if SWP deliveries are reduced for three consecutive years. Such high pumping would be followed by periods of reduced (average-year) pumping, at rates between 7,500 and 15,000 afy, to further enhance the effectiveness of natural recharge processes that would recover water levels and groundwater storage volumes after the higher pumping during dry years.

The three Water Purveyors with Saugus wells (Newhall County Water District, Santa Clarita Water Division, and VWC) have a combined pumping capacity from active wells (not contaminated by perchlorate) of 17,000 gpm, which translates into a full-time Saugus source capacity of about 27,000 afy. Additionally, LACWWD 36 completed a Saugus Well with a pumping capacity estimated at 2,000 gpm and an annual capacity of 3,220 afy. The active wells include two Saugus wells contaminated by perchlorate (Saugus 1 and 2), which were returned to service in 2010 with treatment facilities for use of the treated water for municipal supply under permit from DDW. The active wells also include the most recent replacement well, VWC's Well 207, in a non-impacted part of the basin.

VWC and CLWA have submitted a recommendation plan to restore VWC Well 201 to service that utilized funding from the Whittaker Corporation and its insurer for installing wellhead treatment of contaminated water from VWC Well 201. Restoring service to Wells 201 and 205 is projected to occur by 2017. During the time VWC's Well 201 and 205 have been removed from service, the temporary loss of capacity was made up for from the remaining, non-impacted Saugus production facilities and imported water supplies. Restoration of VWC Well 201, operation of VWC Well 205, and new Saugus well construction to replace lost capacity and to expand production capacity from the Saugus Formation are planned to achieve target Saugus Formation capacity through single and multiple dry years as discussed in the 2015 UWMP. Ultimately, VWC's plan and the DDW requirements are intended to ensure that the water introduced to the potable water distribution system has no detectable concentration of perchlorate and all water currently discharged from the potable water distribution system complies with all applicable drinking water standards.

With the restored capacity of the VWC Well 201 and the additional planned replacement and new Saugus wells, the total dry year combined capacity will increase from about 30,700 afy to about 48,570 afy.

Additional Recycled Water: Wastewater that has been highly treated and disinfected can be reused for landscape irrigation and other non-potable purposes. It is not suitable for use as potable water. In 1993, CLWA completed a Reclaimed Water System Master Plan to use recycled water as a reliable water source to meet some non-potable demand within the Santa Clarita Valley. In 2016 CLWA updated the Recycled Water System Master Plan (Master Plan). The Master Plan is a proposed expansion of the existing recycled water system that would ultimately allow for the use of up to 15,000 afy of recycled water within the CLWA service area with full build-out in the year 2050 (CLWA Recycled Water Master Plan, 2016 Administrative Draft). The Master Plan includes facilities that would deliver recycled water to

VWC's service area and the delivery of the recycled water to the remainder of the CLWA service area would free up additional potable supplies for VWC. In addition to the CLWA Master Plan, the Newhall Ranch Specific Plan and Water Reclamation Plant Revised Draft Additional Analysis, November 2002, includes an additional 5,400 afy of water that will be delivered to that development once fully constructed (Newhall Ranch, 2002).

Water Conservation: One of the assumptions in the 2015 UWMP is that potable water demand would be reduced by both existing and future users by no less than ten percent. Therefore, as feasible, CCL would incorporate water conservation measures into Project design. These conservation measures would include using recycled/reclaimed water for dust control and irrigation when available, and use of xeriscaping and drought tolerant/native plantings.

VWC's total projected water supplies available during the ensuing 35 years will meet the projected water demands associated with the Project and existing and other planned uses within VWC's service area. This determination is consistent with current information and the 2015 UWMP and does not change the conclusions of the approved water supply assessment and Draft EIR.

2.2 Recycled Water

Wastewater that has been highly treated and disinfected can be reused for landscape irrigation and other non-potable uses. In 1993, CLWA completed a Reclaimed Water System Master Plan to use recycled water as a reliable water source to meet a portion of the non-potable demand within Santa Clarita Valley. The Master Plan was updated in 2002, 2007, and most recently in 2016, and the amount of recycled water expected to be produced and available in the future is approximately 15,000 af per year in 2050 (CLWA Recycled Water Master Plan, 2016 Administrative Draft). CLWA is currently under contract for 1,700 afy that became available in 2003.

The source of recycled water (non-potable water) for the Project will be from the existing VWC Water Reclamation Plant (WRP) and from the future Newhall Ranch WRP. Once recycled water is available to the Project site, then recycled water would be used to meet the non-potable demands of the Project. Non-potable uses on the site that would be met with recycled water include water for dust control, irrigation, fire prevention, and soil compaction during on-site construction projects such as liner construction.

SECTION 3

Water Supply Assessment Addendum

The preparation of this Addendum relies upon information from the 2015 UWMP. Based on this supporting information, VWC concludes that there continues to be sufficient water supply available to meet the Project's demand, in addition to VWC's existing and other planned future uses, including agricultural and manufacturing uses.

VWC and CLWA have existing water entitlements, rights, and contracts to meet future demand as needed over time, and have committed sufficient capital resources and planned investments in various water programs and facilities to serve all of its existing and planned customers. VWC also has identified operational strategies and a prudent and flexible management approach that demonstrates water supply reliability for the Project.

In 2015, VWC's service area-wide demands were 23,632 acre-feet (af), and the total municipal demand for imported, groundwater, and non-potable recycled water in CLWA's service area was approximately 54,500 af.

Based on information provided by the Project's consultant, VWC has estimated that the Project will require approximately 150 afy of non-potable water (recycled water) at build-out. This represents an increased demand of 57 afy of non-potable water over 2009 levels, but 150 afy is consistent with the projected demand included in the approved March 2011 WSA for the Project. In the event that recycled water is not yet available at the Project site, this demand can be met from potable water sources.

Provided below is a summary of water supply and demand projections for all of the scenarios (average/normal year, single dry year and multiple dry year) presented in the 2015 UWMP that address the SB 610 requirements for this Project.

The 2015 UWMP contains information about water use (Chapter 2), water resources (Chapter 3), recycled water (Chapter 4), water quality (Chapter 5), reliability planning (Chapter 6), demand management measures (Chapter 7), and shortage contingency planning (Chapter 8).

3.1 Average/Normal Year, Single Dry Year and Multiple Dry Year Water Assessment

The amount of available water supply is summarized in Table 1 below. Table 1 is not intended to be an operational plan for how supplies would be used in a particular year, but rather identifies the complete range of water supplies available under a range of hydrologic conditions. Diversity of supply allows VWC and the other purveyors the option of drawing on multiple sources of supply in response to changing conditions such as varying climatic conditions (average/normal years, single dry years, multiple dry years), natural disasters, and contamination with substances such as perchlorate.

It is the stated goal of VWC, CLWA, and the other retail Water Purveyors to deliver a reliable and high-quality water supply for their customers, even during dry periods. Based on conservative water supply and demand assumptions over the next 35 years in combination with conservation of non-essential demand during certain dry years, the water supply plan described in the 2015 UWMP would successfully achieve this goal.

Perchlorate contamination and its impact on VWC's groundwater supplies was extensively discussed in the 2015 UWMP. The source of the contamination is believed to be the Whittaker-Bermite property, located in the center of the Santa Clarita Valley and used as a munitions manufacturing facility for over 50 years. Significant progress has been made toward characterizing the extent of perchlorate

contamination, along with implementing necessary measures for on-site and off-site containment and treatment. The reliability analysis provided in the 2015 UWMP takes into account the impact on water supply operations while the planning, design and construction of additional perchlorate treatment, containment and other restoration activities are implemented. For additional information on this topic, please see Chapters 5 and 6 in the 2015 UWMP and the2015 Santa Clarita Valley Water Report.

Table 1. Summary of Current and Planned Water Supplies and Banking Programs (af) [a]
CLWA 2015 UWMP Table 3-1

	2015	2020	2025	2030	2035	2040	2045	2050
Existing Supplies								
Existing Groundwater [b]								
Alluvial Aquifer	24,100	24,100	24,100	24,100	24,100	24,100	24,100	24,100
Saugus Formation	7,445	7,445	7,445	7,445	7,445	7,445	7,445	7,445
Total Groundwater	**31,545**	**31,545**	**31,545**	**31,545**	**31,545**	**31,545**	**31,545**	**31,545**
Recycled Water [c]								
Total Recycled	**450**	**450**	**450**	**450**	**450**	**450**	**450**	**450**
Imported Water								
State Water Project [d]	59,000	58,800	58,500	58,300	58,100	58,100	58,100	58,100
Flexible Storage Accounts [e]	6,060	6,060	6,060	4,680	4,680	4,680	4,680	4,680
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
Nickel Water-Newhall Land [f]	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607
Yuba Accord Water [g]	1,000	1,000	1,000	-	-	-	-	-
Total Imported	**78,667**	**78,467**	**78,167**	**75,587**	**75,387**	**75,387**	**75,387**	**75,387**
Existing Banking and Exchange Programs								
Rosedale Rio-Bravo Bank [h]	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Semitropic Bank [h]	5,000	5,000	5,000	5,000	5,000	5,000	5,000	-
Semitropic-Newhall Land Bank [h, i]	4,950	4,950	4,950	4,950	4,950	4,950	4,950	4,950
Rosedale Rio-Brave Exchange [i]	9,500	9,500	-	-	-	-	-	-
West Kern Exchange [j]	500	500	-	-	-	-	-	-
Total Bank/Exchange	**22,950**	**22,950**	**12,950**	**12,950**	**12,950**	**12,950**	**12,950**	**12,950**
Total Existing Supplies	**134,412**	**133,412**	**123,112**	**120,532**	**120,332**	**120,332**	**120,332**	**115,332**
Planned Supplies								
Future Groundwater [k]								
Alluvial Aquifer [l]	-	2,000	4,000	5,000	7,000	7,000	7,000	7,000
Saugus Formation (Restored) [m]	-	3,230	3,230	3,230	3,230	3,230	3,230	3,230
Saugus Formation (New) [n]	-	-	-	-	-	-	-	-
Total Groundwater	**-**	**5,230**	**7,230**	**8,230**	**10,230**	**10,230**	**10,230**	**10,230**
Recycled Water [o]								
Total Recycled	**-**	**565**	**5,156**	**7,627**	**9,604**	**9,604**	**9,604**	**9,604**
Planned Banking Programs								
Rosedale Rio-Bravo Bank [p]	-	7,000	7,000	17,000	17,000	17,000	17,000	17,000
Additional Bank [q]	-	-	-	-	-	-	-	5,000
Total Banking	**-**	**7,000**	**7,000**	**17,000**	**17,000**	**17,000**	**17,000**	**22,000**
Total Planned Supplies	**-**	**12,795**	**19,386**	**32,857**	**36,834**	**36,834**	**36,834**	**41,834**

Table 1. Summary of Current and Planned Water Supplies and Banking Programs (af) [a]
CLWA 2015 UWMP Table 3-1

Notes:

(a) The values shown under "Existing Supplies" and "Planned Supplies" are projected to be available in average/normal years to CLWA and the retail water purveyors. The values shown under "Existing Banking and Exchange Programs" and "Planned Banking Programs" are the maximum capacity of program withdrawals, and would typically be used only during dry years.

(b) Existing groundwater supplies represent the quantity of groundwater anticipated to be pumped with existing wells. As indicated in Tables 3-8 and 3-9, and in Tables 3-4 and 3-5 of the 2009 Groundwater Basin Yield Analysis, individual purveyors may have well capacity in excess of quantities shown in this table. As indicated in Table 3- 10, existing and planned groundwater pumping remain within the groundwater operating plan shown on Table 3-5.

(c) Existing recycled water is actual use in 2015. CLWA currently has 1,600 afy under contract.

(d) SWP supplies are based on average deliveries from DWR's 2015 Delivery Capability Report (DCR).

(e) Includes both CLWA and Ventura County entities' flexible storage accounts. Extended term of agreement with Ventura County entities expires after 2025.

(f) Existing Newhall Land supply committed under approved Newhall Ranch Specific Plan. Assumed to be transferred to CLWA or VWC during Newhall Ranch development, and available for annual purchase prior to that.

(g) Supply shown is amount available in dry periods, after delivery losses. This supply would typically be used only during dry years and is available through 2025.

(h) Supplies shown are annual amounts that can be withdrawn using existing firm withdrawal capacity and would typically be used only during dry years.

(i) Existing Newhall Land supply. Assumed to be transferred to CLWA or VWC during Newhall Ranch development, with firm withdrawal capacity made available to CLWA prior to that.

(j) Supplies shown are totals recoverable under the exchange and would typically be recovered only during dry years.

(k) Planned groundwater supplies represent new groundwater well capacity that may be required by an individual purveyor's production objectives in the Alluvial Aquifer and the Saugus Formation. When combined with existing purveyor and non-purveyor groundwater supplies, total groundwater production remains within the sustainable ranges identified in Table 3-8 of the 2009 Groundwater Basin Yield Analysis. As indicated in Table 3-10, existing and planned groundwater pumping remain within the basin operating plan shown on Table 3-5.

(l) Represents a shift in current agricultural pumping by Newhall Land and Farming to VWC due to the development of Newhall Ranch.

(m) VWC Well 201 is planned to be returned to service by 2017 with treatment under a permit from the Division of Drinking Water (DDW).

(n) Up to four new and replacement wells are planned to provide additional dry-year supply and would typically be used only during dry years.

(o) Planned recycled water is total projected recycled water demand from Table 4-3 less existing use. Recycled water demand projection is based on implementation of complete build-out system described in the Recycled Water Master Plan Update and reflects demands that can cost-effectively be served. Refer to Section 4, including Section 4.4, for further discussion and information regarding factors having the potential to affect the reliability of recycled water supplies.

(p) Firm withdrawal capacity under existing Rosedale Rio-Bravo Banking Program to be expanded by 7,000 afy by 2017 (for a combined total of 10,000 afy) and an additional 10,000 afy by 2030.

(q) Additional banking program with firm withdrawal capacity of 5,000 afy by 2050.

3.1.1 Average/Normal Water Year

Table 2 summarizes the water supplies available to VWC, CLWA, and the other retail water purveyors over the 35-year planning period during an average/normal year. The water supplies are broken down into existing and planned water supply sources, including wholesale (imported) water, local supplies, transfers, and banking programs. The demands shown include reductions from projected passive conservation savings, and both with and without active conservation savings.

Table 2. Projected Average/Normal Year Supplies and Demands (af)
CLWA 2015 UWMP Table 6-2

	2020	2025	2030	2035	2040	2045	2050
Existing Supplies							
Existing Groundwater [a]							
Alluvial Aquifer	24,100	24,100	24,100	24,100	24,100	24,100	24,100
Saugus Formation	7,445	7,445	7,445	7,445	7,445	7,445	7,445
Total Groundwater	**31,545**	**31,545**	**31,545**	**31,545**	**31,545**	**31,545**	**31,545**
Recycled Water [b]							
Total Recycled	**450**	**450**	**450**	**450**	**450**	**450**	**450**
Imported Water							
State Water Project [c]	58,800	58,500	58,300	58,100	58,100	58,100	58,100
Flexible Storage Accounts [d]	-	-	-	-	-	-	-
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000	11,000	11,000
Nickel Water-Newhall Land [e]	1,607	1,607	1,607	1,607	1,607	1,607	1,607
Yuba Accord Water [d]	-	-	-	-	-	-	-
Total Imported	**71,407**	**71,107**	**70,907**	**70,707**	**70,707**	**70,707**	**70,707**
Existing Banking and Exchange Programs [d]							
Rosedale Rio-Bravo Bank	-	-	-	-	-	-	-
Semitropic Bank	-	-	-	-	-	-	-
Semitropic-Newhall Land Bank	-	-	-	-	-	-	-
Rosedale Rio-Brave Exchange	-	-	-	-	-	-	-
West Kern Exchange	-	-	-	-	-	-	-
Total Bank/Exchange	-	-	-	-	-	-	-
Total Existing Supplies	**103,402**	**103,102**	**102,902**	**102,702**	**102,702**	**102,702**	**102,702**
Planned Supplies							
Future Groundwater [f]							
Alluvial Aquifer [g]	2,000	4,000	5,000	7,000	7,000	7,000	7,000
Saugus Formation (Restored) [h]	3,230	3,230	3,230	3,230	3,230	3,230	3,230
Saugus Formation (New) [i]	-	-	-	-	-	-	-
Total Groundwater	**5,230**	**7,230**	**8,230**	**10,230**	**10,230**	**10,230**	**10,230**
Recycled Water [j]							
Total Recycled	**565**	**5,156**	**7,627**	**9,604**	**9,604**	**9,604**	**9,604**
Planned Banking Programs [d]							
Rosedale Rio-Bravo Bank	-	-	-	-	-	-	-
Additional Bank	-	-	-	-	-	-	-
Total Banking	-	-	-	-	-	-	-
Total Planned Supplies	**5,795**	**12,386**	**15,857**	**19,834**	**19,834**	**19,834**	**19,834**
Total Existing and Planned Supplies	**109,197**	**115,488**	**118,759**	**122,536**	**122,536**	**122,536**	**122,536**
Demands [k]							
Demand w/Plumbing Code Savings	76,700	84,800	92,700	100,000	103,400	106,800	110,400
Demand w/ Plumbing Code Savings and Active Conservation	**68,900**	**74,600**	**80,800**	**86,100**	**88,500**	**90,900**	**93,900**

Table 2. Projected Average/Normal Year Supplies and Demands (af)
CLWA 2015 UWMP Table 6-2

Notes:

(a) Existing groundwater supplies represent the quantity of groundwater anticipated to be pumped with existing wells. As indicated in Tables 3-8 and 3-9, and in Tables 3-4 and 3-5 of the 2009 Groundwater Basin Yield Analysis, individual purveyors may have well capacity in excess of quantities shown in this table. As indicated in Table 3-10, existing and planned groundwater pumping remain within the groundwater operating plan shown on Table 3-5.

(b) Existing recycled water is actual use in 2015.

(c) SWP supplies from Table 3-2, based on average deliveries from 2015 DCR.

(d) Not needed in average/normal years.

(e) Existing Newhall Land supply committed under approved Newhall Ranch Specific Plan. Assumed to be transferred to CLWA or VWC during Newhall Ranch development, and available for annual purchase prior to that.

(f) Planned groundwater supplies represent new groundwater well capacity that may be required by an individual purveyor's production objectives in the Alluvial Aquifer and the Saugus Formation. As indicated in Table 3-10, existing and planned groundwater pumping remain within the groundwater operating plan shown on Table 3-5.

(g) Represents a shift in current agricultural pumping by Newhall Land and Farming to VWC due to the development of Newhall Ranch.

(h) VWC Well 201 is planned to be returned to service by 2017 with treatment under a permit from the DDW.

(i) Up to four new and replacement wells are planned to provide additional dry-year supply and would typically be used only during dry years.

(j) Planned recycled water is total projected recycled water demand from Table 4-3 less existing use. Refer to 2015 UWMP Section 4, including Section 4.4, for further discussion and information regarding factors having the potential to affect the availability of recycled water supplies.

(k) Demands are Regional Summary demands from Table 2-28.

3.1.2 Single Dry Year

Table 3 summarizes the existing and planned water supplies available to VWC, CLWA, and the other retail Water Purveyors over the 35-year planning period should a single dry year event occur, similar to the drought that occurred in California in 1977. For purposes of the Single Dry Year, a SWP allocation of 5% was assumed which is the historic low allocation experienced in 2014. Demand during single dry years was assumed to increase by 10 percent. During prolonged dry periods, experience indicates that a reduction in demand of 10 percent is achievable through the implementation of conservation best management practices.

Table 3. Projected Single Dry Year Supplies and Demands (af)
CLWA 2015 UWMP Table 6-3

	2020	2025	2030	2035	2040	2045	2050
Existing Supplies							
Existing Groundwater [a]							
Alluvial Aquifer	20,350	20,350	20,350	20,350	20,350	20,350	20,350
Saugus Formation	19,865	19,865	19,865	19,865	19,865	19,865	19,865
Total Groundwater	**40,215**	**40,215**	**40,215**	**40,215**	**40,215**	**40,215**	**40,215**
Recycled Water [b]							
Total Recycled	**450**	**450**	**450**	**450**	**450**	**450**	**450**
Imported Water							
State Water Project [c]	4,800	4,800	4,800	4,800	4,800	4,800	4,800
Flexible Storage Accounts [d]	6,060	6,060	4,680	4,680	4,680	4,680	4,680
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000	11,000	11,000
Nickel Water-Newhall Land [e]	1,607	1,607	1,607	1,607	1,607	1,607	1,607
Yuba Accord Water [f]	-	-	-	-	-	-	-
Total Imported	**23,467**	**23,467**	**22,087**	**22,087**	**22,087**	**22,087**	**22,087**

Table 3. Projected Single Dry Year Supplies and Demands (af)

CLWA 2015 UWMP Table 6-3

	2020	2025	2030	2035	2040	2045	2050
Existing Banking and Exchange Programs							
Rosedale Rio-Bravo Bank [g]	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Semitropic Bank [h]	5,000	5,000	5,000	5,000	5,000	5,000	-
Semitropic-Newhall Land Bank [i]	4,950	4,950	4,950	4,950	4,950	4,950	4,950
Rosedale Rio-Brave Exchange [j]	-	-	-	-	-	-	-
West Kern Exchange [j]	-	-	-	-	-	-	-
Total Bank/Exchange	**12,950**	**12,950**	**12,950**	**12,950**	**12,950**	**12,950**	**7,950**
Total Existing Supplies	**77,082**	**77,082**	**75,702**	**75,702**	**75,702**	**75,702**	**70,702**
Planned Supplies							
Future Groundwater [k]							
Alluvial Aquifer [l]	2,000	4,000	5,000	7,000	7,000	7,000	7,000
Saugus Formation (Restored) [m]	3,775	3,775	3,775	3,775	3,775	3,775	3,775
Saugus Formation (New) [n]	9,560	9,560	9,560	9,560	9,560	9,560	9,560
Total Groundwater	**15,335**	**17,335**	**18,335**	**20,335**	**20,335**	**20,335**	**20,335**
Recycled Water [o]							
Total Recycled	**565**	**5,156**	**7,627**	**9,604**	**9,604**	**9,604**	**9,604**
Planned Banking Programs							
Rosedale Rio-Bravo Bank [p]	7,000	7,000	17,000	17,000	17,000	17,000	17,000
Additional Bank [q]	-	-	-	-	-	-	5,000
Total Banking	**7,000**	**7,000**	**17,000**	**17,000**	**17,000**	**17,000**	**22,000**
Total Planned Supplies	**22,900**	**29,491**	**42,962**	**46,939**	**46,939**	**46,939**	**51,939**
Total Existing and Planned Supplies	**99,982**	**106,573**	**118,664**	**122,641**	**122,641**	**122,641**	**122,641**
Demands [r]							
Demand w/Plumbing Code Savings	84,400	93,300	102,000	110,000	113,700	117,500	121,400
Demand w/ Plumbing Code Savings and Active Conservation	**75,800**	**82,100**	**88,900**	**94,700**	**97,400**	**100,000**	**103,300**

Notes:

(a) Existing groundwater supplies represent the quantity of groundwater anticipated to be pumped with existing wells. As indicated in Tables 3-8 and 3-9 and Tables 3-4 and 3-5 of the 2009 Groundwater Basin Yield Analysis, individual purveyors may have well capacity in excess of quantities shown in this table. As indicated in Table 3-11, existing and planned groundwater pumping remain within the groundwater operating plan shown on Table 3-5.

(b) Existing recycled water is actual use in 2015.

(c) SWP supplies from Table 3-2, based on worst case actual allocation of 2014.

(d) Includes both CLWA and Ventura County entities' flexible storage accounts. Extended term of agreement with Ventura County entities expires after 2025.

(e) Existing Newhall Land supply committed under approved Newhall Ranch Specific Plan. Assumed to be transferred to CLWA or VWC during Newhall Ranch development, and available for annual purchase prior to that.

(f) For single dry year, it was assumed that no water would be available under Yuba Accord.

(g) CLWA has an existing firm withdrawal capacity of 3,000 afy and a storage capacity of 100,000 af. There is currently 94,178 af of recoverable water in storage.

(h) CLWA has a maximum firm withdrawal capacity of 5,000 afy and a storage capacity of 15,000 af. Additionally, CLWA has 35,970 af of recoverable water stored which may be recovered using this withdrawal capacity.

(i) Newhall Land has a maximum withdrawal capacity of 4,950 afy and a storage capacity of 55,000 af. At the end of 2015 there was 32,507 af of recoverable water. This is an existing Newhall Land supply, assumed to be transferred to CLWA or VWC during Newhall Ranch development, with firm withdrawal capacity made available to CLWA prior to that. Delivery of stored water from this program is assumed available to VWC.

(j) Exchange recovery assumed to be unavailable in single dry year. Term of exchange program is through 2021.

Table 3. Projected Single Dry Year Supplies and Demands (af)
CLWA 2015 UWMP Table 6-3

	2020	2025	2030	2035	2040	2045	2050

(k) Planned groundwater supplies represent supplies from new groundwater wells that may be required by an individual purveyor's production objectives in the Alluvial Aquifer and the Saugus Formation, including 3,775 afy of restored production from VWC Well 201 and approximately 9,560 afy from replacement and new Saugus Formation wells. When combined with existing purveyor and non-purveyor groundwater supplies, total groundwater production is consistent with the 1977 single dry-year levels identified in Table 3-8 of the 2009 Groundwater Basin Yield Analysis. As indicated in Table 3-11, existing and planned groundwater pumping remain within the groundwater operating plan shown on Table 3-5.

(l) Represents a shift in current agricultural pumping by Newhall Land and Farming to VWC due to the development of Newhall Ranch.

(m) VWC Well 201 is planned to be returned to service by 2017 with treatment under a permit from the DDW.

(n) Up to four new and replacement wells are planned to provide additional dry-year supply and would typically be used only during dry years.

(o) Planned recycled water is total projected recycled water demand from Table 4-3 less existing use. Refer to Section 4, including Section 4.4, for further discussion and information regarding factors having the potential to affect the availability of recycled water supplies.

(p) Firm withdrawal capacity under existing Rosedale Rio-Bravo Banking Program to be expanded by 7,000 afy by 2017 (for a total of 10,000 afy) and an additional 10,000 afy by 2030.

(q) Additional banking program with firm withdrawal capacity of 5,000 afy by 2050.

(r) Demands are Regional Summary demands from Table 2-28. Includes a 10 percent increase in demand during dry years.

3.1.3 Multiple Dry Years

Tables 4 and 5 summarize the existing and planned water supplies available to VWC, CLWA, and the other retail water purveyors over the 35-year planning period should a 4-year multiple dry year event occur, similar to the drought that occurred in California during the years 1931 to 1934 (Table 4), and should a 3-year dry period occur, similar to the drought that occurred during the years 1990-1992 (Table 5). The demands shown include reductions from projected passive conservation savings, and both with and without active conservation savings. The demand during dry years was assumed to increase by 10 percent.

Table 4. Projected Four-Year Dry Year Supplies and Demands (af)
CLWA 2015 UWMP Table 6-4A

	2020	2025	2030	2035	2040	2045	2050
Existing Supplies							
Existing Groundwater [a]							
Alluvial Aquifer	20,350	20,350	20,350	20,350	20,350	20,350	20,350
Saugus Formation	15,825	15,825	15,825	15,825	15,825	15,825	15,825
Total Groundwater	**36,175**	**36,175**	**36,175**	**36,175**	**36,175**	**36,175**	**36,175**
Recycled Water [b]							
Total Recycled	**450**	**450**	**450**	**450**	**450**	**450**	**450**
Imported Water							
State Water Project [c]	31,400	31,400	31,400	31,400	31,400	31,400	31,400
Flexible Storage Accounts [d]	1,515	1,515	1,170	1,170	1,170	1,170	1,170
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000	11,000	11,000
Nickel Water-Newhall Land [e]	1,607	1,607	1,607	1,607	1,607	1,607	1,607
Yuba Accord Water [f]	1,000	1,000	-	-	-	-	-
Total Imported	**46,522**	**46,522**	**45,177**	**45,177**	**45,177**	**45,177**	**45,177**

Table 4. Projected Four-Year Dry Year Supplies and Demands (af)

CLWA 2015 UWMP Table 6-4A

	2020	2025	2030	2035	2040	2045	2050
Existing Banking and Exchange Programs							
Rosedale Rio-Bravo Bank [g]	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Semitropic Bank [h]	5,000	5,000	5,000	5,000	5,000	5,000	-
Semitropic-Newhall Land Bank [i]	4,950	4,950	4,950	4,950	4,950	4,950	4,950
Rosedale Rio-Brave Exchange [j]	2,375	-	-	-	-	-	-
West Kern Exchange [j]	125	-	-	-	-	-	-
Total Bank/Exchange	**15,450**	**12,950**	**12,950**	**12,950**	**12,950**	**12,950**	**7,950**
Total Existing Supplies	**98,597**	**96,097**	**94,752**	**94,752**	**94,752**	**94,752**	**89,752**
Planned Supplies							
Future Groundwater [k]							
Alluvial Aquifer [l]	2,000	4,000	5,000	7,000	7,000	7,000	7,000
Saugus Formation (Restored) [m]	3,775	3,775	3,775	3,775	3,775	3,775	3,775
Saugus Formation (New) [n]	11,100	11,100	11,100	11,100	11,100	11,100	11,100
Total Groundwater	**16,875**	**18,875**	**19,875**	**21,875**	**21,875**	**21,875**	**21,875**
Recycled Water [o]							
Total Recycled	**565**	**5,156**	**7,627**	**9,604**	**9,604**	**9,604**	**9,604**
Planned Banking Programs							
Rosedale Rio-Bravo Bank [p]	7,000	7,000	17,000	17,000	17,000	17,000	17,000
Additional Bank [q]	-	-	-	-	-	-	5,000
Total Banking	**7,000**	**7,000**	**17,000**	**17,000**	**17,000**	**17,000**	**22,000**
Total Planned Supplies	**24,440**	**31,031**	**44,502**	**48,479**	**48,479**	**48,479**	**53,479**
Total Existing and Planned Supplies	**123,037**	**127,128**	**139,254**	**143,231**	**143,231**	**143,231**	**143,231**
Demands [r]							
Demand w/Plumbing Code Savings	84,400	93,300	102,000	110,000	113,700	117,500	121,400
Demand w/ Plumbing Code Savings and Active Conservation	**75,800**	**82,100**	**88,900**	**94,700**	**97,400**	**100,000**	**103,300**

Notes:

(a) Existing groundwater supplies represent the quantity of groundwater anticipated to be pumped with existing wells. As indicated in Tables 3-8 and 3-9, and in Tables 3-4 and 3-5 of the 2009 Groundwater Basin Yield Analysis, individual purveyors may have well capacity in excess of quantities shown in this table. As indicated in Table 3-12A, existing and planned groundwater pumping remain within the groundwater operating plan shown on Table 3-5.

(b) Existing recycled water is actual use in 2015.

(c) SWP supplies from Table 3-2, based on 1931-1934 supplies from 2015 DCR.

(d) Includes both CLWA and Ventura County entities' flexible storage accounts. Extended term of agreement with Ventura County entities expires after 2025.

(e) Existing Newhall Land supply committed under approved Newhall Ranch Specific Plan. Assumed to be transferred to CLWA or VWC during Newhall Ranch development, and available for annual purchase prior to that.

(f) For the multiple dry year period, it was assumed that CLWA would purchase the maximum it could, an estimated average of 1,000 afy (after losses) during the four-year period, through 2025.

(g) CLWA has an existing firm withdrawal capacity of 3,000 afy and a storage capacity of 100,000 af. There is currently 94,178 af of recoverable water in storage.

(h) CLWA has a maximum firm withdrawal capacity of 5,000 afy and a storage capacity of 15,000 af. Additionally, CLWA has 35,970 af of recoverable water stored which may be recovered using this withdrawal capacity.

(i) Newhall Land has a maximum withdrawal capacity of 4,950 afy and a storage capacity of 55,000 af. At the end of 2015 there was 32,507 af of recoverable water. This is an existing Newhall Land supply, assumed to be transferred to CLWA or VWC during Newhall Ranch development, with firm withdrawal capacity made available to CLWA prior to that. Delivery of stored water from this program is assumed available to VWC.

Table 4. Projected Four-Year Dry Year Supplies and Demands (af)

CLWA 2015 UWMP Table 6-4A

	2020	2025	2030	2035	2040	2045	2050

(j) Exchange recovery was assumed to occur sometime during the four-year dry period, for an average annual supply of one-fourth of the total recoverable water available (total recoverable is 9,509 af from Rosedale-Rio Bravo and 500 af from West Kern exchange programs).

(k) Planned groundwater supplies represent supplies from new groundwater wells that may be required by an individual purveyor's production objectives in the Alluvial Aquifer and the Saugus Formation, including 3,775 afy of restored production from VWC Well 201 and approximately 11,000 afy from replacement and new Saugus Formation wells. When combined with existing purveyor and non-purveyor groundwater supplies, total groundwater production is consistent with the 1931-1934 multiple dry-year levels identified in Table 3-8 of the 2009 Groundwater Basin Yield Analysis. As indicated in Table 3-12A, existing and planned groundwater pumping remain within the groundwater operating plan shown on Table 3-5.

(l) Represents a shift in current agricultural pumping by Newhall Land and Farming to VWC due to the development of Newhall Ranch.

(m) VWC Well 201 is planned to be returned to service by 2017 with treatment under a permit from the DDW.

(n) Up to four new and replacement wells are planned to provide additional dry-year supply and would typically be used only during dry years.

(o) Planned recycled water is total projected recycled water demand from Table 4-3 less existing use. Refer to Section 4, including Section 4.4, for further discussion and information regarding factors having the potential to affect the availability of recycled water supplies.

(p) Firm withdrawal capacity under existing Rosedale Rio-Bravo Banking Program to be expanded by 7,000 afy by 2017 (for a total of 10,000 afy) and an additional 10,000 afy by 2030.

(q) Additional banking program with firm withdrawal capacity of 5,000 afy by 2050.

(r) Demands are Regional Summary demands from Table 2-28. Includes a 10 percent increase in demand during dry years.

Table 5. Projected Three-Year Dry Year Supplies and Demands (af)

CLWA 2015 UWMP Table 6-4B

	2020	2025	2030	2035	2040	2045	2050
Existing Supplies							
Existing Groundwater [a]							
Alluvial Aquifer	20,350	20,350	20,350	20,350	20,350	20,350	20,350
Saugus Formation	15,525	15,525	15,525	15,525	15,525	15,525	15,525
Total Groundwater	**35,875**	**35,875**	**35,875**	**35,875**	**35,875**	**35,875**	**35,875**
Recycled Water [b]							
Total Recycled	**450**	**450**	**450**	**450**	**450**	**450**	**450**
Imported Water							
State Water Project [c]	19,800	19,500	19,300	19,000	19,000	19,000	19,000
Flexible Storage Accounts [d]	2,020	2,020	1,560	1,560	1,560	1,560	1,560
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000	11,000	11,000
Nickel Water-Newhall Land [e]	1,607	1,607	1,607	1,607	1,607	1,607	1,607
Yuba Accord Water [f]	1,000	1,000	-	-	-	-	-
Total Imported	**35,427**	**35,127**	**33,467**	**33,167**	**33,167**	**33,167**	**33,167**
Existing Banking and Exchange Programs							
Rosedale Rio-Bravo Bank [g]	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Semitropic Bank [h]	5,000	5,000	5,000	5,000	5,000	5,000	-
Semitropic-Newhall Land Bank [i]	4,950	4,950	4,950	4,950	4,950	4,950	4,950
Rosedale Rio-Brave Exchange [j]	3,167	-	-	-	-	-	-
West Kern Exchange [j]	167	-	-	-	-	-	-
Total Bank/Exchange	**16,284**	**12,950**	**12,950**	**12,950**	**12,950**	**12,950**	**7,950**
Total Existing Supplies	**88,036**	**84,402**	**82,742**	**82,442**	**82,442**	**82,442**	**77,442**

Table 5. Projected Three-Year Dry Year Supplies and Demands (af)

CLWA 2015 UWMP Table 6-4B

	2020	2025	2030	2035	2040	2045	2050
Planned Supplies							
Future Groundwater [k]							
Alluvial Aquifer [l]	2,000	4,000	5,000	7,000	7,000	7,000	7,000
Saugus Formation (Restored) [m]	3,775	3,775	3,775	3,775	3,775	3,775	3,775
Saugus Formation (New) [n]	10,550	10,550	10,550	10,550	10,550	10,550	10,550
Total Groundwater	**16,325**	**18,325**	**19,325**	**21,325**	**21,325**	**21,325**	**21,325**
Recycled Water [o]							
Total Recycled	**565**	**5,156**	**7,627**	**9,604**	**9,604**	**9,604**	**9,604**
Planned Banking Programs							
Rosedale Rio-Bravo Bank [p]	7,000	7,000	17,000	17,000	17,000	17,000	17,000
Additional Bank [q]	-	-	-	-	-	-	5,000
Total Banking	**7,000**	**7,000**	**17,000**	**17,000**	**17,000**	**17,000**	**22,000**
Total Planned Supplies	**23,890**	**30,481**	**43,952**	**47,929**	**47,929**	**47,929**	**52,929**
Total Existing and Planned Supplies	**111,926**	**114,883**	**126,694**	**130,371**	**130,371**	**130,371**	**130,371**
Demands [r]							
Demand w/Plumbing Code Savings	84,400	93,300	102,000	110,000	113,700	117,500	121,400
Demand w/ Plumbing Code Savings and Active Conservation	**75,800**	**82,100**	**88,900**	**94,700**	**97,400**	**100,000**	**103,300**

Notes:

(a) Existing groundwater supplies represent the quantity of groundwater anticipated to be pumped with existing wells. As indicated in Tables 3-8 and 3-9, and in Tables 3-4 and 3-5 of the 2009 Groundwater Basin Yield Analysis, individual purveyors may have well capacity in excess of quantities shown in this table. As indicated in Table 3-12B, existing and planned groundwater pumping remain within the groundwater operating plan shown on Table 3-5.

(b) Existing recycled water is actual use in 2015.

(c) SWP supplies from Table 3-2, based on 1990-1992 supplies from 2015 DCR.

(d) Includes both CLWA and Ventura County entities' flexible storage accounts. Extended term of agreement with Ventura County entities expires after 2025.

(e) Existing Newhall Land supply committed under approved Newhall Ranch Specific Plan. Assumed to be transferred to CLWA or VWC during Newhall Ranch development, and available for annual purchase prior to that.

(f) For the multiple dry year period, it was assumed that CLWA would purchase the maximum it could, an estimated average of 1,000 afy (after losses) during the four-year period, through 2025.

(g) CLWA has an existing firm withdrawal capacity of 3,000 afy and a storage capacity of 100,000 af. There is currently 94,178 af of recoverable water in storage.

(h) CLWA has a maximum firm withdrawal capacity of 5,000 afy and a storage capacity of 15,000 af. Additionally, CLWA has 35,970 af of recoverable water stored which may be recovered using this withdrawal capacity.

(i) Newhall Land has a maximum withdrawal capacity of 4,950 afy and a storage capacity of 55,000 af. At the end of 2015 there was 32,507 af of recoverable water. This is an existing Newhall Land supply, assumed to be transferred to CLWA or VWC during Newhall Ranch development, with firm withdrawal capacity made available to CLWA prior to that. Delivery of stored water from this program is assumed available to VWC.

(j) Exchange recovery was assumed to occur sometime during the three-year dry period, for an average annual supply of one-third of the total recoverable water available (total recoverable is 9,509 af from Rosedale-Rio Bravo and 500 af from West Kern exchange programs).

(k) Planned groundwater supplies represent supplies from new groundwater wells that may be required by an individual purveyor's production objectives in the Alluvial Aquifer and the Saugus Formation, including 3,775 afy of restored production from VWC Well 201 and approximately 10,550 afy from replacement and new Saugus Formation wells. When combined with existing purveyor and non-purveyor groundwater supplies, total groundwater production is consistent with the 1931-1934 multiple dry-year levels identified in Table 3-8 of the 2009 Groundwater Basin Yield Analysis. As indicated in Table 3-12B, existing and planned groundwater pumping remain within the groundwater operating plan shown on Table 3-5.

(l) Represents a shift in current agricultural pumping by Newhall Land and Farming to VWC due to the development of Newhall Ranch.

(m) VWC Well 201 is planned to be returned to service by 2017 with treatment under a permit from the DDW.

(n) Up to four new and replacement wells are planned to provide additional dry-year supply and would typically be used only during dry years.

Table 5. Projected Three-Year Dry Year Supplies and Demands (af)
CLWA 2015 UWMP Table 6-4B

	2020	2025	2030	2035	2040	2045	2050

(o) Planned recycled water is total projected recycled water demand from Table 4-3 less existing use. Refer to Section 4, including Section 4.4, for further discussion and information regarding factors having the potential to affect the availability of recycled water supplies.

(p) Firm withdrawal capacity under existing Rosedale Rio-Bravo Banking Program to be expanded by 7,000 afy by 2017 (for a total of 10,000 afy) and an additional 10,000 afy by 2030.

(q) Additional banking program with firm withdrawal capacity of 5,000 afy by 2050.

(r) Demands are Regional Summary demands from Table 2-28. Includes a 10 percent increase in demand during dry years.

CLWA and VWC plan to deliver a reliable and high quality water supply for their customer, even during dry periods. As shown in the tables above, CLWA and their purveyors have adequate supplies to meet service area demands during normal, single-dry, and multiple-dry year periods throughout the 35-year planning period.

SECTION 4

Conclusion

Based on the information in this WSA Addendum, and as supported by the documents relied on for its preparation, the conclusions in the 2011 WSA remain the same. VWC's total existing and projected water supplies will meet the water demands associated with the Project in combination with existing and other planned uses within VWC's service area. This determination is consistent with the best available information, including the updated 2015 UWMP.

Exhibit A
2011 Chiquita Canyon Landfill
Water Supply Assessment

Valencia Water Company

24631 Avenue Rockefeller • Valencia, CA 91355
(661) 294-0828 • Fax (661) 294-3806

April 25, 2011

Paul McCarthy
Supervising Regional Planner-Impact Analysis Section
County of Los Angeles
Department of Regional Planning
320 West Temple Street
Los Angeles, California 90012

Re: *Chiquita Canyon Landfill Water Supply Assessment*

Dear Mr. McCarthy,

In response to the County of Los Angeles's request, I have enclosed a copy of the Water Supply Assessment (WSA) for the Chiquita Canyon Landfill Expansion (County Project Number R2004-00559). The Valencia Water Company's governing board approved the WSA on March 22, 2011. A copy of the approval resolution also is enclosed for your files.

Please feel free to contact me at (661) 295-6501 if you have any questions.

Sincerely,

Keith Abercrombie
General Manager

Enclosures

cc: Mike Dean, Chiquita Canyon Landfill (by e-mail)
Brenda Grogg Eells, CH2M HILL (by e-mail)

CERTIFICATION

I, Greg Milleman, Secretary of Valencia Water Company, a corporation created and existing under the laws of the State of California, do hereby certify and declare that the foregoing is a full, true and correct copy of the resolution duly passed and adopted by the Board of Directors of said corporation, at a meeting of said Board duly and regularly called, noticed and held on March 22, 2011, at which meeting a quorum of the Board of Directors was present and voted in favor of said resolution; that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand of said corporate effective this April 25, 2011.

Greg Milleman

Secretary of Valencia Water Company, a corporation

VALENCIA WATER COMPANY

March 22, 2011

RESOLUTION TO APPROVE WATER SUPPLY ASSESSMENT

FOR

CHIQUITA CANYON LANDFILL
County Project Number R2004-00559

WHEREAS, the State of California requires public water agencies' governing board's to review and approve water supply assessments made with respect to water supply planning, and

WHEREAS, notwithstanding that this corporation is not a public agency, the Board of Directors of this corporation received from management and evaluated the water supply assessment regarding the commercial use project commonly known as Chiquita Canyon Landfill County Project Number R2004-00559, located in the northwestern portion of unincorporated Los Angeles County, California.

NOW, THEREFORE BE IT RESOLVED that the water supply assessment made by management for the commercial use project commonly known as Chiquita Canyon Landfill County Project Number R2004-00559, located in the northwestern portion of unincorporated Los Angeles County, California be and hereby is approved.

WATER SUPPLY ASSESSMENT

Chiquita Canyon Landfill Expansion
County Project No. R2004-00559

Prepared for:

The County of Los Angeles
Department of Regional Planning

December 2010

Prepared by

Valencia Water Company
24631 Avenue Rockefeller
Valencia, CA 91355
Phone: (661) 294-0828 Fax: (661) 294-3806
www.valenciawater.com

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1.0 INTRODUCTION

This report provides information necessary to complete the Water Supply Assessment ("WSA") for the Chiquita Canyon Landfill Expansion Project, LA County Project No.R2004-00559 ("Project"). The Project is located in unincorporated area of the Santa Clarita Valley in northern Los Angeles County ("County ").

The WSA has been prepared pursuant to the requirements of Senate Bill 610 (Costa; Chapter 643, Stats. 2001) ("SB 610"), which requires public water agencies, parties or purveyors that may supply water to certain proposed development projects to prepare a WSA for use by the County in environmental documentation for such projects, pursuant to the California Environmental Quality Act ("CEQA").[1] This WSA contains information from the 2005 Urban Water Management Plan ("2005 UWMP"), which was adopted by Castaic Lake Water Agency ("CLWA"), Valencia Water Company ("Valencia") and other water purveyors. It also includes published information provided by the California Department of Water Resources ("DWR") concerning the reliability of water supplies delivered to CLWA from the State Water Project ("SWP").

The Project site is contiguous with Valencia's existing service area and Valencia is the operator of the public water system that will provide water to the proposed Project.[2, 3]

A WSA is required for any project that is subject to CEQA[4] and proposes, among other things, a industrial, manufacturing or processing plant occupying more than 40 acres or having more than 650,000 square feet of floor area[5] This Project is a qualifying project under this definition.[6] This WSA will provide information to the County for its consideration in making a determination, based on the entire record, as to whether there is a sufficient water supply available to meet the Project's water demand, in addition to Valencia's existing and planned future uses, including agricultural and manufacturing uses.[7] The County requested that Valencia

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1 SB 610 amended section 21151.9 of the California Public Resources Code, and amended sections 10631, 10656, 10910, 19811, 19812, and 19815, repealed section 10913, and added and amended section 10657, of the California Water Code.

2 For purposes of this WSA, Valencia is the "public water system," as defined by Water Code §10912(c), because it has 3,000 or more service connections and provides piped water to the public for human consumption.

3 Water Code §10910(b).

4 Public Resources Code §21080.

5 Water Code §10912(a)(5). This section also includes other types of development that are defined as a "project" by this section of the code.

6 Water Code §10912(a)(5). This section also includes other types of development that are defined as a "project" by this section of the code.

7 Water Code §10910(c).

prepare this WSA for the Project, and it reflects the best available information as of the date of this report.

1.1 Chiquita Canyon Landfill Expansion

The Project (County Project No.R2004-00559) consists of approximately 369 acres and is located in the northwestern portion of unincorporated Los Angeles County, approximately 3 miles west of the Interstate 5 and State Route (SR) 126 intersection. The Project is located in Section 15, Township 4 North, Range 17 West, San Bernardino Baseline and Meridian. The Project latitude and longitude are 34°25'N and 118°39'W, respectively.

The Proposed Project includes the following elements: relocated entrance and support facilities; horizontal extension of the existing waste footprint, increased maximum elevation, increased disposal rate and volume, better utilization of the landfill's disposal capacity, and acceptance of all non-hazardous wastes acceptable at a Class III solid waste disposal landfill.

As part of the Proposed Project, the site entrance would be relocated to Wolcott Way. Vehicles traveling to the site would turn from SR-126 onto Wolcott Way, which is a signalized intersection, and then west onto a landfill access road. Access to the site would be controlled by a gate located on the access road.

The Proposed Project would expand the landfill footprint by approximately 112 acres into the existing landfill entrance area, East Canyon, and North Canyon. The landfill footprint would increase from the currently permitted approximately 257 acres to approximately 369 acres. The Proposed Project would also increase the maximum elevation to 1,573 feet.

The Proposed Project includes an increase of daily and weekly disposal tonnage. The permitted maximum daily disposal tonnage would increase from 6,000 tons to 12,000 tons. The permitted maximum weekly disposal tonnage would increase from 30,000 to 60,000 tons. This increase in daily and weekly disposal tonnage would allow Chiquita Canyon Landfill to be responsive to the current and anticipated disposal needs of the residents of the Santa Clarita Valley and the greater Los Angeles County area. Assuming the disposal rates under the Proposed Project begins in 2020, the landfill would reach capacity in 2033 and would close at that time.

At build-out, non-potable water demand for the Landfill is estimated to be approximately 150 acre-feet per year ("afy"). Between 2002 and 2009, the Chiquita Canyon Landfill used an average of 93 acre-feet of non-potable water per year. Drinking water is provided to employees by a bottled-water distributor who delivers drinking water by truck; current potable water consumption is approximately 100 gallons a day.

1.2 Purpose of WSA

The purpose of this WSA is to provide the County with an analysis of whether Valencia's water system has sufficient projected water supplies to meet the demands of the Project, in addition to existing and planned future uses in the Santa Clarita Valley.[8] Specifically, this WSA evaluates whether the total projected water supply determined to be available during normal, single dry, and multiple dry water years over the next 25 years, will meet the projected water demand associated with the Project, in addition to Valencia's existing and planned future water uses, including agriculture and manufacturing uses.[9] If the water supply is anticipated to be insufficient, the WSA must describe measures being taken to obtain an adequate supply.[10] The WSA is required to be included in the Environmental Impact Report ("EIR") prepared by the County for the Project pursuant to CEQA.[11]

1.3 Castaic Lake Water Agency

CLWA is a public water agency that serves an area of 195 square miles in Los Angeles and Ventura counties. CLWA is a water wholesaler that provides about half of the water used by Santa Clarita households and businesses. CLWA operates two potable water treatment plants, storage facilities, and over 17 miles of transmission pipelines. CLWA supplements local groundwater supplies with SWP water and other imported water from Northern and Central California. This water is treated and delivered to the local water retailers in the Santa Clarita Valley. The four retail purveyors served by CLWA are Valencia, Los Angeles County Water District #36, Newhall County Water District ("NCWD") and Santa Clarita Water Division of CLWA ("SCWD").

CLWA also delivers highly treated recycled water from one of the two existing water reclamation plants in the Santa Clarita Valley owned by the Sanitation Districts of Los Angeles County. The recycled water is used to meet a portion of the non-potable water demands (golf courses and landscape irrigation, etc.) in the Santa Clarita Valley.

1.4 Valencia Water Company

Valencia is a public water utility regulated by the California Public Utilities Commission ("CPUC"). Valencia's current service area includes a mix of residential and commercial land uses, mostly comprised of single-family homes, apartments, condominiums and a number of local shopping centers and neighborhood commercial developments. Valencia has access to

[8] Water Code §10910(c).

[9] Water Code §10910(c)(4).

[10] Water Code §10911(a).

[11] Water Code §10911(b), (c).

multiple sources of supply in order to meet existing and planned future water demands. These diverse sources include groundwater from two local aquifers and imported water provided by CLWA that include imported sources from the State Water Project (SWP) and non-SWP supplies, two groundwater banking programs in Kern County and recycled water. The City of Santa Clarita and Los Angeles County special landscape irrigation districts are the largest overall water users for irrigation purposes. Magic Mountain Amusement Park is the largest individual commercial water user. The service area includes three golf courses, the Valencia Industrial Center, and the Valencia Commerce Center. All water services are metered, with the exception of fire services.

1.5 2005 Urban Water Management Plan and Recent Events Affecting the SWP System

The California Urban Water Management Planning Act ("UWMP Act") requires most water utilities to update and submit an Urban Water Management Plan ("UWMP") every five years. In 2005, the Valley's UWMP was updated by CLWA, in cooperation with Valencia and the other retail water purveyors. The 2005 UWMP was adopted by CLWA's Board of Directors in November 2005 and by Valencia's Board of Directors in December 2005. The 2005 UWMP is a compilation of information collected from various water resource documents listed in Section 1.6. The 2005 UWMP contains information on water use, water resources, recycled water, water quality, reliability planning, demand management measures, best management practices and water shortage contingency planning.

The WSA also includes information prepared by DWR regarding the reliability of imported water supplies delivered from the SWP. In December 2007, a federal court imposed interim rules that restrict the operations of both the SWP and the Central Valley Project ("CVP") while a new federal biological opinion for the Delta smelt was prepared by the U.S. Fish and Wildlife Service in 2008. In August 2008, DWR prepared an update to its 2005 Reliability Report, which is issued biennially to indicate how much SWP water is available during varying hydrologic scenarios (i.e., normal and dry years). The DWR 2007 SWP Delivery Reliability Report (August 2008) reduced the average long term reliability of SWP supply from 77% to 66% in order to account for the operational changes required by the federal court to protect the Delta smelt and other constraints on the SWP system.

On November 14, 2008, the California Fish and Game Commission listed the longfin smelt as a threatened species under the California Endangered Species Act. The Commission also voted to change the state-protected status of the Delta smelt from threatened to endangered. In response, on December 9, 2008, the State Water Contractors and others filed litigation challenging the Commission's decision on the longfin smelt. The litigation is still pending, and the outcome of the litigation cannot be predicted at this time.

On December 15, 2008, the U.S. Fish and Wildlife Service issued the new Biological Opinion for the Delta smelt. The new Biological Opinion continues restrictions on SWP and CVP

operations that have been in place under the federal court's interim rules concerning the Delta smelt. However, the Biological Opinion also imposed new requirements for the Bay-Delta that may further erode SWP water delivery reliability under the current, constrained operations. In response to the Biological Opinion, on March 5, 2009, the State Water Contractors and others filed litigation challenging the new Biological Opinion. The litigation is still pending although an initial decision has been released by the Court. The ultimate outcome of the litigation cannot be predicted at this time.

On January 4, 2009, the National Marine Fisheries Services (NMFS) issued a new Biological Opinion based on its review of the proposed long-term coordinated Central Valley Project/State Water Project (CVP/SWP) operations in the Central Valley, California, and its effects on listed fish and designated and proposed critical habitats. Specifically, the 2009 BO concluded that the CVP/SWP operations are likely to jeopardize continued existence of federally-listed Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley steelhead, green sturgeon, and Southern Resident killer whales, and the designated critical habitats of the salmon, steelhead, and sturgeon.

The 2009 BO contains new measures causing water supply impacts, in addition to requiring a number of habitat measures and associated studies. According to the NMFS, the 2009 BO's restrictions on CVP/SWP operations will impact an estimated five to seven percent of the available annual water on average moved by the federal and state pumping plants, or about 330,000 acre-feet per year (afy); however, water operations will not be affected by the 2009 BO immediately and will be tied to water year type. The 2009 BO also includes exception procedures for drought and health and safety issues.

In December 2009, DWR prepared an update to its 2007 Reliability Report. The Draft 2009 SWP Delivery Reliability Report (December 2009) further reduced the average long term reliability of SWP supply from 66% to 60% in order to account for the operational changes required due to federal Biological Opinions to protect endangered fish such as Delta smelt and spring-run salmon, climate change and other constraints on the SWP system. Using the lower percentages from the DWR Draft 2009 SWP Delivery Reliability Report (December 2009), and updating information related to other sources of supply in the Santa Clarita Valley, Tables 1, 2, 3, and 4, below, are consistent with the best available information provided by DWR concerning the long term reliability of SWP supply and other sources of supply.[12]

[12] The information presented in Tables 1-4 of this WSA is based on the 2005 UWMP, with the additional information provided by the DWR Draft 2009 SWP Delivery Reliability Report, December 2009 (and changes and updated information regarding other sources of supply). The discussion of water supply in this WSA and in environmental documents should be tempered, though, by noting that while the Draft 2009 SWP Delivery Reliability Report (December 2009) represents a reasonable scenario as required by CEQA, recent reductions in supply close the gap between the available supply and demand in the future, thereby making the CLWA service area more susceptible to shortages in certain dry years. Accordingly, the reduction in SWP supply reinforces the need to continue diligent efforts to conserve potable water and increase the use of recycled water, both to meet the goals in the 2005 UWMP and to maximize utilization of potable water supplies. CLWA and the retail water purveyors will continue to work diligently with Los Angeles County and the City of Santa Clarita with

The total projected water demand for this Project is estimated to be 150 acre-feet per year and was accounted for in the 2005 UWMP. The timing of the Project places it within the timeframe for calculating "planned future uses" within the 25 year water supply projection included in the 2005 UWMP. This information is incorporated by reference in this WSA. SB 610 requires the WSA to document the water demand for the proposed Project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses. (Water Code §10910(c).) Water Code §10910(c)(2) states that if the proposed Project was accounted for in the most recently adopted UWMP, the public water system may incorporate the requested information from the UWMP in preparing the WSA. The 2005 UWMP projects an annual growth rate in water demand of approximately 2.2 percent over a 25-year period for the Santa Clarita Valley. The Project's associated water demand was included by Valencia in the water demand projections contained in the 2005 UWMP (see Table 2-6 in the 2005 UWMP); and, therefore, is accounted for in the 2005 UWMP.

1.6 Documents Relied upon in Preparing this WSA

The following list identifies the documentation that has been relied upon in the preparation of this WSA. The documents are incorporated by reference in this WSA as if fully set forth herein. Copies of the referenced documents are available for review at Valencia Water Company by contacting Keith Abercrombie, (661) 295-6504, and can be obtained upon the payment of the costs of reproduction. These documents, which are part of Valencia Water Company's record for the preparation of this WSA, are organized below by subject matter and are presented chronologically (earliest first):

DWR Documents

California Department of Water Resources, Groundwater Basins in California, Bulletin 118-80, January 1980. (DWR Bulletin 118-80, 1980).

California Department of Water Resources, The State Water Project Delivery Reliability Report 2002, May 2003. (DWR Reliability Report, 2003).

California Department of Water Resources, California's Groundwater, Bulletin 118, Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin, February, 2004.

California Department of Water Resources, Excerpts from the Working Draft of 2005 State Water Project Delivery Reliability, May 25, 2005. (DWR Reliability Report Excerpts, 2005)

California Department of Water Resources, The State Water Project Delivery Reliability Report 2005, Final, April 2006. (DWR Reliability Report, 2006).

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water conservation ordinances and the enforcement mechanisms to aggressively implement water conservation in the CLWA service area.

California Department of Water Resources, The State Water Project Delivery Reliability Report 2007, Draft, December 2007. (DWR Reliability Report Draft, 2007).

California Department of Water Resources, The State Water Project Delivery Reliability Report 2007, Final, August 2008. (DWR Reliability Report, 2007).

California Department of Water Resources, The State Water Project Delivery Reliability Report 2009, Draft, December 2009. (DWR Draft Reliability Report Draft, 2009).

CLWA Documents

Water Supply Contract between the State of California Department of Water Resources and CLWA, 1963 (plus amendments, including the "Monterey Amendment," 1995, and Amendment No. 19, 1999, the transfer of 41,000 acre-feet of entitlement from Kern County Water Agency to CLWA).

2002 Draft Recycled Water Master Plan prepared for CLWA by Kennedy/Jenks Consultants.

2002 Semitropic Groundwater Storage Program and Point of Delivery Agreement Among the Department of Water Resources of the State of California, CLWA and Kern County Water Agency.

2003 Semitropic Groundwater Storage Program prepared for CLWA by Kennedy/Jenks Consultants.

Water Supply Reliability Plan Draft Report prepared for CLWA by Kennedy/Jenks Consultants, September 2003.

Draft Environmental Impact Report – Supplemental Water Project Transfer of 41,000 acre-feet of State Water Project Table A Amount, prepared for CLWA by Science Applications International Corporation, June 2004 (SCH No. 1998041127).

Final Environmental Impact Report – Supplemental Water Project Transfer of 41,000 acre-feet of State Water Project Table A Amount, prepared for CLWA by Science Applications International Corporation, December 2004 (SCH No. 1998041127).

Draft Environmental Impact Report - Rosedale-Rio Bravo Water Storage District (RRBWSD) Water Banking and Exchange Program, prepared for CLWA by Science Applications International Corporation, August 2005 (SCH No. 2005061157).

Final Environmental Impact Report - Rosedale-Rio Bravo Water Storage District (RRBWSD) Water Banking and Exchange Program, prepared for CLWA by Science Applications International Corporation, October 2005 (SCH No. 2005061157).

Draft Environmental Impact Report - Castaic Lake Water Agency Water Acquisition from the Buena Vista Water Storage District and Rosedale-Rio Bravo Water Storage District Water Banking and Recovery Program, prepared for CLWA by Science Applications International Corporation, June 2006 (SCH No. 2006021003).

Final Environmental Impact Report - Castaic Lake Water Agency Water Acquisition from the Buena Vista Water Storage District and Rosedale-Rio Bravo Water Storage District Water

Banking and Recovery Program, prepared for CLWA by Science Applications International Corporation, October 2006 (SCH No. 2006021003).

Draft Program Environmental Impact Report - Recycled Water Master Plan, prepared for CLWA by Bon Terra Consulting, November 2006 (SCH No. 2005041138).

Final Program Environmental Impact Report - Recycled Water Master Plan, prepared for CLWA by Bon Terra Consulting, March 2007 (SCH No. 2005041138).

CLWA Letter to City of Santa Clarita and Los Angeles County Department of Regional Planning, June 2007.

CLWA Letter to Los Angeles County Department of Regional Planning, February 2008.

CLWA Data Document/Capital Improvement Program, dated November 12, 2008.

CLWA Letter to Los Angeles County Department of Regional Planning, February 24th, 2010 providing comments on the One Valley One Vision Draft Environmental Impact Report, including revised estimates of the water supply projections contained in the 2005 UWMP, (CLWA Letter, February 2010).

Groundwater Documents

Memorandum of Understanding Between the Santa Clara River Valley Upper Basin Water Purveyors and United Water Conservation District, August 2001. (MOU, 2001).

2001 Update Report: Hydrogeologic Conditions in the Alluvial and Saugus Formation Aquifer Systems, prepared for Santa Clarita Valley Water Purveyors by Richard C. Slade and Associates, LLC, July 2002. (Slade, 2002).

Groundwater Management Plan - Santa Clara River Valley Groundwater Basin, East Subbasin, prepared for CLWA by Luhdorff & Scalmanini Consulting Engineers, December 2003.

Regional Groundwater Flow Model for the Santa Clarita Valley: Model Development and Calibration, prepared for Upper Basin Water Purveyors (CLWA, CLWA Santa Clarita Water Division, Newhall County Water District and Valencia Water Company) by CH2M HILL, April 2004.

Analysis of Perchlorate Containment in Groundwater Near the Whittaker-Bermite Property, Santa Clarita, California, prepared for Upper Basin Water Purveyors in Support of the Department of Health Services 97-005 Permit Application by CH2M HILL, December 2004.

Analysis of Near-Term Groundwater Capture Areas for Production Wells Located Near the Whittaker-Bermite Property (Santa Clarita, California), prepared for Upper Basin Water Purveyors in support of the amended 2000 UWMP by CH2M HILL, December 21, 2004.

Impact and Response to Perchlorate Contamination, Valencia Water Company Well Q2, prepared by Luhdorff & Scalmanini Consulting Engineers, April 2005 (Q2 Report).

Mitigated Negative Declaration - Groundwater Containment, Treatment and Restoration Project, CLWA, August 2005.

Interim Remedial Action Plan, to facilitate and restore pumping of groundwater from two Saugus Formation production wells impacted by perchlorate, prepared for Castaic Lake Water Agency by Kennedy/Jenks Consultants, and approved by the Department of Toxic Substances Control, December 2005.

Analysis of Groundwater Basin Yield, Upper Santa Clara River Groundwater Basin, East Subbasin, Los Angeles County, California, prepared in support of the August 2001 Memorandum of Understanding between the Upper Basin Water Purveyors and the United Water Conservation District, prepared by CH2M HILL in cooperation with Luhdorff & Scalmanini, August 2005. (Basin Yield Study, 2005).

Analysis of Groundwater Supplies and Groundwater Basin Yield, Upper Santa Clara River Groundwater Basin, East Subbasin, August 2009, prepared by Luhdorff & Scalmanini and GSI Water Solutions. (Basin Yield Study, 2009).

Water Planning Documents

2005 Urban Water Management Plan, prepared for Castaic Lake Water Agency, CLWA Santa Clarita Water Division, Newhall County Water District, Valencia Water Company, Los Angeles County Waterworks District No. 36, prepared by Black & Veatch, Nancy Clemm, Kennedy Jenks Consultants, Jeff Lambert, Luhdorff & Scalmanini, Richard Slade and Associates, November 2005. (2005 UWMP).

Santa Clarita Valley Water Report 2005, prepared for CLWA, Los Angeles County Waterworks District No. 36, Santa Clarita Water Division, Newhall County Water District and Valencia Water Company by Luhdorff and Scalmanini, Consulting Engineers, April 2006. (SCVWR, 2006).

Santa Clarita Valley Water Report 2006, prepared for CLWA, Los Angeles County Waterworks District No. 36, Santa Clarita Water Division, Newhall County Water District and Valencia Water Company by Luhdorff and Scalmanini, Consulting Engineers, May 2007. (SCVWR, 2007).

Santa Clarita Valley Water Report 2007, prepared for CLWA, Los Angeles County Waterworks District No. 36, Santa Clarita Water Division, Newhall County Water District and Valencia Water Company by Luhdorff and Scalmanini, Consulting Engineers, April 2008. (SCVWR, 2008).

Santa Clarita Valley Water Report 2008, prepared for CLWA, Los Angeles County Waterworks District No. 36, Santa Clarita Water Division, Newhall County Water District and Valencia Water Company by Luhdorff and Scalmanini, Consulting Engineers, April 2009. (SCVWR, 2009).

Santa Clarita Valley Water Report 2009, prepared for CLWA, Los Angeles County Waterworks District No. 36, Santa Clarita Water Division, Newhall County Water District and Valencia Water Company by Luhdorff and Scalmanini, Consulting Engineers, May 2010. (SCVWR, 2010).

2.0 WATER SUPPLY ASSESSMENT

The preparation of this WSA relies upon information from the 2005 UWMP and numerous water resource and planning documents listed in Section 1.6. Based on this supporting information, Valencia concludes that there is sufficient water supply available to meet the Project's demand, in addition to Valencia's existing and other planned future uses, including agricultural and manufacturing uses.

Valencia and CLWA have existing water entitlements, rights, and contracts to meet future demand as needed over time, and have committed sufficient capital resources and planned investments in various water programs and facilities to serve all of its existing and planned customers. Valencia also has identified operational strategies and a prudent and flexible management approach that demonstrates water supply reliability for the Project.

In 2009, Valencia's service area-wide demands were 30,355 af, and the total municipal demand for both imported, groundwater and non-potable recycled water in CLWA's service area was approximately 70,000 af. Based on information provided by the Project's consultant, Valencia has estimated that the Project will require approximately 150 afy of non-potable water (recycled water) at build-out. This represents an increased demand of 57 afy of non-potable water over 2009 levels. In the event that recycled water is not yet available at the Project site, this demand can be met from potable water sources.

Provided below is a summary of water supply and demand projections for all of the scenarios (average/normal year, single dry year and multiple dry year) presented in the 2005 UWMP that address the SB610 requirements for this Project. The 2005 UWMP projections have been revised based on updated water supply projections provided to Los Angeles County Regional Planning Department by CLWA in their letter dated February 24, 2010.

The 2005 UWMP contains information about water use (Chapter 2), water resources (Chapter 3), recycled water (Chapter 4), water quality (Chapter 5), reliability planning (Chapter 6), demand management measures (Chapter 7) and shortage contingency planning (Chapter 8).

Table 1: Summary of Current and Planned Water Supplies and Banking Programs (1)

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
Existing Supplies (1)					
Wholesale (Imported)	***75,787***	***75,787***	***74,407***	***74,407***	***74,407***
SWP Table A Supply (2)	57,120	57,120	57,120	57,120	57,120
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land	1,607	1,607	1,607	1,607	1,607
Flexible Storage Account (CLWA) (3)	4,680	4,680	4,680	4,680	4,680
Flexible Storage Account (Ventura County) (4)	1,380	1,380	0	0	0
Local Supplies					
Groundwater	*46,000*	*46,000*	*46,000*	*46,000*	*46,000*
Alluvial Aquifer	35,000	35,000	35,000	35,000	35,000
Saugus Formation	11,000	11,000	11,000	11,000	11,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
Total Existing Supplies	**123,487**	**123,487**	**122,107**	**122,107**	**122,107**
Existing Banking Programs (3)					
Semitropic Water Bank (5)	50,870	0	0	0	0
Rosedale-Rio Bravo (7)	64,898	64,898	64,898	64,898	64,898
Semitropic Water Bank Newhall Land (8)	18,828	18,828	18,828	18,828	18,828
Total Existing Banking Programs	**134,596**	**83,726**	**83,726**	**83,726**	**83,726**
Planned Supplies (1)					
Local Supplies					
Groundwater	*10,000*	*10,000*	*20,000*	*20,000*	*20,000*
Restored wells (Saugus Formation)	10,000	10,000	10,000	10,000	10,000
New Wells (Saugus Formation)	0	0	10,000	10,000	10,000
Recycled Water - CLWA (6)	0	1,600	6,300	11,000	15,700
Recycled Water - Newhall Ranch	0	1,500	2,500	3,500	5,400
Total Planned Supplies	**10,000**	**13,100**	**28,800**	**34,500**	**41,100**
Planned Banking Programs (3)					
Additional Planned Banking	0	20,000	20,000	20,000	20,000
Total Planned Banking Programs	**0**	**20,000**	**20,000**	**20,000**	**20,000**

1. The values shown under "Existing Supplies" and "Planned Supplies" are supplies projected to be available in average/normal years. The values shown under "Existing Banking Programs" are total amounts currently in storage and "Planned Banking Programs" are total amounts projected to be available.
2. SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of average deliveries projected to be available, based on Tables 6-12 and 6-13 of DWR's "State Water Project Delivery Reliability Report 2009". Year 2030 figure is calculated by multiplying by DWR's 2029 percentage of 60%.
3. Supplies shown are total amounts that can be withdrawn, and would typically be used only during dry years. Each water bank has annual limitations on withdrawals that are reflected in Tables 3 and 4.
4. Initial term of the Ventura County entities' flexible storage account is ten years (from 2006 to 2015).
5. Supplies shown are the total amount currently in storage, and would typically be used only during dry years. Once the current storage amount is withdrawn, this supply would no longer be available and in any event, is not available after 2013.
6. Recycled water supplies based on projections provided in CLWA's 2005 UWMP Chapter 4, Recycled Water.
7. CLWA has 64,898 af of recoverable water as of 12/31/09 in the Rosedale-Rio Bravo Water Banking and Recovery Program.
8. Supplies shown are the total amounts currently in storage. As of December 31, 2009, there is 18,828 af of water stored in the Semitropic Groundwater Storage Bank by The Newhall Land and Farming Company for the Newhall Ranch Specific Plan. The stored water can be extracted from the bank in dry years in amounts up to 4,950 afy. Newhall Ranch is located within the CLWA service area.

2.1 Average/Normal Year, Single Dry Year and Multiple Dry Year Water Assessment

The amount of available water supply is summarized in Table 1 below. Table 1 is not intended to be an operational plan for how supplies would be used in a particular year, but rather identifies the complete range of water supplies available under a range of hydrologic conditions. Diversity of supply allows Valencia and the other purveyors the option of drawing on multiple sources of supply in response to changing conditions such as varying climatic conditions (average/normal years, single dry years, multiple dry years), natural disasters and contamination with substances such as perchlorate.

It is the stated goal of Valencia, CLWA and the other retail water purveyors to deliver a reliable and high quality water supply for their customers, even during dry periods. Based on conservative water supply and demand assumptions over the next 25 years in combination with conservation of non-essential demand during certain dry years, the water supply plan described in the 2005 UWMP successfully achieves this goal.

The subject of perchlorate contamination and its impact on groundwater supplies was extensively discussed in the 2005 UWMP. The source of the contamination is believed to be the Whittaker-Bermite property, located in the center of the Santa Clarita Valley and used as a munitions manufacturing facility for over 50 years. Significant progress has been made toward characterizing the extent of perchlorate contamination, along with implementing necessary measures for on-site and off-site containment and treatment. The reliability analysis provided in the 2005 UWMP takes into account the impact on water supply operations while the planning, design and construction of perchlorate treatment, containment and other restoration activities are implemented. For additional information on this topic, please see Chapters 5 and 6, Appendixes D and E in the 2005 UWMP and the latest annual Santa Clarita Valley Water Report (2009).

2.1.1 Average/Normal Water Year

Table 2 summarizes the water supplies available to Valencia, CLWA and the other retail water purveyors over the 25 year planning period during an average/normal year. The water supplies are broken down into existing and planned water supply sources, including wholesale (imported) water, local supplies, transfers, and banking programs. Demands are shown with and without the effects of an assumed 10 percent urban demand reduction resulting from conservation.

Table 2: Projected Average/Normal Year Supplies and Demands

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
Existing Supplies					
Wholesale (Imported)	***69,727***	***69,727***	***69,727***	***69,727***	***69,727***
SWP Table A Supply (1)	57,120	57,120	57,120	57,120	57,120
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land	1,607	1,607	1,607	1,607	1,607
Flexible Storage Account (CLWA) (2)	0	0	0	0	0
Flexible Storage Account (Ventura County) (2)	0	0	0	0	0
Local Supplies					
Groundwater	46,000	46,000	46,000	46,000	46,000
Alluvial Aquifer	35,000	35,000	35,000	35,000	35,000
Saugus Formation	11,000	11,000	11,000	11,000	11,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
Total Existing Supplies	**117,427**	**117,427**	**117,427**	**117,427**	**117,427**
Existing Banking Programs					
Semitropic Water Bank (2)	0	0	0	0	0
Rosedale-Rio Bravo (2)	0	0	0	0	0
Semitropic Water Bank – Newhall Land (2)	0	0	0	0	0
Total Existing Banking Programs	**0**	**0**	**0**	**0**	**0**
Planned Supplies					
Local Supplies					
Groundwater	0	0	0	0	0
Restored wells (Saugus Formation) (2)	0	0	0	0	0
New Wells (Saugus Formation) (2)	0	0	0	0	0
Recycled Water - CLWA (3)	0	1,600	6,300	11,000	15,700
Recycled Water - Newhall Ranch	0	1,500	2,500	3,500	5,400
Total Planned Supplies	**0**	**3,100**	**8,800**	**14,500**	**21,100**
Planned Banking Programs					
Additional Planned Banking (2)	0	0	0	0	0
Total Planned Banking Programs	0	0	0	0	0
Total Existing and Planned Supplies and Banking	**117,427**	**120,527**	**126,227**	**131,927**	**138,527**
Total Estimated Demand (w/o conservation) (4)	100,050	109,400	117,150	128,400	138,300
Conservation (5)	(8,600)	(9,700)	(10,700)	(11,900)	(12,900)
Total Adjusted Demand	91,450	99,700	106,450	116,500	125,400

1. SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of average deliveries projected to be available, based on Tables 6-12 and 6-13 of DWR's "State Water Project Delivery Reliability Report 2009". Year 2030 figure is calculated by multiplying by DWR's 2029 percentage of 60%.
2. Not needed during average/normal years.
3. Recycled water supplies based on projections provided in CLWA's 2005 UWMP Chapter 4, Recycled Water.
4. Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area are not included.
5. Assumes 10 percent reduction on urban portion of total demand resulting from conservation best management practices, as discussed in CLWA's 2005 UWMP, Chapter 7.

2.1.2 Single-Dry Year

Table 3 summarizes the existing and planned water supplies available to Valencia, CLWA and the other retail water purveyors over the 25 year planning period should a single-dry year event occur, similar to the drought that occurred in California in 1977. Demand during single-dry years was assumed to increase by 10 percent. During prolonged dry periods, experience indicates that a reduction in demand of 10 percent is achievable through the implementation of conservation best management practices.

Table 3: Projected Single-Dry Year Supplies and Demands

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
Existing Supplies					
Wholesale (Imported)	***25,331***	***26,283***	***25,855***	***26,807***	***27,759***
SWP Table A Supply (1)	6,664	7,616	8,568	9,520	10,472
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land	1,607	1,607	1,607	1,607	1,607
Flexible Storage Account (CLWA)	4,680	4,680	4,680	4,680	4,680
Flexible Storage Account (Ventura County)(2)	1,380	1,380	0	0	0
Local Supplies					
Groundwater	*47,500*	*47,500*	*47,500*	*47,500*	*47,500*
Alluvial Aquifer	32,500	32,500	32,500	32,500	32,500
Saugus Formation	15,000	15,000	15,000	15,000	15,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
Total Existing Supplies	**74,531**	**75,483**	**75,055**	**76,007**	**76,959**
Existing Banking Programs					
Semitropic Water Bank (3)	17,000	0	0	0	0
Rosedale-Rio Bravo (5)	20,000	20,000	20,000	20,000	20,000
Semitropic Water Bank – Newhall Land (10)	4,950	4,950	4,950	4,950	4,950
Total Existing Banking Programs	**41,950**	**24,950**	**24,950**	**24,950**	**24,950**
Planned Supplies					
Local Supplies					
Groundwater	*10,000*	*10,000*	*20,000*	*20,000*	*20,000*
Restored wells (Saugus Formation)	10,000	10,000	10,000	10,000	10,000
New Wells (Saugus Formation)	0	0	10,000	10,000	10,000
Recycled Water - CLWA (4)	0	1,600	6,300	11,000	15,700
Recycled Water - Newhall Ranch	0	1,500	2,500	3,500	5,400
Total Planned Supplies	**10,000**	**13,100**	**28,800**	**34,500**	**41,100**
Planned Banking Programs					
Additional Planned Banking (6)	0	20,000	20,000	20,000	20,000
Total Planned Banking Programs	0	20,000	20,000	20,000	20,000
Total Existing and Planned Supplies and Banking	**126,481**	**133,533**	**148,805**	**155,457**	**163,009**
Total Estimated Demand (w/o conservation) (7) (8)	110,100	120,300	128,900	141,200	152,100
Conservation (9)	(9,500)	(10,700)	(11,700)	(13,100)	(14,200)
Total Adjusted Demand	100,600	109,600	117,200	128,100	137,900

1. SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of single dry year deliveries projected to be available on Tables 6-4 and 6-13 of DWR's "State Water Project Delivery Reliability Report 2009". Year 2030 figure is calculated by multiplying by DWR's 2029 percentage of 11%.
2. Initial term of the Ventura County entities' flexible storage account is ten years (from 2006 to 2015).
3. The total amount of water currently in storage is 50,870 af, available through 2013. Withdrawals of up to this amount are potentially available in a dry year, but given possible competition for withdrawal capacity with other Semitropic banking partners in extremely dry years, it is assumed here that about one third of the total amount stored could be withdrawn.
4. Recycled water supplies based on projections provided in CLWA's 2005 UWMP Chapter 4, Recycled Water.
5. CLWA has 64,898 af of recoverable water as of 12/31/09 in the Rosedale-Rio Bravo Water Banking and Recovery Program.
6. Assumes additional planned banking supplies available by 2014.
7. Assumes increase in total demand of 10 percent during dry years.
8. Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area are not included.
9. Assumes 10 percent reduction on urban portion of total normal year demand resulting from conservation best management practices ([urban portion of total normal year demand x 1.10] * 0.10), as discussed in CLWA's 2005 UWMP, Chapter 7.
10. Delivery of stored water from the Newhall Land Semitropic Groundwater Bank requires further agreements between CLWA and Newhall Land.

2.1.3 Multiple Dry Years

Table 4 summarizes the existing and planned water supplies available to Valencia, CLWA and the other retail water purveyors over the 25 year planning period should a four year multiple dry year event occur, similar to the drought that occurred in California during the years 1931 to 1934. Demand during dry years was assumed to increase by 10 percent. During prolonged dry periods, experience indicates that a reduction in demand of 10 percent is achievable through the implementation of conservation best management practices.

Table 4: Projected Multiple-Dry Year Supplies and Demands (1)

Water Supply Sources	Supply (af)				
	2010	**2015**	**2020**	**2025**	**2030**
Existing Supplies					
Wholesale (Imported)	***46,485***	***46,485***	***47,097***	***47,097***	***47,097***
SWP Table A Supply (2)	**32,368**	**32,368**	**33,320**	**33,320**	**33,320**
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land	1,607	1,607	1,607	1,607	1,607
Flexible Storage Account (CLWA) (3)	1,170	1,170	1,170	1,170	1,170
Flexible Storage Account (Ventura County) (3)	340	340	0	0	0
Local Supplies					
Groundwater	*47,500*	*47,500*	*47,500*	*47,500*	*47,500*
Alluvial Aquifer	32,500	32,500	32,500	32,500	32,500
Saugus Formation (4)	15,000	15,000	15,000	15,000	15,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
Total Existing Supplies	**95,685**	**95,685**	**96,297**	**96,297**	**96,297**
Existing Banking Programs					
Semitropic Water Bank (3)	12,700	0	0	0	0
Rosedale-Rio Bravo (6) (7)	5,000	15,000	15,000	15,000	15,000
Semitropic Water Bank – Newhall Land (12)	4,950	4,950	4,950	4,950	4,950
Total Existing Banking Programs	**22,650**	**19,950**	**19,950**	**19,950**	**19,950**
Planned Supplies					
Local Supplies					
Groundwater	*6,500*	*6,500*	*6,500*	*6,500*	*6,500*
Restored wells (Saugus Formation) (4)	6,500	6,500	5,000	5,000	5,000
New Wells (Saugus Formation) (4)	0	0	1,500	1,500	1,500
Recycled Water (5)	0	1,600	6,300	11,000	15,700
Recycled Water - Newhall Ranch	0	1,500	2,500	3,500	5,400
Total Planned Supplies	**6,500**	**9,600**	**15,300**	**21,000**	**27,600**
Planned Banking Programs					
Additional Planned Banking (7) (8)	0	5,000	15,000	15,000	15,000
Total Planned Banking Programs	0	5,000	15,000	15,000	15,000
Total Existing and Planned Supplies and Banking	**124,835**	**130,235**	**146,547**	**152,247**	**158,847**
Total Estimated Demand (w/o conservation) (9) (10)	110,100	120,300	128,900	141,200	152,100
Conservation (11)	(9,500)	(10,700)	(11,700)	(13,100)	(14,200)
Total Adjusted Demand	100,600	109,600	117,200	128,100	137,900

1. Supplies shown are annual averages over four consecutive dry years (unless otherwise noted).
2. SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of average deliveries projected to be available during the worst case four-year drought of 1931-1934 as provided in Tables 6-4 and 6-13 of DWR's "State Water Project Delivery Reliability Report 2009." Year 2030 figure is calculated by multiplying by DWR's 2029 percentage of 35%.
3. Based on total amount of storage available divided by 4 (4-year dry period). Initial term of the Ventura County entities' flexible storage account is ten years (from 2006 to 2015).
4. Total Saugus pumping is the average annual amount that would be pumped under the groundwater operating plan, as summarized in Table 3-6 of the 2005 UWMP ([11,000+15,000+25,000+35,000]/4).
5. Recycled water supplies based on projections provided in CLWA's 2005 UWMP Chapter 4, Recycled Water.
6. CLWA has 64,898 af of recoverable water as of 12/31/09 in the Rosedale-Rio Bravo Water Banking and Recovery Program.
7. Average dry year period supplies could be up to 20,000 af for each program depending on storage amounts at the beginning of the dry period.
8. Assumes additional planned banking supplies available by 2014.
9. Assumes increase in total demand of 10 percent during dry years.
10. Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area are not included.
11. Assumes 10 percent reduction on urban portion of total normal year demand resulting from conservation best management practices ([urban portion of total normal year demand x 1.10] * 0.10), as discussed in CLWA's 2005 UWMP, Chapter 7.
12. Delivery of stored water from the Newhall Land Semitropic Groundwater Bank requires further agreements between CLWA and Newhall Land.

3.0 IDENTIFICATION OF EXISTING WATER SUPPLY SOURCES

3.1 Annual Existing Water Supply Entitlements, Water Rights, or Water Service Contracts

The first substantive "content" requirement for a WSA is the identification and description of the existing water supply sources in the public water system that will serve the Project. Water Code §10910(d) requires that the WSA identify any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed Project, and describe the quantities of water received in prior years by the public water system. The identification of existing water supplies must be demonstrated by providing information related to the following:

- Written contracts or other proof of entitlement to an identified water supply;
- Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system;
- Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply; and
- Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

The 2005 UWMP summarizes the current water supplies available for the Project and the Santa Clarita Valley as a whole. Such supplies are derived from five primary sources:

- Groundwater from the Alluvial aquifer;
- Groundwater from the Saugus Formation;
- SWP supplies and other imported sources;
- Dry-year groundwater banking programs; and
- Recycled water.

Within the CLWA service area, these sources of water supply can be characterized as: (1) *local supplies*, consisting of groundwater and recycled water; and (2) *imported supplies*, transported via the SWP consisting of SWP contract amounts, other imported water sources and dry year supplies delivered from groundwater banking programs. As required by SB 610 (Water Code §10910(d)), Chapter 2 of the 2005 UWMP and the SCVWR 2009 summarize the quantities of water used by each of the water purveyors in the Santa Clarita Valley to meet water demands since importation of SWP water began in 1980. Also, Section 1.6, above, contains a list of documents identifying the existing water supply entitlements, water rights, or water service contracts relevant to meet the Project's water demand as well as future estimated demands reported in the 2005 UWMP.

Potential future water sources include acquisition of additional imported water supplies, recycled water, desalination, storm water runoff, increased short term pumping from the Saugus Formation during dry years and additional groundwater banking programs. Demand side management programs (conservation) are also considered an important component of water supply resulting from efforts by CLWA, Valencia and the other retailers to reduce long-term water demands.

3.2 Groundwater

Water Code §10910(f) requires a WSA to include specific information describing groundwater resources if the water supply for a proposed Project includes groundwater. Over the last 25 years, the water purveyors have developed a groundwater operating plan that includes municipal, agricultural and other smaller uses while maintaining the local Basin in a sustainable condition (i.e., no long term depletion of groundwater or interrelated surface water). This has resulted in preparation of the following important studies funded by the purveyors to ensure sustainability of the local groundwater resources:

1. Slade (2002) updates prior reports and includes a detailed review of the hydrologic conditions and description of groundwater resources available to Valencia and other large municipal and agriculture groundwater producers, including SCWD, NCWD, The Newhall Land and Farming Company ("Newhall") and the Wayside Honor Ranch operating within the Santa Clara River Valley East Subbasin, one of several subbasins identified along the Santa Clara River in Los Angeles and Ventura counties by Updated Bulletin 118 of the California Department of Water Resources. The shallow aquifer system is designated the Alluvial aquifer and the deeper aquifer is designated the Saugus Formation. Slade reported that both aquifer systems were in good operating condition and not in an overdraft condition. Also included are hundreds of other small scale water producers that account for less than 1 percent of total production from these aquifer systems (SCVWR 2008).
2. In 2003, CLWA in cooperation with Valencia and the other retail water purveyors completed and adopted a Groundwater Management Plan (“Plan”) in accordance with Water Code §10753. Among the elements of the adopted Plan is the preparation of annual groundwater management reports, such as the Santa Clarita Valley Water Report, that provides information about local groundwater conditions, SWP supplies, water conservation and recycled water. The Plan also contemplated preparing other technical reports to address specific aspects of basin management. Recently, technical reports have been prepared on the development and calibration of a numerical groundwater flow model, an analysis of perchlorate containment in groundwater and a groundwater yield study of the Upper Basin.

3. In August 2005, work was completed in support of a Memorandum of Understanding (MOU) entered into by the Valencia, CLWA and the other water purveyors and United Water Conservation District. The MOU is a commitment by the water purveyors to expand on the previous knowledge of groundwater conditions in the Upper Basin and, using a regional groundwater flow model, evaluate the long-term sustainability of the purveyor's groundwater operating plan under a range of existing and potential future hydrologic conditions. The primary conclusion of the modeling analysis is that the groundwater operating plan will not cause detrimental short-term or long-term effects to the groundwater and surface water resources in the Santa Clarita Valley and, therefore, is sustainable (Basin Yield Study, 2005).
4. In August 2009, the Basin Yield Study 2005 was updated by Luhdorff and Scalmanini and GSI Solutions. The study essentially updated previous groundwater modeling work but included important additional analyses. The additional work included analyzing different groundwater operating scenarios and assessing the potential impact from several climate change scenarios. The updated study concluded that continuation of the region's current groundwater operating plan is sustainable; that the groundwater basin has not been and is not projected to be in overdraft; and that the water purveyors' groundwater operating plan can be relied upon for long term planning purposes (Basin Yield Study, 2009).

The following sub-parts respond to specific requirements of Water Code §10910(f):

3.2.1 Water Code §10910(f)(1). Review of relevant information contained in the urban water management plan.

The 2005 UWMP contains relevant information about groundwater resources available for the Project in Chapter 3, Water Resources and Appendix C, Groundwater Resources and Yield. This includes a description of the local Alluvial and Saugus Formation aquifer systems, their respective yields as well as historical and projected production consistent with the purveyor's groundwater operating plan.

3.2.2 Water Code §10910(f) (2). Description of any groundwater basin or basins from which the proposed project will be supplied, including information concerning adjudication and overdraft.

Slade (2002) provides a detailed description of the Santa Clara River Valley East Sub-basin ("Basin") and the two aquifer systems, the Alluvial aquifer and the Saugus Formation. The Basin is about 22 miles long east to west and 13 miles wide. The Alluvial Aquifer has an estimated storage capacity of about 240,000 acre-feet (af) of water and approximately 1.65

million af of potentially usable groundwater is present from depths of 300 to 2,500 feet in the Saugus Formation (Slade 2002).

In 2003, CLWA with the cooperation of Valencia and the other retail water purveyors completed and adopted a Groundwater Management Plan in accordance with Water Code §10753. The management objectives of the Plan is to ensure the ongoing use of local groundwater by maintaining the Basin in good operating condition (no overdraft), protecting water quality and preventing adverse impacts to surface waters. The groundwater basin has not been adjudicated and has not been identified as overdrafted or projected to be overdrafted by the Department of Water Resources (DWR Bulletin 118, California's Groundwater, 2003, page 98).

The most current analysis and update of operational yield for both aquifers is included in the Basin Yield Study completed by CH2MHill/Scalmanini in 2005, as updated by Luhdorff and Scalmanini and GSI Solutions in 2009. The updated report analyzes the operational yield of both aquifers and other parameters of production capacity. The study concluded neither aquifer system is in overdraft and the purveyor's groundwater operating plan as described in the Groundwater Management Plan is sustainable (Basin Yield Study, 2009).

3.2.3 Water Code §10910(f)(3). Description and analysis of the amount and location of groundwater pumped by the public water system for the past 5 years from any groundwater basin from which the proposed project will be supplied.

During the past 5-year period, Valencia's production averaged 12,807 afy from the Alluvial aquifer and 2,307 afy from the Saugus Formation. See Table 2-1 in the SCVWR 2010 for a summary of the historical groundwater production for the past five years by the retail water purveyors.

Total pumpage from the Alluvial aquifer in 2009 was 39,986 af. Of the total Alluvial pumpage in 2009, 24,396 af was for municipal water supply, and the balance, 15,590 af, was for agriculture and other (minor) miscellaneous uses (SCVWR 2010). Since 1980, when imported water deliveries began from the SWP, total pumpage from the Alluvial aquifer has ranged from a low of about 20,200 afy (in 1983) to slightly more than 43,400 afy (in 1999) (SCVWR 2010).

Total pumpage from the Saugus Formation in 2009 was 7,678 af (SCVWR 2010). Of the total Saugus Formation pumpage in 2009, 6,704 af was for municipal water supply, and the balance 974 af was for agricultural and other (minor) uses (SCVWR 2010). Groundwater pumpage from the Saugus peaked in the early 1990s and then declined steadily. On a long-term average basis since the importation of SWP water, total pumpage from the Saugus Formation has ranged from a low of 3,716 afy (in 1999) to a high of 14,917 afy in (1991) (SCVWR 2010).

3.2.4 Water Code §10910(f)(4). Description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system from any basin from which the proposed project will be supplied.

See Table 3-8 in the 2005 UWMP for a summary of the range of groundwater production projected by Valencia and the other the retail water purveyors. To ensure sustainability, the purveyors have committed that the annual use of groundwater pumped collectively in any given year will not exceed the purveyors' operating plan as described in the Basin Yield Study (August 2009) and reported annually in the Santa Clarita Valley Water Report. A portion of the project's potable and non-potable water demand of 150 afy may be supplied in any given year from groundwater produced from the Alluvial and Saugus aquifers located in Los Angeles County.

3.2.5 Water Code §10910(f)(5). Analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project.

As stated previously, the water purveyors have developed a groundwater operating plan to meet the requirements of municipal, agricultural and other smaller uses while maintaining the local Alluvial Aquifer and Saugus Formation in a sustainable condition (i.e., no long term depletion of groundwater or interrelated surface water). The groundwater operating plan is based on the concept that pumping can vary from year to year to allow increased groundwater use in dry year periods and increased recharge during wet periods and collectively assure that the groundwater Basin is adequately replenished through various wet/dry cycles. A description of the groundwater operating plan is found in the 2005 UWMP and the Basin Yield Study (August 2009). Based on these studies, the groundwater Basin is in good operating condition (not in a condition of overdraft). The purveyor's groundwater operating plan is a reliable long term component of water supply for the Santa Clarita Valley.

As stated in this WSA, an analysis and discussion regarding the discovery and impact of perchlorate contamination on the sufficiency of groundwater supplies is contained in the 2005 UWMP and most recent annual Santa Clarita Valley Water Report. The reliability analysis contained in the 2005 UWMP takes into account the impact of perchlorate on water supply operations while the planning, design and construction of treatment and other restoration activities are implemented.

3.2.6 Sustainability of Existing Groundwater Supplies and Projected Supplies

Groundwater supplies were reviewed in the 2005 UWMP and evaluated in the Basin Yield Study (August 2009) to determine whether supply projections were realistic over varying hydrologic conditions. The review made the following critical findings:

(1) Both the Alluvial aquifer and the Saugus Formation are reasonable and sustainable sources at the yields represented in the 2005 UWMP over the next 25 years;

(2) The yields are not overstated and will not deplete or "dry up" the groundwater basin; and

(3) There is no need to reduce the yields for purposes of planning in the context of the 2005 UWMP.

Additionally, the 2005 UWMP and Basin Yield Study (August 2009) concluded that both aquifers are in good operating condition (not in a condition of overdraft) and are not projected to become overdrafted.

3.4 Recycled Water

Wastewater that has been highly treated and disinfected can be reused for landscape irrigation. In 1993, CLWA completed a *Reclaimed Water System Master Plan* to use recycled water as a reliable water source to meet a portion of the non-potable demand within Santa Clarita Valley. The Master Plan was updated in 2002 and again in 2007, and the amount of recycled water expected to be produced in the future is approximately 17,000 af per year in 2030 (2005 UWMP, CLWA Final Program EIR Recycled Water Master Plan, 2007). CLWA is currently under contract for 1,700 af per year that became available in 2003.

The source of recycled water (non-potable water) for the Project will be from the existing Valencia WRP and from the future Newhall Ranch WRP. Once recycled water is available to the Project site, then recycled water would be used to meet the non-potable demands of the Project. Non-potable uses on the site that would be met with recycled water include water for dust control, irrigation, fire prevention, and soil compaction during on-site construction projects such as liner construction.

4.0 CONCLUSION

Based on the analysis set forth in this revised WSA and as supported by the documents relied on for its preparation, Valencia Water Company's total existing and projected water supplies will meet the water demands associated with the Project in combination with existing and other planned uses within Valencia's service area. This determination is consistent with the best available information, including the updated 2005 UWMP, DWR's 2009 Delivery Reliability Report, the updated 2009 Basin Yield Study and the most recent annual Santa Clarita Valley Water Report (SCVWR 2010).

Appendix K
Odorous Load Training Program

cornerstone environmental

Building lifetime relationships with our clients and employees.

Odorous Load Training Program

Chiquita Canyon Landfill

May 2016

Prepared for:

Waste Connections Inc.
Connect with the Future®

Chiquita Canyon Landfill
29201 Henry Mayo Drive
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1 INTRODUCTION

This document serves as guidance that facility personnel can use as a resource for training for odorous loads at the Chiquita Canyon Landfill (CCL). Odor issues can be addressed through modified operational procedures. While odors are an occasional occurrence at solid waste facilities, there is an expectation that facility owners/operators manage and control odors such that impacts to the surrounding community are reasonably minimized. The goal of an Odorous Load Program at a landfill is not to eliminate odors, but to minimize them so they are not considered a nuisance.

The following is a brief summary of the specific requirements of the South Coast Air Quality Management District (SCAQMD) placed on Chiquita Canyon in a letter dated November 24, 2015:

- Formally implement this Odorous Load Training Program for CCL personnel to identify and manage highly odorous loads.
- Formally train site personnel that identify and manage highly odorous loads within six (6) months of the submission of this written training program to the District, and
- This training program includes an annual refresher training session for the next two (2) years following the training (2017 and 2018).
- CCL shall maintain records of this Odorous Load Training Program for a minimum of two years, and shall provide these records to SCAQMD upon request.

1.1 Overview

Cornerstone Environmental Group (Cornerstone) was onsite at CCL on April 20, 2016 to conduct a walkthrough of the areas of CCL where potential high odor impacted loads are screened, unloaded, treated, and buried. This written training program is based on observations and operations related to odorous loads.

1.2 Site Background and Surrounding Area

CCL is an existing Class III waste disposal facility located on the north side of State Route 126 westerly of Interstate 5, in the vicinity of the community of Val Verde. CCL commenced operation in 1972 and the conditional use permit (CUP) 89-081(5) allows operating hours to be 24 hours per day, 7 days per week, except that CCL may not accept waste from 5pm on Saturdays until 4am on Mondays. The site has installed an active landfill gas collection and control system (GCCS), and a landfill gas to energy facility (LFGTE) which accepts LFG for beneficial reuse in the form of generation of electricity (9.2 megawatt facility). Val Verde, a single family home community, is located to the northwest of CCL. To the north and east is a commercial and industrial business with the nearest

building being post office facility. The land to the west, and south of the CCL is currently undeveloped and/or devoted to agricultural use.

The site has only received one odor notice of violation in the last ten years. CCL has always strived to be an upstanding community neighbor and has an established track record of working well with its local communities and neighbors to maintain a positive working relationship to address any issues or concerns.

1.2.1 Odor Control Systems Onsite

A misting system designed to reduce transient odors is installed on the permanent litter fences along the west and northwest sides of CCL property. This 4,000 linear feet of misting system sprays a mist of an environmentally friendly odor neutralizer agent that reduces transient odors. The misting system is operated on an as-needed basis. The misting system may also be turned on during specific climatic conditions that increase its effectiveness against potential odors that may occur.

In addition to the misting system, the CCL had several large orchard fans, some of which are equipped with misters. The CCL also utilizes a 4,000-gallon water truck and/or a 10,000-gallon CAT water pull to apply a mixture of water and odor-neutralizer on access roads and around the landfill working face (municipal solid waste [MSW] disposal area).

The odor neutralizer used at CCL is safe (nontoxic, non-corrosive, non-flammable) and the frequency of application is dependent on various conditions.

Conditions that would require an increase in odor neutralizer application may consist of climatic (wind direction, wind speed, temperature) or operational (an increase in waste volumes or odorous waste, being scheduled for disposal, advanced notice from customers, etc.).

1.2.2 Meteorological Station

CCL currently maintains two (2) meteorological stations (or met stations) at the facility. The met stations provides a means of monitoring in real-time and recording weather data on time and date, precipitation, wind direction, and wind speed.

2 ODOROUS LOADS ACCEPTANCE

Waste arrives at the CCL via the following delivery methods:

- Transfer trailers from off-site transfer stations.
- Direct commercial haul.
- Direct residential haul.
- Residential self-haul.

Scalehouse attendants are the first line of defense when a truck enters the facility. CCL scalehouse personnel and equipment operators (operations personnel) monitor the incoming waste. CCL empowers all employees to be able to make the decision on whether a load is too odorous and should be turned away, or if the load will be accepted and then handled in a certain way to minimize transient odors. CCL is not required to accept any solid waste that may prevent the facility from maintaining full and continuous compliance with the solid waste permit.

CCL requests advance notification for the disposal of known odorous loads as a part of their customer relations. Specific hours of acceptance of odorous loads allow CCL to ensure that there is adequate staffing to receive, process, and cover the material promptly upon receipt at the site to reduce potential transient odors. CCL may require pre-acceptance consideration of odorous loads (addition of odor neutralizers) at the generator's site in order to minimize odor emanation during transport and while onsite at the landfill.

At least one landfill staff is present (at all times) at the disposal area during hours when the landfill is accepting waste. At the landfill disposal area, CCL traffic controllers/spotters stop vehicles/trucks at a staging area and then direct the waste haulers to unload in a specific area. CCL operations personnel are cognizant of the wind direction onsite, as several wind flags are strategically placed throughout the facility.

CCL equipment operators, scale attendants, and traffic controllers communicate via two-way radio to coordinate the vehicle/truck traffic unloading at the tipping areas. CCL equipment operators observe and may manually inspect the unloading operations to monitor any material delivered for unacceptable odors. CCL personnel at the working face communicate consistently to facilitate and coordinate safe traffic control, and also stop unloading of unauthorized and/or odorous loads.

3 TRAINING OBJECTIVES

The training program will enable employees and others to:

1. Understand basic requirements and follow specific standards, procedures and practices to ensure compliance with requirements.
2. Receive information to most effectively direct and handle odorous loads.
3. Provide feedback concerning future training needs.

3.1 Training Activities

Training activities will be designed to provide the necessary knowledge and skills tailored to specific needs of employees and others. The training approach will ensure information is effectively communicated, and include a classroom type setting at CCL. New employees with responsibilities dealing with odorous loads will work under supervision until they have completed the required portions of the training program. New employees shall receive this Odorous Load Training Program within thirty (30) days of hire, with training records maintained to reflect this. Training records shall be maintained for a minimum of two (2) years and made available to SCAQMD upon request.

3.2 CCL Procedures For Odorous Waste Loads

Waste streams capable of creating transient odor issues require special handling to minimize potential odor problems. In many cases it is possible to modify site operations based on time of day or wind direction and speed that can significantly reduce potential transient odors or to manage transient odor during favorable wind conditions or favorable times of day.

Some of the wastes received at the CCL are a potential source of odor upon receipt and these wastes are among those generally require special handling. Regardless of how the type of solid waste that is received at CCL, employees are empowered to decide on how to effectively handle that odorous waste load and or reject/accept the load.

1. Odorous load enters the scale.

    a) Upon receipt at the scale house, deemed odorous loads will either be turned away (at the discretion of the scalehouse operator) or be directed to a designated area of the landfill working face or other area of the landfill. Scale house personnel may reject or restrict the odorous load (i.e. tons per day, delivery times, etc.) or ultimately reject the load.

b) If the scale attendant or operations personnel have any doubts or concerns regarding the acceptability of a particular waste load, they will contact CCL Management for guidance prior to the load being accepted into the facility.

c) Once a waste load has been determined to be acceptable by the scale attendant, it is weighed and the hauler proceeds to the active disposal area.

d) CCL scalehouse personnel will radio to alert working face staff of the load.

e) Traffic spotters will then be aware of the load and properly direct the truck.

2. If/when the load arrives at the working face, it will be disposed in the following manner otherwise known as Direct-Bury:

   a) A bulldozer will create a "pit" or hole in the working face to place the odorous load. The pit will be large enough to contain the load at hand. The purpose of the pit is to utilize prior loads of MSW to provide sufficient cover immediately over the odorous loads.

   b) The odorous load will be off-loaded into the pit.

   c) The bulldozer will immediately cover the odorous material with the solid waste excavated to create the pit, and compact in place.

   d) If necessary, an odor control agent can be sprayed around the working face to help manage odors and wind transport issues.

   e) At the end of the day, daily cover soil or ADC will be placed over the working face.

3. If a load passes through the scalehouse undetected, and is dumped at the working face and then deemed to be odorous, CCL personnel will notify the CCL management and the load will be covered with 1-2 feet of waste immediately. This will help control odors by ensuring the odorous load is well covered with the refuse at the working face and not placed on the surface of the working area. It may be necessary to place these loads into an excavated trench at or near the working face.

4. In all of the above situations, communication and the response system between CCL personnel is mandatory for successfully handling of the load. If at any time, CCL personnel are unsure which action to take, they will notify a manager immediately.

5. Any loads deemed odiferous will be documented in the CCL Special Occurrences Log maintained onsite. The CCL Special Occurrences Log records shall indicate date and time load was deemed to be odorous, whether the load was deemed odorous at the scalehouse or deemed to be odorous at the working face, source of the odorous load, and disposition (i.e. turned away or specific location where the load was deposited). These records shall be maintained for a minimum of two (2) years and made available to SCAQMD upon request.

APPENDIX A
TRAINING CERTIFICATION FORM

WASTE CONNECTIONS INC.
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Employee Odor Training Record

Name of Employee: _____

Job Title: _____

Date of Employment/Job Assignment: _____

Date(s) of Training: _____

Type of Training (check one): _____ Initial Presentation

_____ Annual Review

Topics Covered: _____

Certification of Training

This employee has successfully completed a training program that ensures that facility's compliance with requirements of SCAQMD letter dated November 24, 2015.

Name of Instructor: _____

Title of Instructor: _____

Signature of Instructor: _____ Date: _____

Acknowledgement of Training

I acknowledge receipt of introductory/continuing training on areas relevant to my job description, and I am capable to perform my duties without direct supervision.

Employee Signature: _____

Date: _____

Appendix L
Housing Price Impact Study

Memorandum

DATE: February 2, 2017

TO: Brenda Eells

COMPANY: CH2M Hill

FROM: Taylor Mammen and Ben Maslan

SUBJECT: Chiquita Canyon Landfill Housing Price Impact Study

RCLCO was retained to evaluate residential pricing trends in Val Verde, a census-designated place in Los Angeles County, and similar surrounding areas of the Chiquita Canyon Landfill ("Landfill") as compared to Los Angeles. In particular, RCLCO was retained to determine if the Landfill impacted the rate of housing price appreciation in Val Verde and the surrounding residential areas to the Landfill relative to the broader Los Angeles MSA.

We conclude that there is no evidence that the Landfill had any impact on the change in housing prices in Val Verde or areas of similar geographic proximity to the Landfill.

Methodology

We have calculated the annual rate of change in housing prices based on the average price per square foot for each home sold in Val Verde and other housing units in the 91384 zip code located within five miles of the Landfill (the "Subject Areas").[1] Sales records used in the analysis include only single-family, detached residential units located in the Subject Areas during the time periods specified below.[2]

The annual rates of change in the average price per square foot for the Subject Areas were then compared to the annual changes in the Federal Housing Finance Administration Home Price Index ("FHFA HPI") and S&P/Case-Shiller Home Price Index ("Case Shiller HPI") for the Los Angeles MSA. The FHFA HPI uses the repeat-sales method, which compares sale prices of the same single-family, detached properties over time. The FHFA HPI is calculated based on mortgages that have been purchased or securitized by Fannie Mae or Freddie Mac, and thus includes both refinances as well as sales.[3] The Case-Shiller HPI also uses the repeat-sales method; however, does not include mortgage refinances.[4]

Both indices only include transactions on single-family properties; thus, we have limited our analysis to detached single-family properties and excluded transaction on condominiums, townhomes, cooperatives, multi-unit properties, and planned unit developments. In addition, because the FHFA HPI is based only on transactions involving conforming, conventional mortgages purchased or securitized by Fannie Mae or

[1] Five miles is the approximate maximum distance from the Landfill to homes located within Val Verde.
[2] Sales records were pulled from Real Quest, which obtains its data from the county assessor. Records that appeared to be incomplete or inaccurate (e.g., the order of magnitude in prices appeared unrealistic) were omitted to ensure data integrity.
[3] Federal Housing Finance Agency Housing Price Index Frequently Asked Questions, August, 26, 2014.
[4] S&P/Case-Shiller Home Price Indices Methodology, February 2015.

Freddie Mac,[5] we have included only homes that would qualify for a conforming mortgage assuming an 80% loan-to-value ("LTV") ratio when comparing Subject Area price changes to the LA FHFA HPI.[6]

We examined changes in house prices over two time periods: from 1997 to 1999, the three years immediately subsequent to the last expansion of the Landfill; and the most recent ten years (2005 to 2014).

Results

Our analysis indicates that the Landfill has not impacted the rate of change in home prices in the Subject Areas, and that there is no clear relationship between the Landfill and changes in home prices in its surrounding residential areas. Indeed, depending on the time period selected, home prices in the Subject Areas either increased at a faster rate or lagged home price changes in the Los Angeles MSA, as shown in the accompanying Exhibits.

From 1997 to 1999, the three-year period immediately subsequent to the last expansion of the Landfill, home prices in the Subject Areas increased at a faster rate than home prices in Los Angeles County. In fact, home prices in Val Verde outpaced the LA FHFA HPI by 29.6% and the LA Case-Shiller HPI by 21.4% over this three-year period. While sales volumes were low in Val Verde (primarily due to its small size), sales volumes were much larger within five miles of the Landfill in 91384 with similar results. Specifically, home prices within five miles of the Landfill in 91384 outpaced the LA FHFA HPI by 16.1% and the LA Case-Shiller HPI by 7.1% over the three-year period. Similarly, from 2010 to 2014, home prices in Val Verde outpaced the LA FHFA HPI by 17.8% and the LA Case-Shiller HPI by 4.4%.[7] Over the same time period, home prices within five miles of the Landfill in 91384 displayed mixed results, and outpaced the LA FHFA HPI by 8.7% while declining relative to the LA Case-Shiller HPI by -4.7%.

From 2005 to 2009, however, home prices in Val Verde declined at a faster rate than the broader Los Angeles MSA as measured by the LA FHFA HPI by -30.4% and the LA Case-Shiller HPI by -14.4%. Home prices within five miles of the Landfill in 91384 declined by an incremental -19.2% over the FHFA HPI and by -0.3% over the Case-Shiller HPI.

Conclusion

Based on the high variance and inconsistency in the rate of change between home prices in the Subject Areas and the Los Angeles home price indices, there is no basis to conclude that the Landfill has impacted surrounding area home price appreciation.

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[5] A conforming mortgage is equal to or less than the dollar amount established by the conforming loan limit set by the Office of Federal Housing Enterprise Oversight and meets the funding criteria of Freddie Mac and Fannie Mae. Los Angeles County is considered a "high-cost area," and thus has a conforming loan limit of $625,000 as of 2015, higher than the national norm of $417,000. Conventional mortgages are those that are neither insured nor guaranteed by a federal government entity.

[6] An 80% LTV (i.e., a 20% down payment), has historically been the maximum LTV required by conventional lenders and the GSEs to fund a loan.

[7] We note that sales volume declined in Val Verde in 2014 relative to prior years. A substantial portion of this decline cannot be attributable to a decline in housing demand as a result of the public release of the environmental impact report ("EIR") in August 2014, as the decline in sales volume occurred prior to the EIR was released. For example, the average monthly year-over-year decline in sales volumes for Q1 2014 (January 2014 to March 2014) was 88.9%, substantially greater than the average monthly year-over-year decline for Q4 2014 (October 2014 to December 2014) of 50.0%. Moreover, a decline in demand would have resulted in a decline in price, as sellers would have had to lower asking prices in response to the downward shift in demand. This, however, is not the case, as prices in Val Verde actually increased by 34.7% in 2014 year-over-year, compared to 12.1% for the LA FHFA HPI and 5.5% for the LA Case-Shiller HPI.

General Limiting Conditions

Reasonable efforts have been made to ensure that the data contained in this study reflect accurate and timely information and are believed to be reliable. This study is based on estimates, assumptions, and other information developed by RCLCO from its independent research effort, general knowledge of the industry, and consultations with the client and its representatives. No responsibility is assumed for inaccuracies in reporting by the client, its agent, and representatives or in any other data source used in preparing or presenting this study. This report is based on information that to our knowledge was current as of the date of this report, and RCLCO has not undertaken any update of its research effort since such date.

Our report may contain prospective financial information, estimates, or opinions that represent our view of reasonable expectations at a particular time, but such information, estimates, or opinions are not offered as predictions or assurances that a particular level of income or profit will be achieved, that particular events will occur, or that a particular price will be offered or accepted. Actual results achieved during the period covered by our prospective financial analysis may vary from those described in our report, and the variations may be material. Therefore, no warranty or representation is made by RCLCO that any of the projected values or results contained in this study will be achieved.

Possession of this study does not carry with it the right of publication thereof or to use the name of "Robert Charles Lesser & Co." or "RCLCO" in any manner without first obtaining the prior written consent of RCLCO. No abstracting, excerpting, or summarization of this study may be made without first obtaining the prior written consent of RCLCO. This report is not to be used in conjunction with any public or private offering of securities or other similar purpose where it may be relied upon to any degree by any person other than the client without first obtaining the prior written consent of RCLCO. This study may not be used for any purpose other than that for which it is prepared or for which prior written consent has first been obtained from RCLCO.

Appendix M
Public Health Evaluation

Public Health Evaluation – Chiquita County Landfill

PREPARED BY: CH2M HILL

DATE: January 14, 2017

Introduction

In comments on the Original Draft Environmental Impact Report (EIR) and Partially Recirculated Draft EIR, members of the public stated concerns regarding health impacts in the vicinity of the Chiquita Canyon Landfill (CCL) Master Plan Revision (Proposed Project) site. These concerns primarily include odors as a potential indicator of exposure, prevalence of asthma, increased risks of health effects such as cancer or respiratory disease, and potential contribution to existing environmental burdens. In addition to these concerns, commenters stated that expanding the landfill would increase the potential for odor impacts. Further, commenters expressed concerns regarding current environmental burdens in the community nearest to the Proposed Project site, and stated that potential emissions from the landfill operations and diesel emissions from truck travel would add to the existing environmental burdens experienced by the surrounding community.

This technical memorandum presents a public health evaluation to respond to comments regarding the existing environmental burden experienced by persons living near CCL and potential health impacts associated with the Proposed Project. This public health evaluation is provided to supplement the health risk assessment, which has been prepared to address air toxics emissions as part of the air quality impacts analysis of the Proposed Project. The analysis contained in this technical memorandum addresses comments about possible disproportionate mortality and morbidity within the geographical area that includes the residential communities surrounding the Proposed Project site. This analysis is based on health statistics collected by the Los Angeles County Department of Public Health (LADPH), air toxics analyses conducted by the South Coast Air Quality Management District (SCAQMD), and an assessment of health impacts presented in the CalEnviroScreen 3.0 model developed by the California Environmental Protection Agency (CalEPA), Office of Environmental Health Hazard Assessment (OEHHA).

Methodology

The following methodologies were used in conducting this public health evaluation:

- Evaluation of statistics describing the prevalence of asthma and selected cancers were obtained from LADPH for communities around the Proposed Project vicinity and compared with the prevalence of diseases found in populations located in other parts of Los Angeles County.
- Evaluation of data presenting air toxics concentrations and risks in the South Coast Air Basin (SCAB), including in and around the Proposed Project site, were obtained from the SCAQMD. These data are presented in the Multiple Air Toxics Exposure Study (MATES IV) study. The magnitude of health risks from air toxics around the Proposed Project site was compared with populations elsewhere in the SCAB.
- Evaluation of potential odor impacts and volatile organic compounds (VOCs), including a description of some of the factors related to the occurrence of odors associated with landfill operations, evaluation of the frequency of VOCs detected in landfill gas, along with a description of the types of health impacts potentially indicated by the presence of odors, particularly from exposure to hydrogen sulfide.

- Evaluation of the potential exposures and health impacts that have been analyzed by CalEPA as part of the CalEnviroScreen 3.0 model. CalEnviroScreen 3.0 is a geographically-based environmental indicators modeling methodology that evaluates potential cumulative impacts to California communities as a function of pollution burden and population characteristics.

Demographics and Site Setting

CCL is located in the northwestern portion of unincorporated Los Angeles County approximately 3 miles west of the Interstate 5 (I-5) and State Route 126 (SR-126) junction. CCL is approximately 7 miles northwest of the City of Santa Clarita, 3.5 miles southwest of the community of Castaic, and approximately 0.5 miles southwest of Val Verde, an unincorporated community in Los Angeles county and the nearest existing community to CCL. The population in the vicinity of the Proposed Project site based on the 2010 Census is approximately 3,110 persons. The population consists of 55 percent Latino, 37 percent white, and 8 percent other ethnic groups (African-American, Asian, Pacific Islander, or Native American/Alaskan Native) (CalEPA, 2014).

Much of the area surrounding CCL consists of undeveloped open space. Surrounding land uses include primarily open lands to the north and rural residential development to the west and northwest along Chiquita Canyon Road and in the Val Verde area. The closest of these residential dwellings is located approximately 500 feet from the northwest site boundary and 1,200 feet from the landfill footprint, with intervening topography which prevents residential view of the operating landfill from these locations. The U.S. Postal Service has a general mail facility adjacent to the eastern edge of the landfill property boundary. The property immediately west and south of the landfill is owned by the Newhall Land and Farming Company and is currently either vacant or used for agricultural activities.

Limited suburban residential areas are located further to the northeast, and industrial/commercial uses are also located further to the northeast, east and southeast. Oil extraction fields and associated storage areas are located less than 1 mile from the landfill to the west and south. Valencia Travel Village, a short- and long-term recreational vehicle resort, is located approximately one mile east of the landfill on the south side of SR-126.

Evaluation of Asthma Prevalence

Data collected and published by the LADPH (Health Atlas of California, 2015; LADPH, 2013, 2015a, 2015b) were reviewed to identify the prevalence of asthma in the Proposed Project vicinity and found to be similar when compared with the prevalence of asthma in populations located in other parts of Los Angeles County.

Asthma is one of the most common childhood diseases in the United States. It is an inflammation of the respiratory tract that can obstruct air flow, producing symptoms such as wheezing and shortness of breath. There are many factors that can cause asthma, including heredity (i.e., genetic predisposition), allergies to common items, socioeconomic factors and environmental factors including air pollutants (Mannino et al., 1998; NIEHS, 2012). National statistics indicated that asthma prevalence increased in the 1990s, despite numerous advancements in the diagnosis and treatment of asthma. Reasons suggested for this included increased self-reporting of cases by patients, poor or inappropriate use of medications, poor access to medical care in inner-city populations, and increased exposure to environmental allergens or air pollutants. Surveillance information indicated an increase in self-reported asthma prevalence rates and asthma death rates in recent years both nationally and regionally. Asthma hospitalization rates increased in some regions and decreased in others (Mannino et al., 1998; AAAAI, 1999). The asthma prevalence has increased more slowly in more recent years, with some hospitalization rates remaining stable or declining in the 2000s (CDC, 2012).

The incidence of asthma in Los Angeles County is measured from statistics collected by the LADPH Health Assessment Unit. Asthma incidence in Los Angeles County is tabulated by Service Planning Areas (SPA) and within the SPAs' Health Districts. The SPA boundaries are shown in Figure 1. The Proposed Project location is within the northern portion of SPA 2, San Fernando Valley. The Proposed Project location, as obtained from the LADPH online mapping tool, Health Viewer (LADPH, 2015a), is shown in Figure 2. The racial/ethnic makeup of the populations in the SPAs are shown in Table 1. Compared with the SPA 2, the communities around the Proposed Project site have slightly higher proportions of Latinos and lower proportions of Whites, with a much lower proportion of Asian/Pacific Islanders.

Asthma incidence statistics for Los Angeles County and individual SPAs were obtained from the LADPH online data query tool, LA HealthDataNow! (LADPH, 2015b). Asthma incidence is presented for 2005, the most recent data showing asthma prevalence by both race/ethnicity and SPA (Table 2). The asthma prevalence in SPA 2, where the Proposed Project site is located, is either similar to (i.e. smaller than a factor of twofold) or less than the prevalence observed in most other SPAs. Comparison of the trends in different years is shown in Figure 3. The trend in prevalence of asthma in SPA 2 has been consistent in the years between 2002 and 2011, and appears to be similar to trends observed for several other SPAs (Figure 3).

Evaluation of Cancer Mortality

Data collected and published by the LADPH were reviewed to identify the trends in cancer mortality for selected cancer in the Proposed Project vicinity and found that to be similar when compared with the trends in populations located in other parts of Los Angeles County.

Trends were examined in selected cancers (lung cancer and leukemia) for all individuals and Latinos in Los Angeles County and SPA 2 (Figure 4). Lung cancer and leukemia were selected because these represent adverse health outcomes associated with key air toxics associated with Proposed Project emissions, specifically diesel particulate matter and benzene. Trends of leukemia deaths in SPA 2 are more variable than trends for Los Angeles County, but comparison of the overall trends shows little difference between these two areas. Trends of lung cancer deaths in SPA 2 are similar to or lower than trends observed for Los Angeles County.

Odors and Volatile Organic Compounds

Landfill gas is formed from microorganisms within the landfill. Methane and carbon dioxide are the primary constituents of landfill gas. Typically, landfill gas also contains VOCs. Nearly 180 different VOCs reportedly have been detected at varying concentrations in landfill gas (EPA, 2008). A subset of these VOCs which have been historically detected the most frequently in landfill gas testing include:

1,1,1-Trichloroethane	Toluene
1,1-Dichloroethane	Xylenes
1,1-Dichloroethene	Chloroform
1,2-Dichloroethane	Vinyl chloride
Benzene	Tetrachloroethylene
Carbon Tetrachloride	Trichloroethylene

The above-listed VOCs have been evaluated as part of the health risk assessment for the Proposed Project site.

Sulfides are a class of compounds that typically give landfill gas a rotten egg smell. Sulfides include hydrogen sulfide and several reduced sulfide compounds, including:

Carbon disulfide	Diethyl sulfide
Carbonyl sulfide	Ethyl mercaptan
Propyl mercaptan	Methyl mercaptan
Dimethyl disulfide	

Hydrogen sulfide is one of the most common sulfides responsible for landfill odors. Some individuals can smell it at concentrations as low as 0.5 part per billion in air (ATSDR, 2004), though there is considerable variability in abilities to detect odors.

Landfill gases can include odor-producing gases such ammonia and hydrogen sulfide. The perception of odors of these gases can be an indication of potential landfill gas migration. Odor perception varies widely among individuals, and is affected by numerous factors such as ethnicity, gender, age, presence of certain medical conditions, alcohol or tobacco use, and odor fatigue based on the frequency and concentration of exposure to odor-producing substances. Psychosocial influences also affect the intensity of perceived odors and associated symptoms. Since the concept of odor is intrinsically and cognitively linked to illness, detection of odors potentially results in a more significant reporting of health-related symptoms (Greenberg, et al., 2013). Attempts to verify intensity of exposure to chemical substances in air with perceived odors generally is considered to be of limited reliability for exposure assessment (Greenberg et al., 2013; Ruth, 1986).

Landfill gases can move from a landfill through soil into outdoor air as well as the indoor air of nearby buildings. Landfill gases in outdoor air can enter a building through windows, doors, and ventilation systems. In soil, landfill gases can migrate and enter a building through cracks in the basement floors and walls, utility entry points (e.g., where underground water or electrical lines enter a building), sump pump holes or floor drains. This is called soil vapor intrusion. Once they enter a building, landfill gases may collect in areas of poor ventilation, such as basements, crawlspaces, and utility tunnels. The primary hazard from landfill gas is methane which, at high enough levels in air, poses a health hazard by displacing oxygen in addition to a fire/explosion hazard. Landfills are required to maintain landfill gas control so that flammable and explosive methane in landfill gas in soil at the landfill boundary remains below the lower explosive limit of 5 percent. The allowable limit of methane in air (indoor and outdoor) is more stringent – typically 25 percent of the lower explosive limit or 1.25 percent.

Uncontrolled migration of landfill gases is undesired by posing potential health and explosion hazards. Hydrogen sulfide and other landfill gas emissions are minimized and controlled at landfills through proper operating and maintenance practices (MADEP, 2007). Currently, CCL also employs a comprehensive approach to controlling odors by employing multiple odor control measures. The utilization of landfill gas collection and control systems, daily cover, water trucks, odor neutralizers, and good housekeeping practices, when applied in concert, can be effective in reducing the creation as well as the transport of offensive odors. CCL also utilizes portable wind fans that can be moved around the landfill boundaries and ridge line based on the immediate wind conditions, supplementing the air flow to dissipate odors. Occasionally, District Inspectors will visit the landfill when responding to odor complaints. Inspectors have recorded actions used by CCL to mitigate the odors at the time of their visit, including spraying odor neutralizers, utilizing portable wind fans, and delaying future deliveries of alternative daily cover from the supplier to allow for the wind patterns to change, reducing impacts to the neighborhood.

The SCAQMD has conditions in the CCL Title V operating permit requiring the landfill to stop operations if confirmed odors cannot be mitigated. The landfill can be penalized for failing to cease operations or mitigate odors as required in the operating permit. Once the odors are mitigated, the landfill may

resume operations. Additionally, CCL has an Odor Hotline that the public can call to report odor complaints, allowing faster, more direct action to be taken to resolve the complaint.

Evaluation of Air Toxics

Estimated cancer risks and noncancer health risks associated with toxic air pollutants in the SCAB were characterized in the MATES IV study (SCAQMD, 2015). The MATES IV study was based on the results of air monitoring, emissions inventories of toxic air contaminants and modeling to estimate cancer risks across the SCAB.

The air toxics risks based on air monitoring data from fixed monitoring stations ranged from 320 to 480 per million. This risk refers to a conservative upper-bound estimate of the expected number of additional cancers in a population of one million individuals if they were exposed to these levels over a 70-year lifetime. About 90 percent of the risk is attributed to emissions associated with mobile sources, with the remainder attributed to toxics emitted from stationary sources, including industrial operations such as refineries, metal processing facilities and ports, as well as smaller business such as gas stations and chrome platers. The largest contributor to cancer risks was diesel particulate matter, followed by benzene, 1,3-butadiene and aldehydes (formaldehyde and acetaldehyde). Modeling was used to simulate toxic air pollutant concentrations in air at on a 2-kilometer by 2-kilometer grid throughout the SCAB.

Risk-based maps have been developed by the SCAQMD based on these modeling results. While these maps do not represent actual health outcomes associated with potential exposure to toxic air pollutants, they provide an indication of the differences in estimated cancer risks at different locations within the SCAB. Based on these risk maps (SCAQMD, 2015), cancer risks from existing toxic air pollutant emissions range from 300 to 400 in 1 million. The highest cancer risk estimated from Proposed Project emissions in all of the communities, primarily from diesel particulate matter and benzene emissions is 9.3 in 1 million (Table 11-13 in the Partially Recirculated Draft EIR). The cumulative risk from existing risks combined with the maximum risk from project emissions would only be 2-3 percent greater than cancer risks based on existing air toxics emissions. Since the project risk is based on the maximum exposed individual location, risks are lower at all other locations around the Proposed Project. It is unlikely that emissions from the Proposed Project would result in a cumulative increase in cancer risks in the surrounding residential communities.

Health Studies of Municipal Landfills

Management of solid waste (mainly landfills and incineration) releases a number of toxic substances, most in small quantities and at extremely low levels. A systematic review has been performed of the available epidemiological literature on the health effects in the vicinity of landfills and incinerators and among workers at waste processing plants to derive usable excess risk estimates for health impact assessment (Porta, et al., 2009). Porta et al., 2009, concluded that in most cases the overall evidence was inadequate to establish a relationship between a specific waste process and health effects. The evidence from occupational studies was not sufficient to make an overall assessment. For community studies, at least for some processes, there was limited evidence of a causal relationship between congenital anomalies and low birth weight, and proximity to municipal landfills. However, in all cases, the relative risks for adverse effects in populations near municipal solid waste landfills were less than a factor of 2.0. Relative risks less than 2.0 represent a weak association, which might occur simply by chance, bias or confounding effects (Boffetta, 2010; Monson, 1980).

CalEnviroScreen 3.0

CalEnviroScreen 3.0 is a statewide analysis conducted by CalEPA, OEHHA that:

> *". . . identifies communities in California most burdened by pollution from multiple sources and most vulnerable to its effects, taking into account their socioeconomic characteristics and underlying health status."*

CalEnviroScreen 3.0 is a geographically-based environmental indicators modeling methodology. The model calculates a unitless score representing cumulative impacts as a function of two components: 1) pollution burden, and 2) population characteristics. Environmental indicators that reflect air quality, drinking water quality, proximity to hazardous waste facilities, etc. were assigned numerical weights by OEHHA staff, and analyzed in a numerical scoring system to weight and sum each set of indicators within pollution burden and population characteristics components. The overall result is a unitless score described as: *". . . a CalEnviroScreen score for a given place relative to other places in the state. . . ".*

The environmental indicators are constructed with available data obtained from agency databases. The detailed description of the indicators methodology and supporting data sets is provided in the CalEnviroScreen 3.0 report (CalEPA, 2017).

The CalEnviroScreen 3.0 scores for the census tract containing the Proposed Project site and the surrounding census tracts are shown in Figure 5. Based on the indicators evaluated in CalEnviroScreen, the census tract containing the Proposed Project site ranks in the 66th to 70th percentile of California census tracts for cumulative impacts (Table 3). This is similar to the calculated impacts for census tracts located to the west. Pollutant burdens around the Proposed Project site are similar to burdens calculated for census tracts located to the south and east of the Proposed Project site (Figure 5).

Disadvantaged communities in California are specifically targeted for investments from a quarter of the proceeds from the Greenhouse Gas Reduction Fund. Disadvantaged communities included areas disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation, and areas with concentrations of people that are of low income, high unemployment, low levels of home ownership, high rent burden, sensitive populations or low levels of educational attainment.

Senate Bill 535, passed in 2012, gave CalEPA responsibility for identifying those communities. Using CalEnviroScreen, CalEPA published the list of disadvantaged communities under Senate Bill 535. Census tracts with CalEnviroScreen scores in the 75th percentile or higher or in other words, the top 25 percent of census tracts in the state in terms of combined pollutant impacts and population characteristics, were considered disadvantaged. The selection of the top 25 percent was rooted in a technical basis that a "threshold in the range of 20 to 25 percent would be consistent with other legislation and studies regarding disadvantaged communities," (CalEPA, 2014). The CES 3.0 score for the census tract containing the Proposed Project site and the Val Verde community fall within the 66th to 70th percentile of census tracts across the state which falls below a 75th percentile threshold used to identify disadvantaged communities.

Discussion and Conclusions

Potential public health impacts raised as concerns by members of communities around the Proposed Project included concerns of elevated rates of asthma rates and other diseases, potential exposures to emissions based on reportedly detected odors, potentially increased cumulative health risks resulting from superimposing project impacts (as calculated in the health risk assessment) on existing levels of pollutant exposures. The analysis of these concerns provides the following results:

- The prevalence of asthma in communities around the Proposed Project site falls within the range observed for SPAs designated by the LADPH. Asthma prevalence in SPA 2 (where the Proposed Project is located) is indistinguishable from the asthma prevalence elsewhere in Los Angeles County.
- The cancer mortality rates for selected cancers examined (lung cancer and leukemia) in SPA 2 are not distinguishable from mortalities estimated for Los Angeles County.
- Maximum air toxics impacts to human health projected for the Proposed Project site are a very small fraction (approximately 2 to 3 percent) of the existing air toxics impacts projected for the SCAB. It is unlikely that cumulative impacts from Proposed Project and existing air toxics risks would be different from the existing risks.
- VOCs most frequently associated with emissions from a landfill were assessed as part of the health risk assessment. Detection of odors is not considered a reliable surrogate for VOC exposures, but is considered an indicator of potential landfill gas migration. Hydrogen sulfide and other landfill gas emissions are minimized and controlled at landfills through proper operating and maintenance practices.
- Epidemiological studies are limited in their ability to detect low-level health risks around municipal landfills. However, the health outcomes observed from the existing studies are not specific for emissions from municipal landfill sites and the relative risks for most of the elevated cases were low (less than 2.0). Low relative risks in epidemiological studies represent weak associations between landfills and health effects, which may easily be due to chance, bias or confounding effects.
- While cumulative impacts in the census tract containing the Proposed Project site, as calculated using CalEnviroScreen 3.0, are higher compared with adjoining communities to the north, south and east, these impacts are similar to adjoining communities to the west. The census tract containing the Proposed Project site would not be considered a disadvantaged community based on criteria developed by CalEPA.

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Table 1. Racial/Ethnic Makeup of Populations in Los Angeles County and Service Planning Agencies, 2013
Chiquita Canyon Landfill Final EIR

Race/Ethnicity	Los Angeles County	SPA 1 - Antelope Valley	SPA 2 - San Fernando	SPA 3 - San Gabriel	SPA 4 - Metro	SPA - 5 West	SPA 6 - South	SPA 7 - East	SPA 8 - South Bay
Latino	48.1%	44.3%	39.1%	46.4%	52.2%	15.7%	67.7%	73.5%	39.5%
White	28.9%	35.9%	45.9%	21.6%	24.9%	65.4%	2.0%	14.3%	29.7%
African American	8.5%	15.3%	3.4%	3.7%	4.7%	5.8%	28.5%	2.9%	14.8%
Asian/Pacific Islander	14.3%	4.0%	11.4%	28.2%	18.0%	13.0%	1.6%	9.0%	15.8%
American Indian/ Alaskan Native	0.2%	0.4%	0.2%	0.2%	0.2%	0.2%	0.1%	0.2%	0.2%

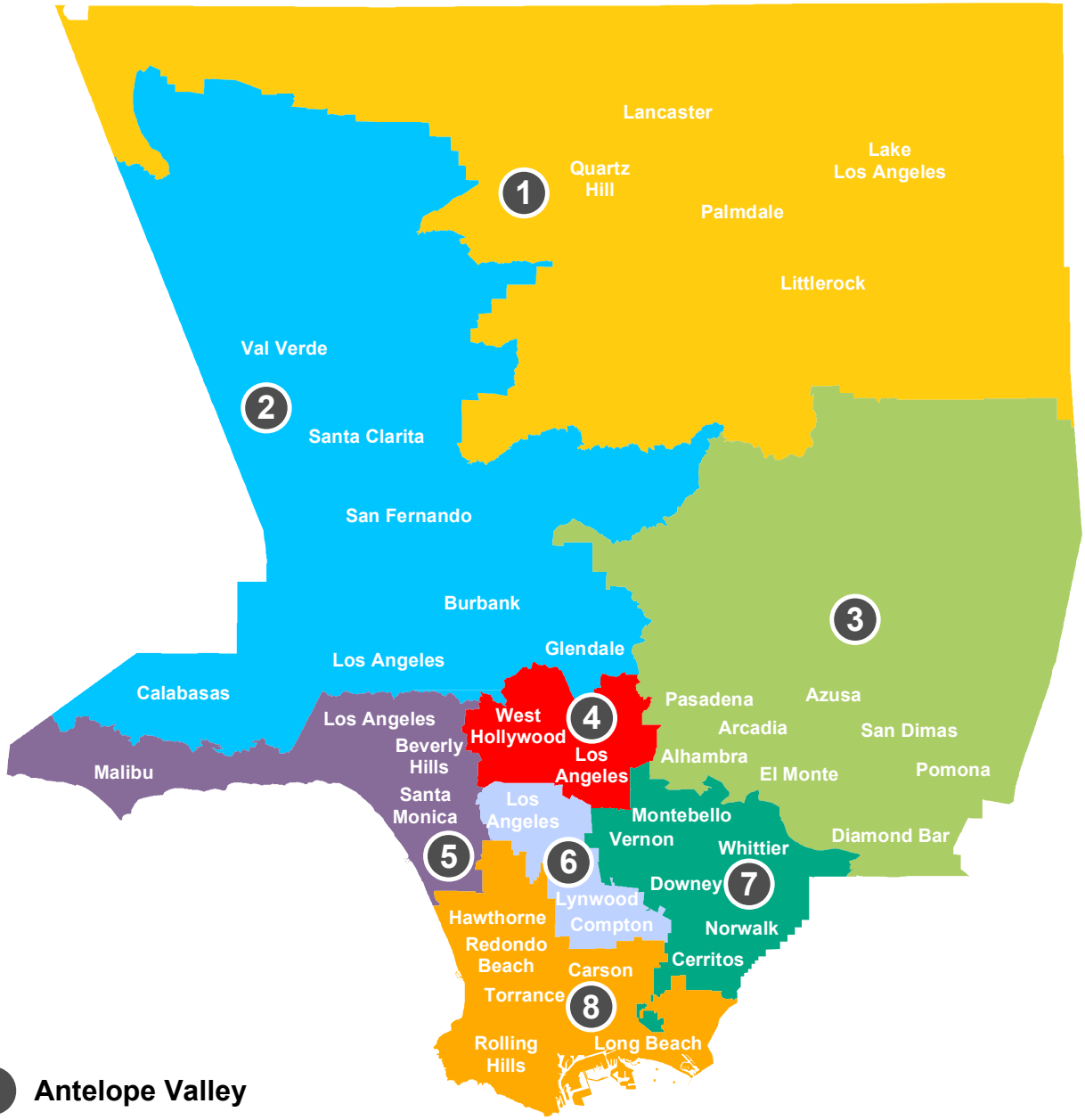
Source:
Los Angeles County Department of Public Health. 2013. *Key Indicators of Health* . http://publichealth.lacounty.gov/ha/docs/kir_2013_finals.pdf

Table 2. Prevalence of Current Asthma in Adults and Children In Los Angeles County, 2005
Chiquita Canyon Landfill Final EIR

	Adults (18+ years old)		Children (0-17 years old)	
Area	All	Latino	All	Latino
SPA 1 - Antelope Valley	11.4%	7.5%	15.8%	7.2%
SPA 2 - San Fernando	6.6%	5.1%	7.9%	7.7%
SPA 3 - San Gabriel	5.8%	4.9%	8.3%	8.9%
SPA 4 - Metro	6.2%	6.0%	6.7%	5.8%
SPA 5 - West	7.6%	no data	4.9%	6.4%
SPA 6 - South	7.2%	3.0%	9.0%	4.7%
SPA 7 - East	5.1%	4.3%	8.8%	7.5%
SPA 8 - South Bay	6.7%	5.6%	11.0%	9.0%

Table 3. Summary of CalEnviroScreen 3.0 Analysis
Chiquita Canyon Landfill Final EIR

Census Tract	Total Population	California County	City	CalEnviroScreen 3.0 Score	CalEnviroScreen 3.0 Percentile	CalEnviroScreen 3.0 Percentile	Pollution Burden Percentiles	Population Characteristics Percentiles
6037920106	3,110	Los Angeles	Castaic (Proposed Project)	33.9	66.6	66-70	65.9	58.7
6111000200	2,822	Ventura	Fillmore (West)	33.2	65.2	66-70	44.7	72.7
6037920326	6,840	Los Angeles	Stevenson Ranch (South)	19.6	37.4	36-40	60.4	24.8
6037920116	5,181	Los Angeles	Castaic (Northeast)	14.9	24.8	21-25	24.3	29.2
6037920339	7,377	Los Angeles	Valencia (Southeast)	13.7	21.8	21-25	79.3	8.5
6037920104	2,798	Los Angeles	Castaic (North)	9.8	12.8	15-Nov	16.7	16.0



1 **Antelope Valley**

2 **San Fernando Valley**

3 **San Gabriel Valley**

4 **Metro**

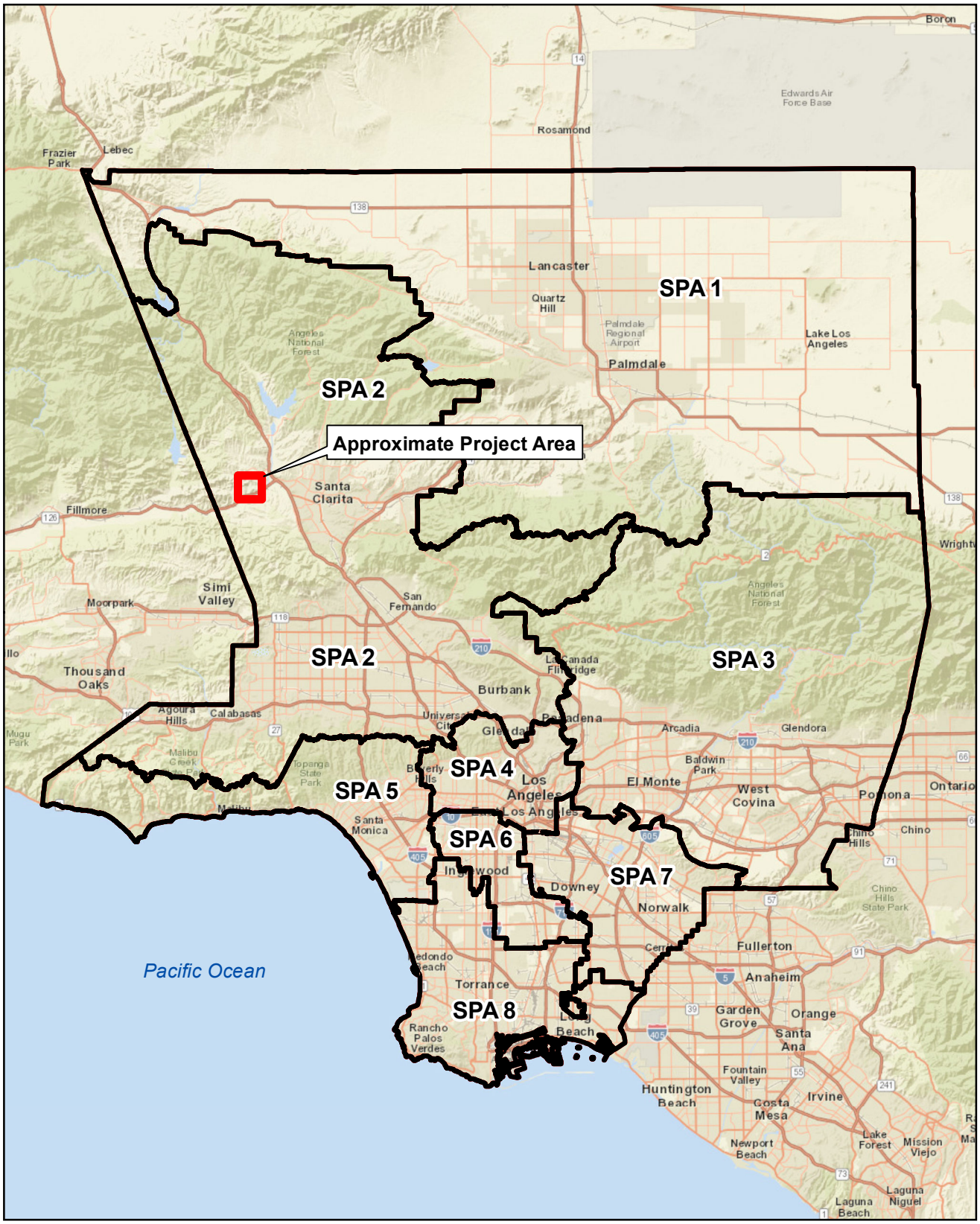
5 **West**

6 **South**

7 **East**

8 **South Bay**
Includes Catalina Island

FIGURE 1
Service Planning Areas of the
Los Angeles County Department of Health
Chiquita Canyon Landfill
Master Plan Revision

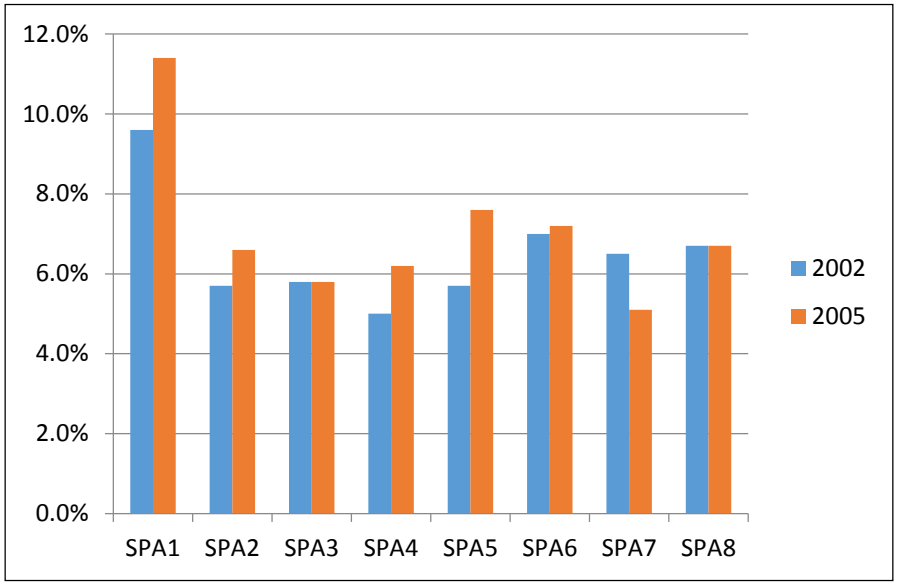


LEGEND

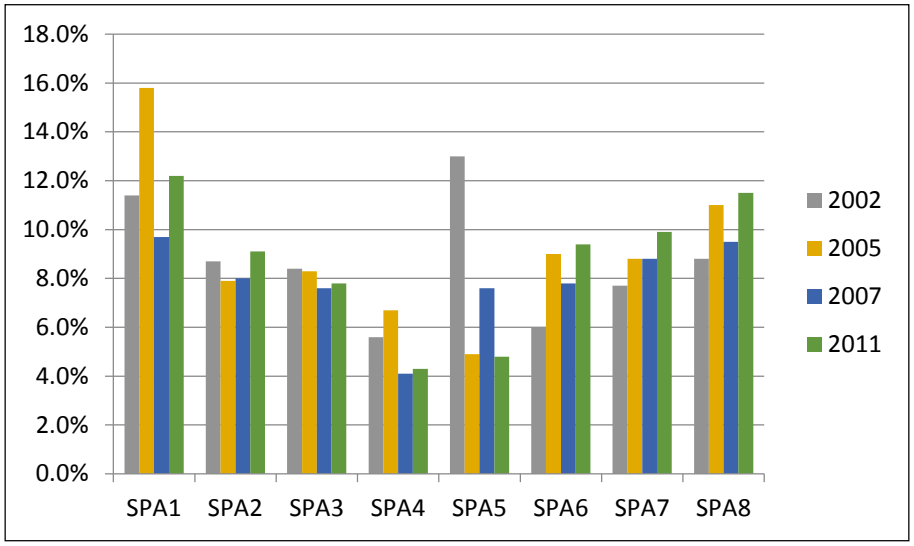
- Service Planning Area Boundary
- Approximate Project Location

FIGURE 2
Approximate Project Location in LADPH Service Planning Areas
Chiquita Canyon Landfill
Master Plan Revision

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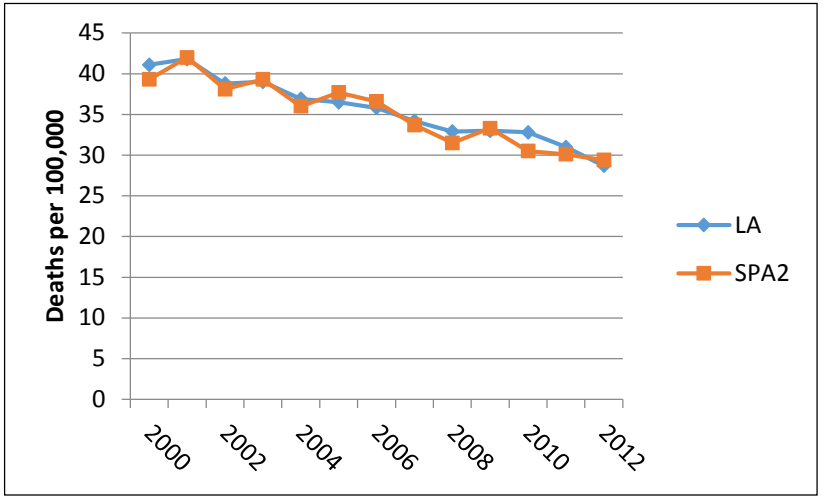


Prevalence of Current Asthma in Los Angeles County in Adults, 2002 and 2005

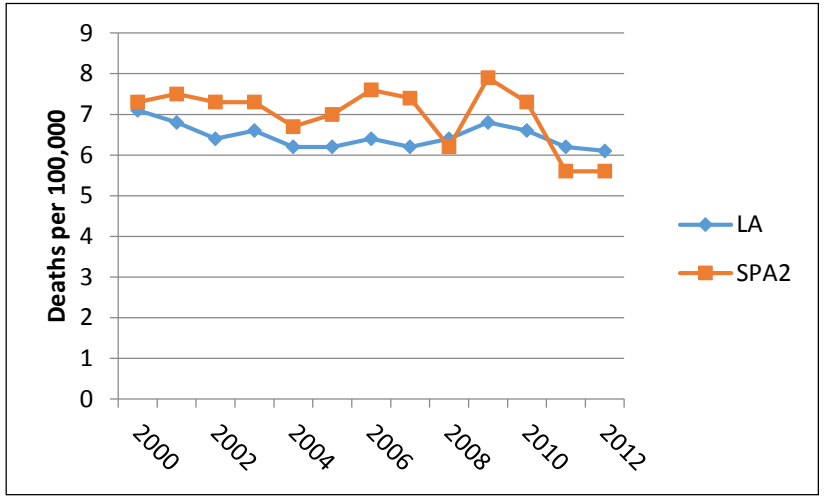


Prevalence of Current Asthma in Los Angeles County in Children, 2002 to 2011

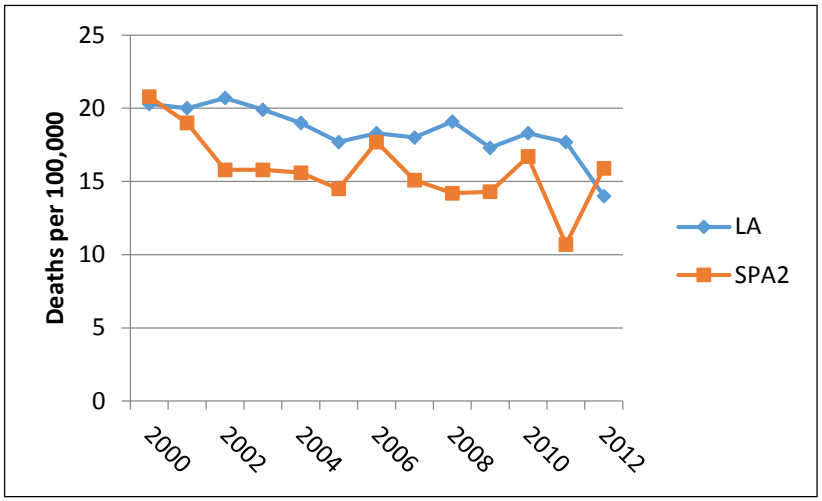
FIGURE 3
Trends of Prevalence of Current Asthma in Adults and Children
Chiquita Canyon Landfill Master Plan Revision



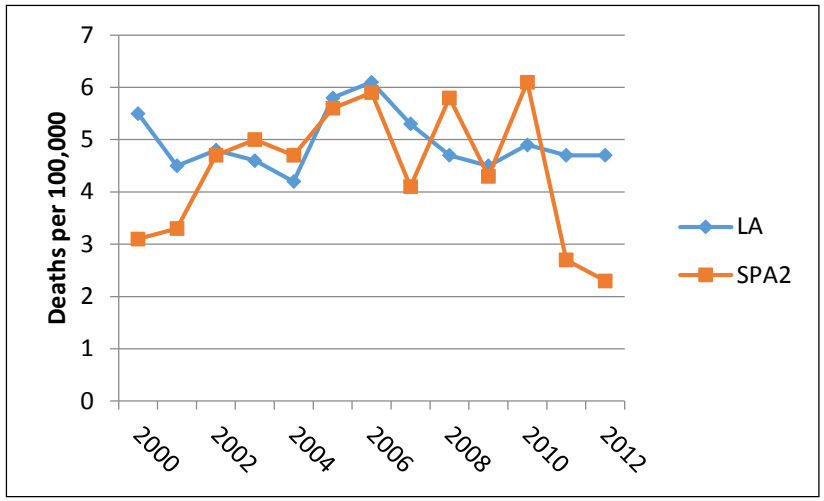
Age-Adjusted Mortality of All Individuals from Lung Cancer



Age-Adjusted Mortality of All Individuals from Leukemia



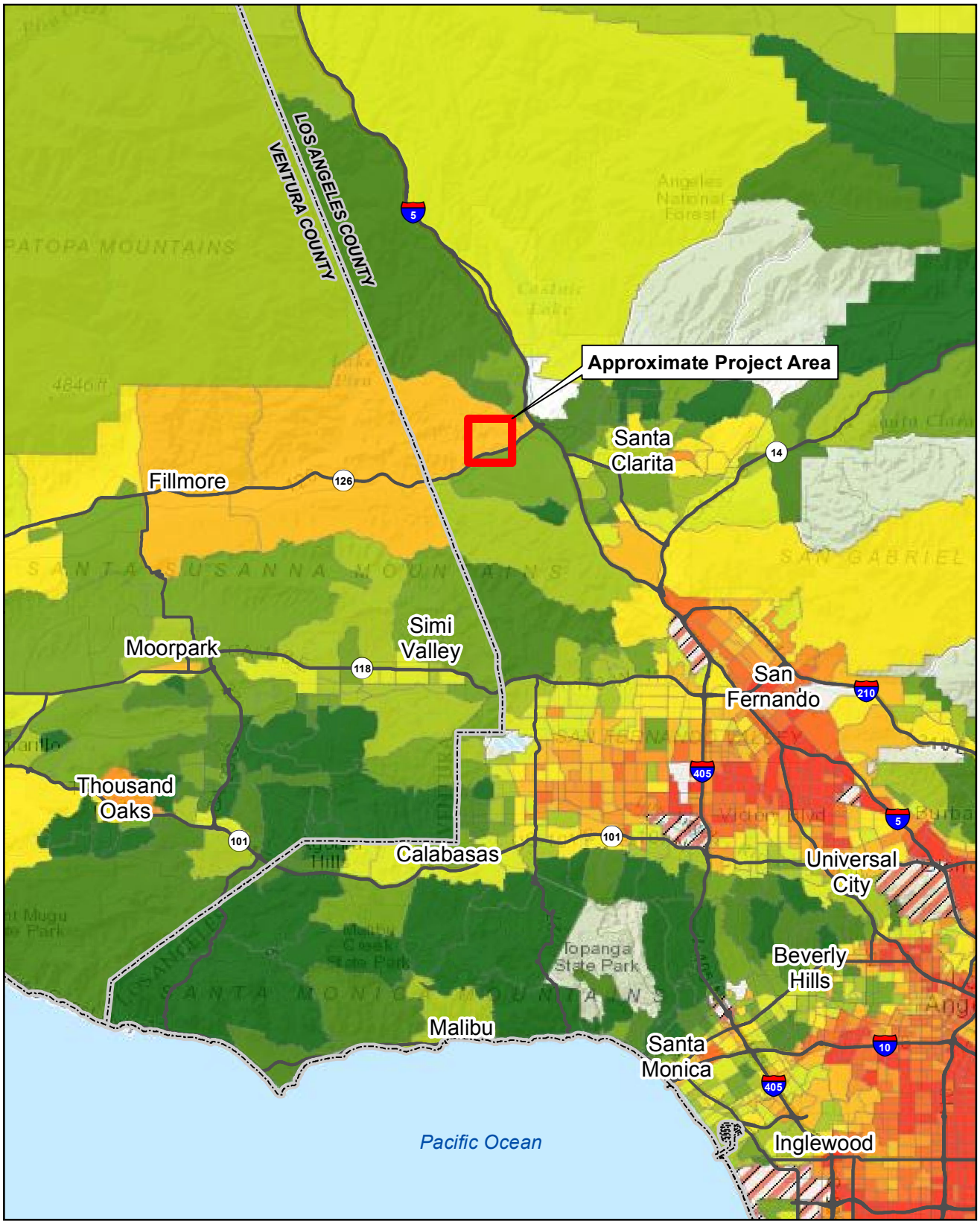
Age-Adjusted Mortality of Latino Individuals from Lung Cancer



Age-Adjusted Mortality of Latino Individuals from Leukemia

FIGURE 4
Trends of Cancer Mortality (Lung Cancer and Leukemia) in Los Angeles County and SPA 2
Chiquita Canyon Landfill Master Plan Revision

ch2m



LEGEND

CalEnviroScreen 3.0

- 1 - 10% (Lowest Score)
- 11 - 20%
- 21 - 30%
- 31 - 40%
- 41 - 50%
- 51 - 60%
- 61 - 70%
- 71 - 80%
- 81 - 90%
- 91 - 100% (Highest Score)

N

0 3.25 6.5

Miles

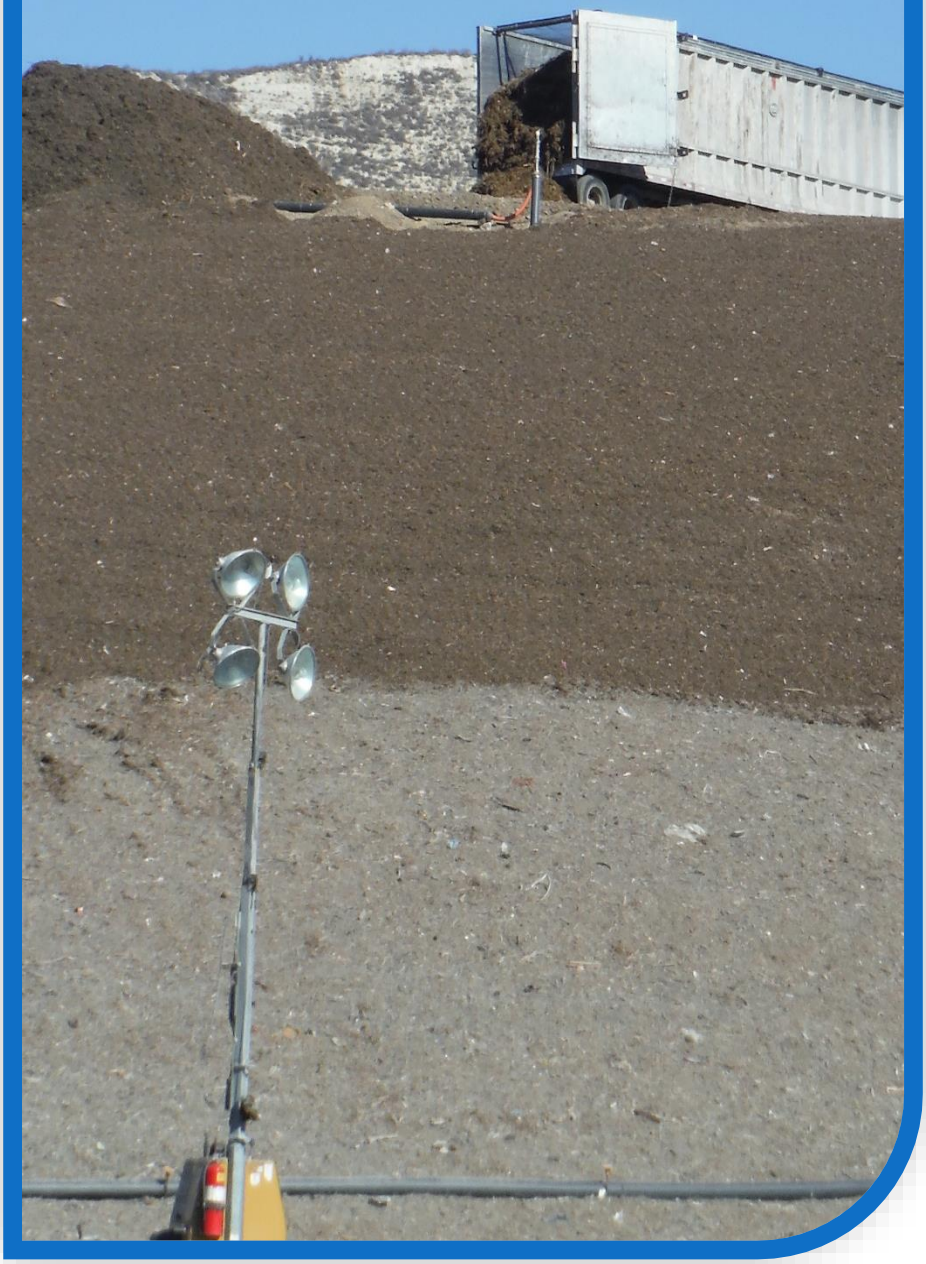
FIGURE 5
CalEnviroScreen 3.0 Impact Analysis
Chiquita Canyon Landfill
Master Plan Revision

\\galt\proj\chiquita\MapFiles\2016\Cal_Enviro_Screen_CCL.mxd

Appendix N
Beneficial Reuse

Beneficial Reuse
v.
Performance

Chiquita Canyon Landfill



Blue Ridge Services

7204 Hites Cove Road

Mariposa, CA 95338

For:

Waste Connections
Chiquita Canyon Landfill
29201 Henry Mayo Drive
Castaic, CA 91384-2705

WASTE CONNECTIONS INC.
Connect with the Future®

November 30, 2016

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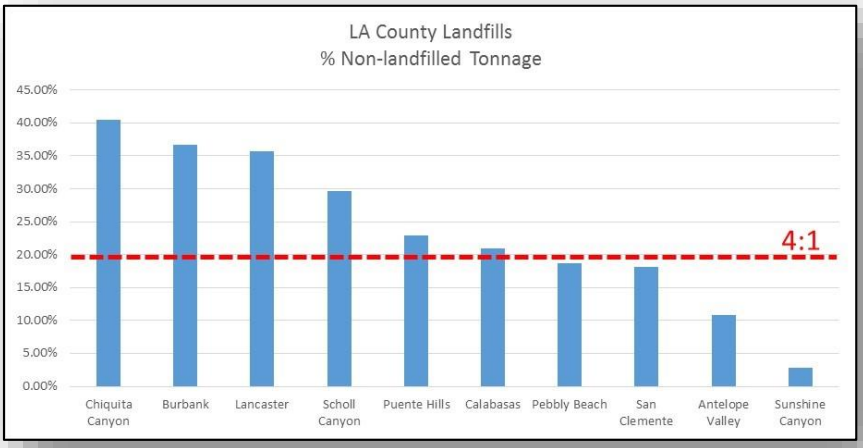
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Chiquita Canyon Landfill – Evaluation of Beneficial Reuse

Introduction

To evaluate Chiquita Canyon's beneficial reuse material, Tom Reilly, California Engineering Manager for Waste Connections, contacted me. Aware of my experience with landfill operations, he asked me to evaluate the landfill's performance, and to develop an opinion regarding their use of the diverted waste (beneficial reuse) material. Over the past 28 years, our company has pioneered the concept of operational efficiency and process improvement for landfill operations – and other types of waste facilities.



I conducted a site visit on October 11th, and for the past 2 ½ weeks, my team and I have been evaluating the performance of the landfill, looking not only at the quantity of material used, but how it is used, and what affect its use has on the landfill's operation and compliance.

Approach

Using a logical, systematic process, we evaluated the key criteria of how materials received at the CCLF are used and classified as beneficial reuse. These 8 steps included:

1. Review regulatory language and intent regarding beneficial re-use materials
2. Review and compare historic tonnage of all material received at CCLF and all active landfills in Los Angeles County (LAC) during the time period in question
3. Review and compare the compliance history of CCLF and all active landfills in LAC for the time period in question
4. Correlate the percentage (of inbound waste) of beneficial re-use material at CCLF and compare to all active landfills in LAC
5. Measure need v. usage of various types of beneficial reuse material at CCLF and compare to inbound quantity of that same material

6. Conduct visual observations of several landfills in LAC – using aerial photos (i.e., Google Earth) – to identify obvious benefits of beneficial reuse materials
7. Address the *industry standard* cover ratio, in regard to our experience having worked on approximately 500 landfills in the U.S. and Canada
8. Present our findings in a written report

Beneficial Re-use

Landfills have utilized waste material for beneficial uses for more than 40 years. I recall using unprocessed green waste as an alternative daily cover at the Yolo County Central Landfill in the late 1970's. Throughout the day we would set aside loads of green waste, including grass clippings, leaves, straw and yard waste – and then use it at the end of the day to "brush the slopes." In those days we didn't call it ADC, but it provided much the same benefit.

Beneficial re-use of waste materials that would otherwise be landfilled is an accepted and universal practice throughout the United States. Over the years I have worked at hundreds of landfills, and can recall none that did not utilize wastes for some beneficial purpose.

More than a quarter century ago, the EPA established this precedent in our national landfill rules (Subtitle D), by stating that:

§258.21 Cover Material Requirements[1]

"…Alternative materials of an alternative thickness (other than at least six inches of earthen material) may be approved by the Director of an approved State if the owner or operator demonstrates that the alternative material and thickness control disease vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment…".

Similarly, CalRecycle acknowledges this same precedent for alternative daily cover by re-stating Subtitle D almost verbatim.

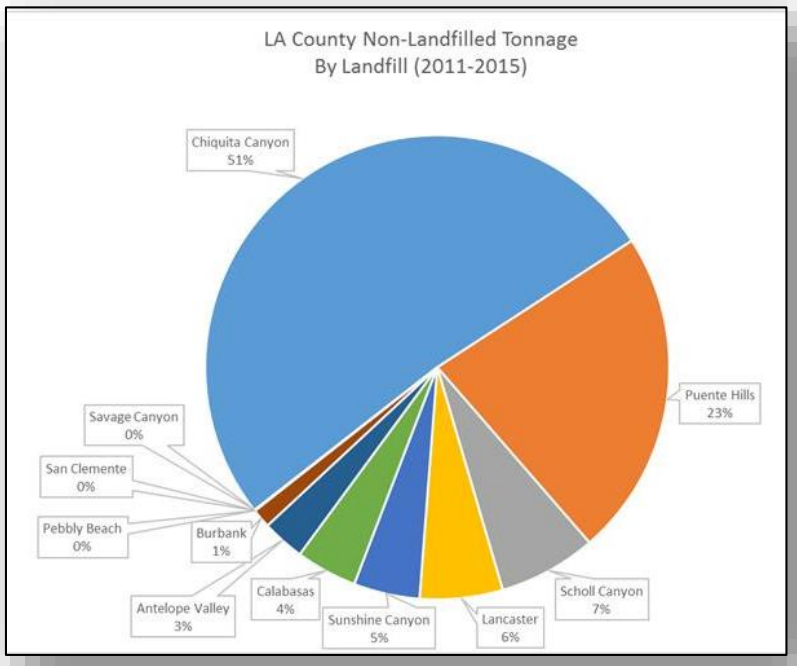
Title 27: 20690 Alternative Daily Cover[2]

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[1] *EPA RCRA Subtitle D, Part 258 – Criteria for MSW Landfills*

(1) Alternative materials of alternative thickness for daily cover (other than at least six inches of earthen material) for municipal solid waste landfill units may be approved by the EA with concurrence by the CIWMB, if the owner or operator demonstrates that the alternative material and thickness control vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment.

In this regard, CalRecycle goes even further than Subtitle D, specifically listing a number of beneficial uses other than just ADC. In fact, Section 20686 acknowledges 11 other beneficial uses, as listed below:



Title 27: 20686. Beneficial Reuse[3]

"Beneficial reuse of solid wastes at a solid waste landfill shall include, but not be limited to, the following: alternative daily cover, alternative intermediate cover, final cover foundation layer, liner operations layer, leachate and landfill gas collection system, construction fill, road base, wet weather operations pads and access roads, and soil amendments for erosion control and landscaping."

While it is true that the CCLF uses more beneficial reuse material than all other landfills in LAC, their regulatory and environmental compliance history clearly show that the landfills' performance is much better for it. Yes, the CCLF and the surrounding environment and

[2] *Title 27, Environmental Protection – Division 2, Solid Waste, Chapter 3, Subchapter 4, Section 20690*

[3] *Title 27, Environmental Protection – Division 2, Solid Waste, Chapter 3, Subchapter 4, Section 20686*

communities are benefiting from its use of beneficial reuse material. The correlation between utilization of beneficial reuse material and regulatory compliance is explained later in this report.

In a 2009 White Paper[4], CalRecycle (formerly CIWMB) presented the question of how much ADC is appropriate, going so far as recommending that additional research be done to evaluate,

"… The optimum amount, depth, and quality of Board-approved ADC may need to be more fully researched."

Certainly, there have been situations in California where a landfill has used too much ADC, but this is not occurring at the CCLF. In fact, in 2014 CalRecycle's Solid Waste Enforcement Section conducted an investigation on use and misuse of Alternative Daily Cover. In the resulting report[5], CalRecycle listed 13 facilities with the highest ratios of ADC used, compared to waste disposed. Of the 13 highest in the state, 4 were located in Los Angeles County – and 2 of those with the highest ratios (Calabasas and Scholl Canyon) were actually operated by Los Angeles County Sanitation District (LACSD). The CCLF was not on the list.

It should be noted that Title 27 does not define a minimum/maximum ratio of Beneficial Reuse material, but instead states that,*"…Beneficial reuse shall be restricted to quantities of solid wastes no more than necessary to meet the minimum requirements..."*

Title 27 also does not define a maximum/minimum ratio of ADC. This makes sense, because even with a consistent depth, the ratio would change from one landfill to another – even from day to day – depending on inbound waste tonnage, compaction density, cell size/geometry, and a number of other variables.

However, Title 27 does define a minimum/maximum depth of Alternative Daily Cover, which varies depending on the type of material used as ADC. For example, *"Treated auto shredder waste used for alternative daily cover shall be restricted to a minimum*

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[4] *Alternative Daily Cover White Paper*

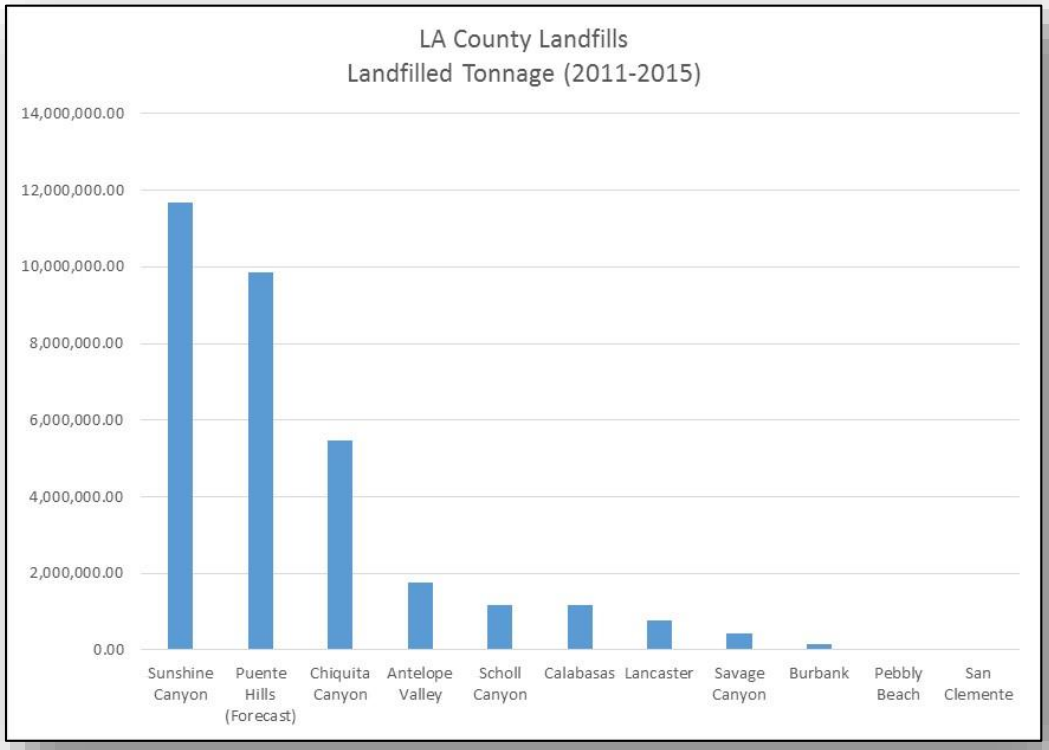
[5] *CalRecycle Solid Waste Enforcement Section Alternative Daily Cover 2014 Investigation*

compacted thickness of 6 inches and average compacted thickness of less than 24 inches."[6]

Tonnage Comparison

In order to compare inbound tonnage at landfills in Los Angeles County, we reviewed the County's Solid Waste Information Management System (SWIMS) database[7]. Using that information, we were able to begin comparing the tonnage of various types of materials entering other landfills in LAC.

First we reviewed the total quantity of landfilled (MSW) tonnage received at LAC landfills. Please note that for Puente Hills Landfill, we forecasted the quantity of tonnage it would have received if it had continued operating through 2015. Puente Hills Landfill closed on October 31, 2013.

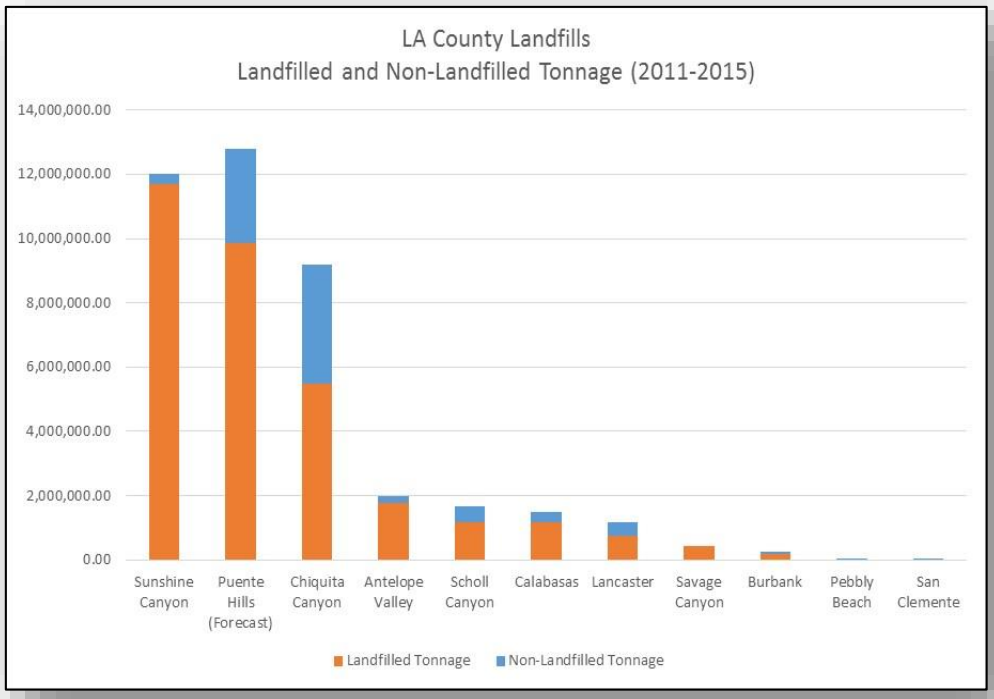


[6] *Title 27, Section 20690,(b)(6)(B)*

[7] *https://dpw.lacounty.gov/epd/swims/OnlineServices/reports.aspx*

Chiquita Canyon Landfill – Evaluation of Beneficial Reuse

We also looked at the receipt of beneficial reuse material at all landfills in LAC based on both actual (received) tonnage, and as a percentage of total tonnage received. Again, in order to show an apples-to-apples comparison, we forecasted both landfill and non-landfilled tonnage for Puente Hills Landfill.

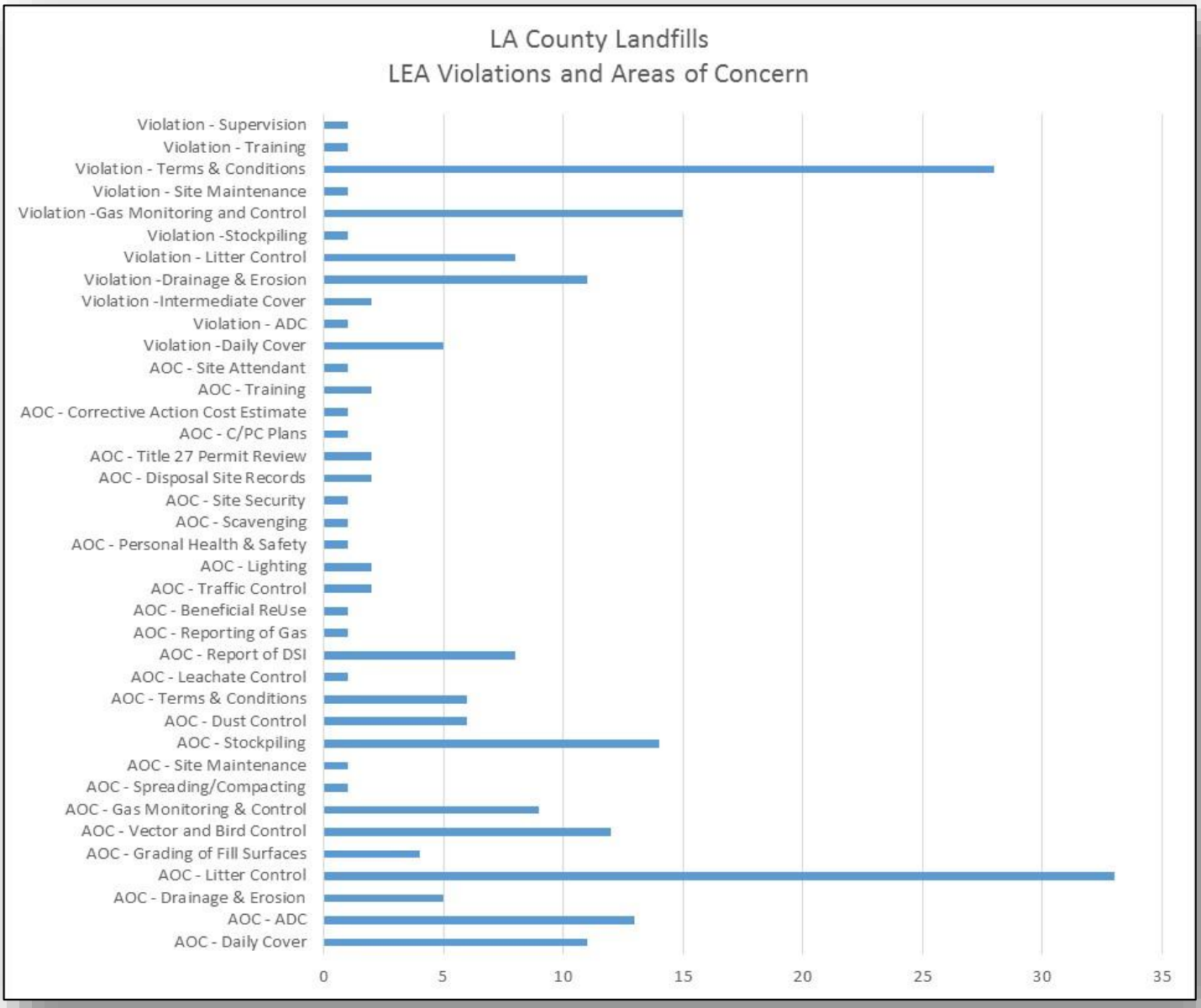


First, we saw that on the basis of actual (beneficial reuse) tonnage, CCLF received more of this material during the time period from January 1, 2011 to December 31, 2015 than other LAC landfills.

Compliance Comparison

A number of LEA Notices of Violation (NOV) and Areas of Concern (AOC) have been recorded in LAC during the period 2011-2015.

As presented by CalRecycle's Title 27; Section 20686 (Beneficial Reuse), ADC is only one of the 12 uses for waste materials. The other 11 *Beneficial Uses* relate to a wide range of processes and activities at landfills – all of which are part of operating a compliant landfill *"…in accordance with engineering, industry guidelines, or other standard practices…"*[8]



Chiquita Canyon Landfill – Evaluation of Beneficial Reuse

We wanted to determine if these other beneficial uses would translate into an improved and more compliant operation. So we looked for a correlation between the quantity of beneficial reuse used, and the number of relevant LEA incidents, including: Areas of Concern (AOC) and Notices of Violation (NOV). Also, in order to rank facilities on a level playing field, we compared beneficial reuse (non-landfilled) tons to the number of relevant LEA incidents.

We considered relevant LEA incidents to be things that beneficial reuse would affect. Thus, we included things such as daily cover, litter control, drainage and erosion, etc. …and we excluded things such as terms & conditions, RDSI, and disposal site records.

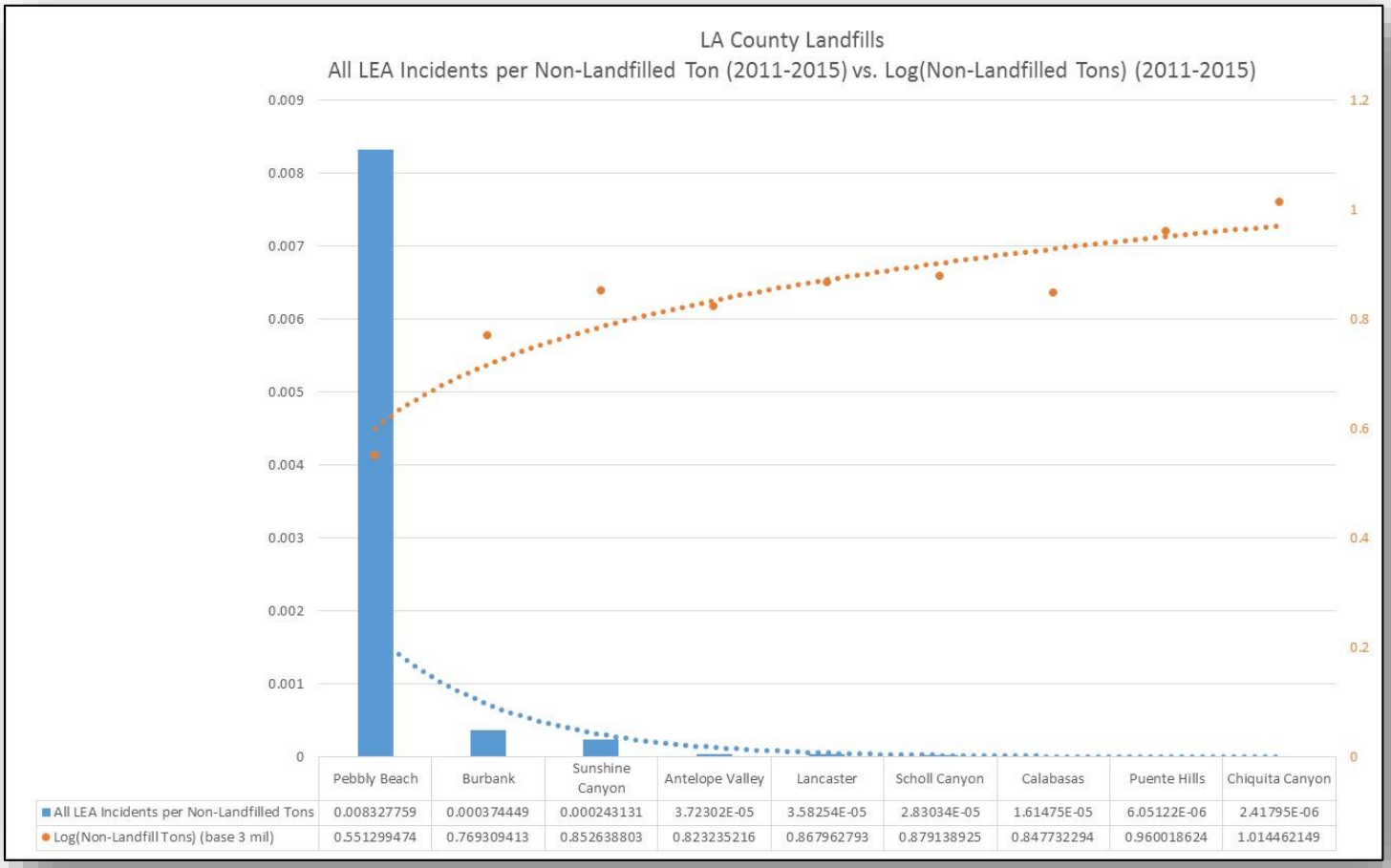
	Antelope Valley	Burbank	Calabasas	Chiquita Canyon	Lancaster	Pebbly Beach	Puente Hills	San Clemente	Savage Canyon	Scholl Canyon	Sunshine Canyon
Total Tonnage (tons)	1,984,258	261,818	1,477,541	9,194,068	1,174,805	19,840	7,211,345	2,450	423,893	1,667,200	12,014,530
Landfilled Tonnage (tons)	1,769,379	165,677	1,167,896	5,471,914	756,108	16,117	5,558,786	2,006	423,893	1,172,560	11,681,376
Non-Landfilled Tonnage (tons)	214,879	96,141	309,646	3,722,154	418,697	3,722	1,652,559	444	0	494,640	333,154
Beneficial Use	1.47%	0.00%	3.34%	35.53%	1.89%	0.20%	12.01%	0.00%	0.00%	2.84%	2.67%
ADC	6.98%	0.00%	17.53%	4.95%	24.00%	18.04%	9.50%	0.00%	0.00%	26.73%	0.00%
AIC	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.38%	0.82%	0.00%	0.00%	0.00%
Offsite	2.38%	36.72%	0.08%	0.00%	9.75%	0.52%	0.01%	17.31%	0.00%	0.10%	0.11%
Non-Landfilled	10.83%	36.72%	20.96%	40.48%	35.64%	18.76%	22.92%	18.12%	0.00%	29.67%	2.77%
Landfilled	89.17%	63.28%	79.04%	59.52%	64.36%	81.24%	77.08%	81.88%	100.00%	70.33%	97.23%
Relevant AOCs	5	33	5	3	9	17	6	1	1	5	43
Relevant Violations	3	2	0	1	4	4	0	0	0	0	33
Relevant Total LEA Incidents	**8**	**35**	**5**	**4**	**13**	**21**	**6**	**1**	**1**	**5**	**76**
Non Landfill Tons per Relevant LEA	26,860	2,747	61,929	930,539	32,207	177	275,427	444	0	98,928	4,384

The above table, based on this comparison, shows that Chiquita Canyon Landfill receives the most tons of beneficial reuse material per LEA incident (or the fewest LEA incidents per ton of beneficial reuse material) or any landfill in Los Angeles County (See bottom row).

To better clarify the actual compliance benefits of wisely using beneficial reuse material, we also charted the performance of all landfills in the County.

Correlated Percentage of Beneficial Reuse to Compliance

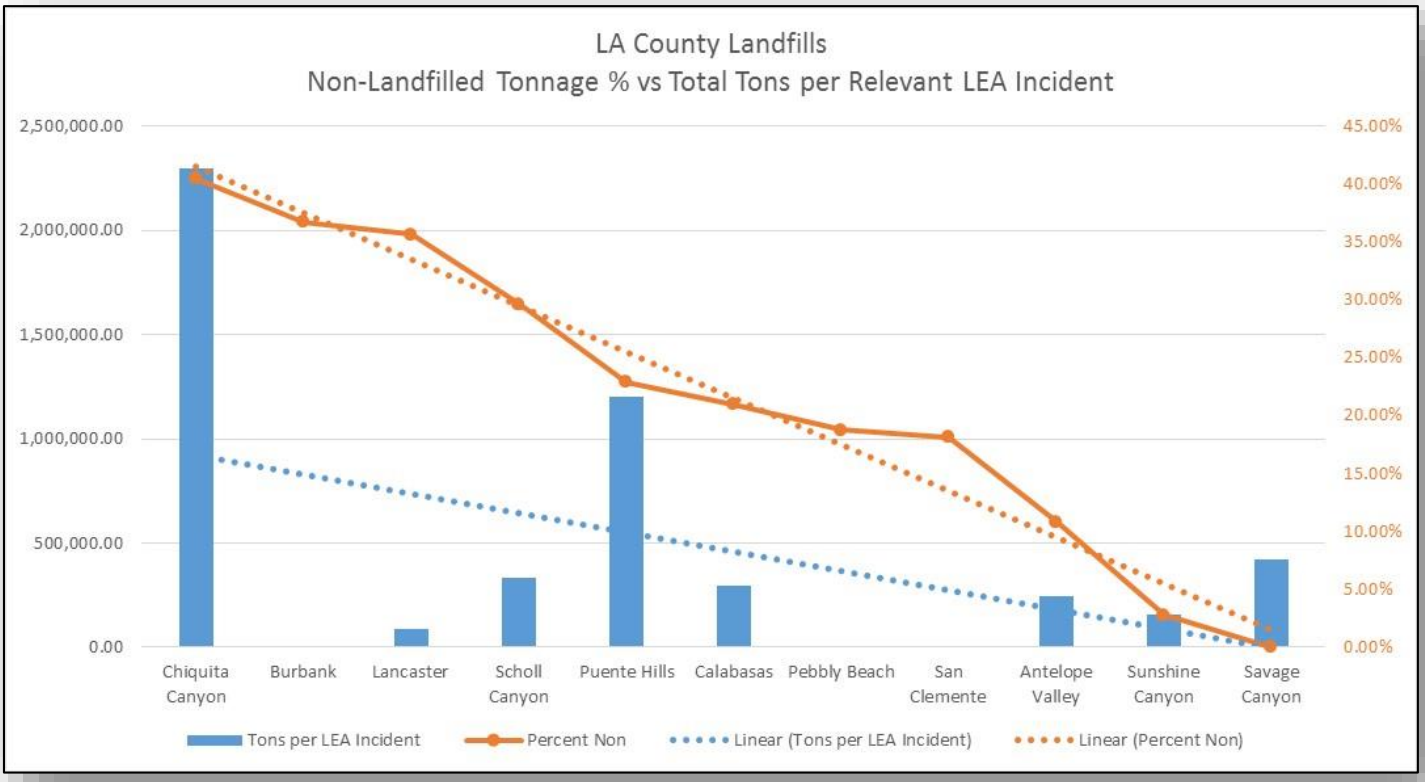
This first chart entitled, *"LA County Landfills – All LEA Incidents per Non-Landfilled Ton (2011-2015) vs Log (Non-Landfilled Tons) (2011-2015),"* shows that as the number of non-landfilled tons that a site uses beneficially increases (the orange line), the number of LEA incidents at that site decreases (the blue line). Inversely, if a site does not use a large amount of non-landfilled tons (beneficial reuse material), it is more likely to have a higher number of LEA incidents – on a non-landfilled (beneficial reuse) ton basis. This chart shows all LEA incidents.



	Pebbly Beach	Burbank	Sunshine Canyon	Antelope Valley	Lancaster	Scholl Canyon	Calabasas	Puente Hills	Chiquita Canyon
All LEA Incidents per Non-Landfilled Tons	0.008327759	0.000374449	0.000243131	3.72302E-05	3.58254E-05	2.83034E-05	1.61475E-05	6.05122E-06	2.41795E-06
Log(Non-Landfill Tons) (base 3 mil)	0.551299474	0.769309413	0.852638803	0.823235216	0.867962793	0.879138925	0.847732294	0.960018624	1.014462149

The blue data set in this chart is showing all LEA incidents per non-landfilled ton (2011-2015). The orange data set is showing the logarithm base 3,000,000 of the non-landfilled tons (2011-2015). The logarithm was applied to this data set simply to scale it down to the same magnitude as the comparison data set.

We also looked for correlation from another perspective, this time considering only the LEA incidents that were relevant to beneficial reuse material. This is shown in the chart titled, *"LA County Landfills – Non-Landfilled Tonnage % vs Total Tons per Relevant LEA Incident."*



The orange line graph is showing the percentage of each landfill's tonnage that is diverted from the landfill and used for some other purpose according to the SWIMS Reports for 2011-2015. The blue bar charts indicate how many total tons of material each facility brought in between 2011 and 2015 per relevant LEA Area of Concern or Violation (as reported on SWIS).

Each set of data has a dotted trend line added. The data is sorted to show decreasing non-landfilled percentage. Burbank, Pebbly Beach, and San Clemente do not appear on the bar chart due to the low value of their total tons per LEA incident.

The chart shows that Chiquita Canyon has the highest percent of "non-landfilled tonnage" and also achieves the highest amount of tonnage per LEA incident. This demonstrates a direct correlation between these two factors, as can be seen by the similar trend lines. The more material a facility diverts from the landfill and uses for beneficial use, the more likely it will be in compliance with Title 27 regulations.

Again, this chart was based on LEA incidents reported in which were relevant to beneficial use, and included the following:

- Daily Cover
- Alternative Daily Cover
- Intermediate Cover
- Drainage and Erosion
- Grading of Fill Surfaces
- Litter Control
- Vector and Bird Control
- Gas Monitoring and Control
- Dust Control
- Leachate Control
- Nuisance Control
- Stockpiling
- Site Maintenance

In addition to looking at beneficial reuse from the perspective of comparison (to other landfills) and regulatory compliance, we also looked directly at CCLF's need for beneficial reuse material.

Need v. Usage

In this part of our evaluation, we looked at how much beneficial reuse material is needed – and used – at the CCLF. Our findings indicate that all beneficial reuse material is used effectively, and in fact, if more was available, it could be used in a similar manner.

The first step in this analysis was to determine how much surface area the site contains that needs to be covered by beneficial reuse material. Appendix C contains the sample calculations and topographic map with surface area designations.

This was calculated using the topographic map of the CCLF, the verbiage in the Joint Technical Document (JTD) and data obtained from landfill management. The different uses that were analyzed included:

- Protective Cover Areas
- Unpaved Roads
- Wet Weather Tipping Pad
- Side Slopes
- Flat Areas
- Daily Cover Areas

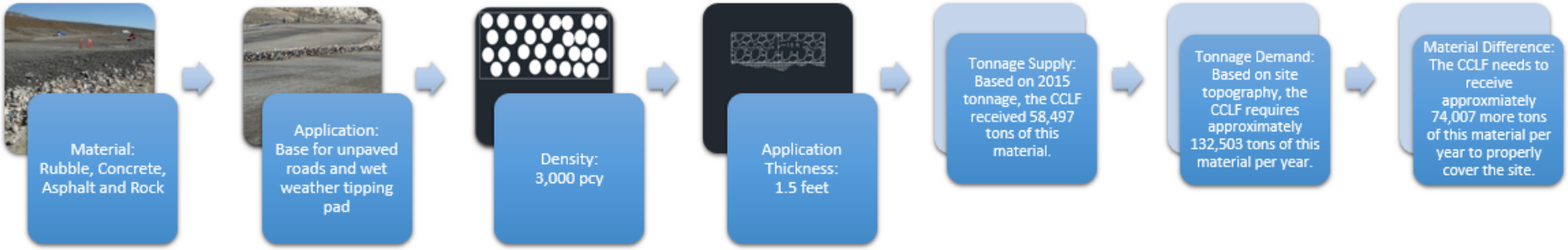
After surface areas were calculated for these different criteria, they were converted to tons demanded (per year) based on material application frequency, estimated material density and estimated application thickness.

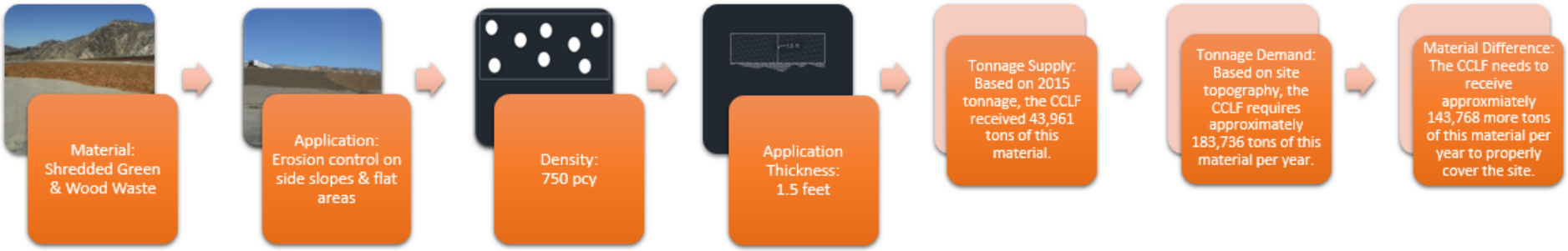
The next step in this analysis was to analyze how much of each material was received in 2015 and where each material was applied onsite:

- Shredded green & wood waste is used for erosion control on slopes and flat areas;
- Treated auto shredder waste (TASW) and contaminated soil are used as ADC;
- Rubble, concrete, asphalt, and rock are used as base for unpaved roads and wet weather tipping pads, and;
- MRF & C&D fines are used as protective cover for the landfill gas system and liner

The following flowcharts show the material criteria, the material application, the estimated material density, the estimated material application thickness, the material supply, the material demand and the corresponding material difference. As can be seen from the flowcharts, the CCLF could actually receive more material for beneficial reuse.

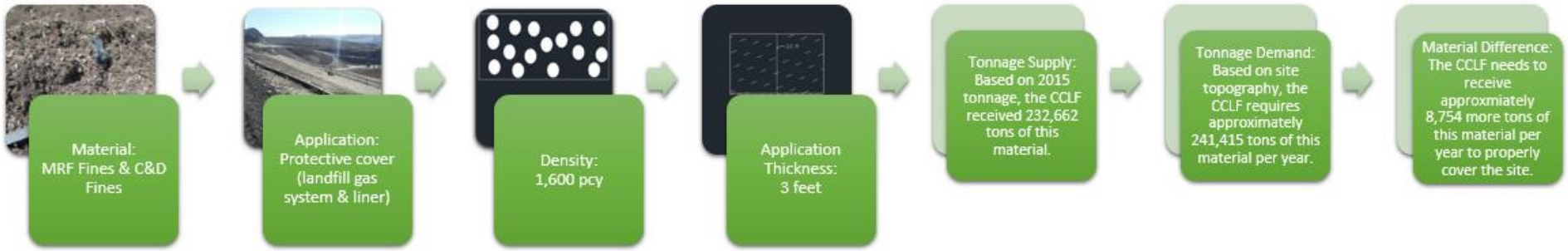
Chiquita Canyon Landfill – Evaluation of Beneficial Reuse



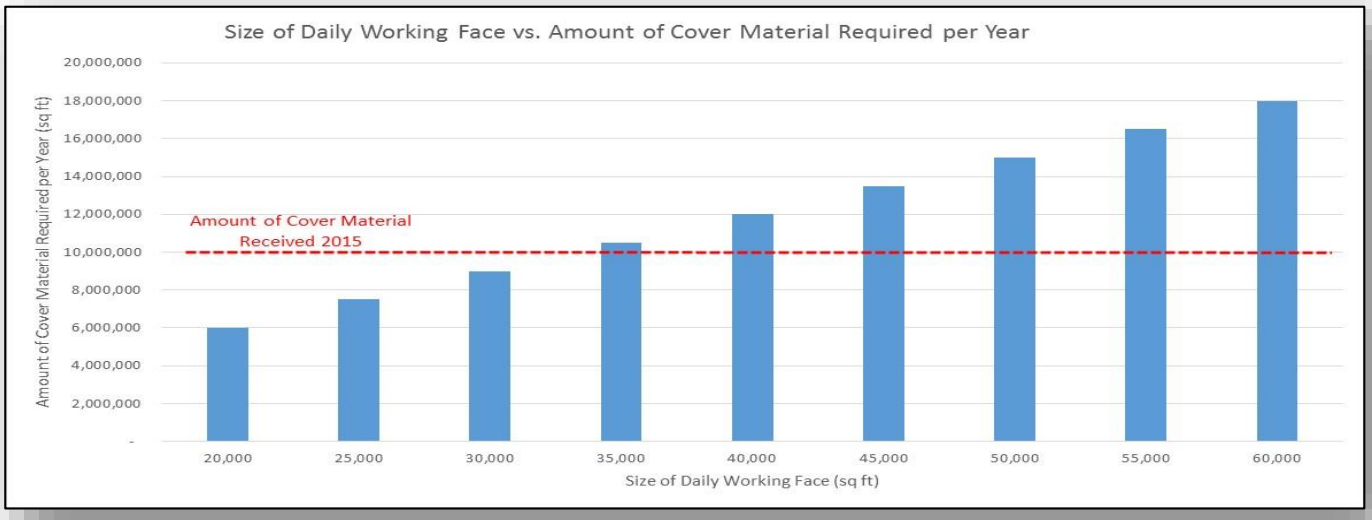


Chiquita Canyon Landfill – Evaluation of Beneficial Reuse





In order to show how the relationship between the beneficial reuse material that comes in compared to what could be used, consider the example of ADC. The CCLF's JTD describes an active face of 60,000 square feet. Over the course of a year, this works out to 18,000,000 square feet (sf). Covering with what we have found to be a typical (national average) depth of 16", the landfill does not receive enough of this material to cover the face every day. As a result, the landfill is forced to use clean soil, or reduce the overall face size. Based on the latter, the CCLF receives enough ADC material to maintain a face of approximately 35,000 sf ...not the JTD stated 60,000 sf.



Visual Observations

LEA and CalRecycle inspectors are tasked with the difficult job of applying black and white regulations to the gray world of real-life, every time they inspect a landfill. Consider how one should interpret the following:

- "…Litter shall be controlled…"
- "…excessive number of flies…"
- "…do not generate excessive dust…"
- "…Heavy erosion…"

- "…excessive siltation…"
- "…adequate spreading and compacting…"
- "…adequate personnel…"

The fact is, much of an inspector's assessment is subjective. I have taught dozens of training courses for landfill inspectors across the U.S., including more than 20 for CalRecycle. In every one of those classes, we've discussed the importance of daily cover, and the fact that the rules require a minimum of 6 inches. This is a foundational and universal standard in the U.S., Canada and Australia, yet in those hundreds of participants, I have only met 1 inspector that ever dug a hole to measure the depth of soil. Almost without exception inspectors use the skunk test: if it looks like a skunk and smells like a skunk, it must be a skunk. Applied to daily cover; if it looks like it's covered, and performs as though it was covered, it must be adequately covered. That same common-sense approach is used by nearly all inspectors.

When it comes to compliance, the proof is in the pudding – in other words, a landfill is in compliance when it does not have the issues the regulations seek to prevent. On the following pages, some of the more common regulatory problems are discussed subjectively, in regard to traditional and aerial (GoogleEarth) photos. The following compliance topics are included in the following discussion:

- Erosion Control
- Landfill Gas Control
- Odors
- Wet Weather
- Dust Control
- Access Roads

Erosion Control

According to CalRecycle Guidance Document #54, LEA inspectors are to look for erosion that exposes waste, or which could undermine roads, other structures or where excessive sediment problems exist.

These satellite photos from 3 landfills in Los Angeles County show lots of erosion at a landfill that lists very little beneficial reuse material – and two landfills that list more beneficial reuse material …and show no visible erosion.



Sunshine Canyon Landfill –Erosion Control – Apparent Erosion



Chiquita Canyon Landfill –Erosion Control – No apparent erosion



WMI Lancaster Landfill –Erosion Control – No Apparent Erosion

Landfill Gas Controls

I am not aware of studies that measured the ability of organic (wood/green waste mulch) to reduce landfill gas/odor emissions. I have, however, visited a number of enclosed MSW composting operations where the inside air passed through a woodchip bio-filter as it was exhausted – in order to minimize odors. In most cases, the depth of wood chips was 3-5 feet. So, while I am not stating that a layer of processed wood/green waste material will work as a bio-filter, it appears reasonable that if 3'-5' of material works as a bio-filter, then 12"-18" would provide a similar – though reduced – benefit.

Wet-weather Tipping Pad

In our experience, approximately 50% of landfills in the U.S. construct and utilize a wet-weather tipping pad. Most of the others have sandy/rocky soil that is drivable while it is wet. Some just fight the mud and endure lots of trucks getting stuck and long wait times for unloading.



CCLF All Weather Tipping Pad – Constructed with beneficial reuse rubble

No wise and responsible landfill manager would ignore the necessity of all-weather access for customer vehicles. And in situations where a wet weather tipping pad is needed, some form of surface material will be required. Many landfills must purchase stone or aggregate for this purpose. Other landfills are fortunate enough to have usable rubble come in as part of the waste stream. This is an excellent example of beneficial reuse as anticipated by CalRecycle in Title 27, Section 20686.



CCLF Tipping Pad Showing Tipper

It should also be noted that when landfills use tippers, the use of a large, all-weather tipping pad becomes mandatory. While self-unloading trucks may be directed to another – more accessible – area on short notice, the large trucks that utilize tippers have no other way to unload. So if they can't access the tippers – they can't dump.

Dust Control

Dust control is a major issue for many landfills, especially those located in arid climates.

Many landfills have large open areas that continue to pose dust-generating potential – mostly due to unrestricted traffic access. In these photos, we see large open areas with clear evidence of traffic. These areas present large potential for dust. Proper application of mulch or wood waste would help to mitigate the risk.



Scholl Canyon Landfill - Large Disturbed Area-Dust Potential-Some Mulch



WMI Lancaster Landfill–Large Disturbed Area–Dust Potential Some Mulch

Access Roads

The LEA and CalRecycle inspectors are supposed to evaluate the on-site access roads. Landfills in LAC appear to be doing a good job of maintaining access roads, because no LEA incidents were recorded from 2011 to 2015 on this topic. Title 27 clearly requires well-built and properly maintained access roads.



27 CCR §20540 Roads

Roads within the permitted facility boundary shall be designed to minimize the generation of dust and the tracking of material onto adjacent public roads. Such roads shall be kept in safe condition and maintained such that vehicle access and unloading can be conducted during inclement weather.

Providing this high standard requires – in most cases – that landfills utilize concrete or asphalt rubble, aggregate or some other material that can provide a solid, all-weather surface. Some landfills have adequate on-site soils with these properties, some landfills must purchase aggregate (i.e., road base) and some landfills are fortunate enough to have this type of material come in as beneficial reuse. This photo shows a properly constructed road at the CCLF.

Odors

Odor complaints at waste facilities are a significant and growing problem within the waste industry – and landfills are not exempt. Within the County are examples of landfills spending tremendous money and effort to mitigate odor problems …with varying levels of success. Therefore, any prudent landfill will do everything possible to minimize the risk – and potential liability – of generating nuisance odors.

While there are many potential sources of odors at landfills – and even more possible ways to mitigate them – one of the most effective solutions is adequate cover soil. As one of the larger landfills (based on inbound tonnage) in the County, the CCLF is very aware of this potential problem. To mitigate that risk, the staff proactively places adequate cover soil and ADC on the landfill surfaces – including the active face – on a frequent basis. In some cases, the active face may be partially or fully covered more than once per day (especially on windy days to control litter – or to cover odorous loads).

Additionally, the placement of wood chips and/or green waste mulch on the landfill surfaces may help reduce odor emissions by acting as a bio-filter. As previously noted, wood chip bio-filters are commonly used to control odors at MSW and/or organics composting facilities. And while we cannot quantify how effective 18 inches of this material (placed on landfill surfaces) will be compared to a typical bio-filter that uses 3'-5' of this material, we would assume that it has some capacity to act as a bio-filter …and so would provide some odor-reducing benefit. Clearly its ability to reduce erosion rills goes far toward eliminating exposed waste – a common contributor to landfill odors.



Conclusions

The CCLF is a well-run facility as evidenced by the cleanliness of the site and its excellent compliance record. It is able to achieve this high standard, in part, by wisely utilizing beneficial reuse materials.

We have identified a direct correlation between the use of beneficial reuse material and improved regulatory compliance.



Appendix A

Neal Bolton: Resume & Qualifications

RESUME NEAL BOLTON, P.E.

Blue Ridge Services, Inc.
Tel: (805) 461-6850
Fax: (805) 461-6845
P.O. Box 2212
Atascadero, CA 93423
email: neal@blueridgeservices.com

website: www.blueridgeservices.com

Education:

Attended Sacramento State University - Construction Engineering
Attended Montana State University - Construction Engineering

Registration:

Registered Civil Engineer — California (C48062)
Licensed General Engineering Class A Contractor — California (482821)

Work Experience:

General:

Mr. Bolton is a registered civil engineer with nearly 25 years experience in heavy construction and landfill operations. His background in heavy construction includes work in excavating, grading, paving, and underground projects where he worked as a laborer, equipment operator, foreman, superintendent, and estimator. In 1988, Mr. Bolton formed his own consulting company, Blue Ridge Services. As principal of Blue Ridge, he has continued to provide operational consulting services for a wide range of private and municipal landfills and transfer stations.

Landfill Development:

Mr. Bolton has worked on landfill siting, expansion and closure projects. He has prepared dozens of landfill development plans that included: site layout, access roads, waste footprint placement, base grade and final grade design. He has worked on several projects involving airspace enhancement or maximization. Mr. Bolton was involved in with dozens of landfills in Montana and Idaho which were impacted by the EPA's subtitle D rules.

Landfill & Transfer Station Training Programs:

Mr. Bolton has presented training programs for hundreds of people through the dozens of training programs he has taught. He has provided dozens of training courses for the State of Indiana, State of Montana, State of Kansas, State of North Dakota and State of California and hundreds more for other private and municipal clients. These training programs range from generic 1-4 hour sessions, to custom 1-2 day sessions that deal with site-specific operational issues. In particular he has taught more than 20 LEA courses for CalRecycle – many on the topic of ADC and other compliance topics.

As an example, one training program focused directly on maximizing scraper productivity at a 6,000 ton/day landfill where they used three 637 scrapers. Another focused on landfill managers and administrative staff. Other sessions have had a broader scope, addressing the needs of municipalities that operated a variety of landfills. At landfills that were nearing closure, or where airspace was very expensive, other training programs have concentrated on cell construction and efficient cover placement techniques.

Landfill Sequence Plans:

Mr. Bolton has prepared scores of landfill sequence plans and/or excavation plans for landfills. These sequence plans have ranged from simple seasonal plans showing how a landfill will prepare for the wet season, to long-term sequence plans taking the site from start-up through closure. Most sequence plans are based on a combination of economics, aesthetics, and practical judgment in regards to access, drainage, leachate control, and minimized soil handling.

Expert Witness:

Based on his experience, knowledge and reputation, Mr. Bolton has been hired as an expert witness on numerous cases across the U.S. involving landfill operations.

Research and Development:

Mr. Bolton has designed and implemented various testing procedures for evaluating landfill equipment and operating methods including soil use minimization studies, compaction tests, and productivity analysis. Many of these landfill tests were done in cooperation with Caterpillar, Ingersoll-Rand, Caron Compactor, and Waste Management Inc.

Operational Planning:

Mr. Bolton has provided operational planning for dozens of landfills in several states. These projects include preparation of operating procedures for excavation, refuse placement, load checking, surveying, compaction and other day-to-day landfill tasks. He has also performed compaction/density tests, operational audits and efficiency studies.

Landfill Equipment Planning:

Mr. Bolton has worked with numerous landfills, providing recommendations on equipment selection and utilization. He has developed and performing various equipment productivity analyses for dozers, scrapers, compactors and other landfill equipment.

Employment History:

1988 - Present

Principal - Blue Ridge Services (Atascadero, CA ...formerly Bozeman, MT)

As principal of Blue Ridge Services, a landfill consulting company, Mr. Bolton has personally supervised hundreds of solid waste projects. With a focus on landfill operations, Blue Ridge projects include landfill training programs, fill sequence planning, site budgeting, equipment selection, operations planning, operational audits, compaction/density studies and a wide range of landfill landfill consulting projects.

1987-1988

Field Engineer - Waste Management, Inc. (San Jose, CA)

As a field engineer for Waste Management, Inc., Mr. Bolton was involved in the performance of landfill sequence plans, construction planning, operational audits, compaction/density testing, operator training and budgeting projects. Additionally, he prepared cost estimates for use in competitive bidding for landfill operations.

1983-1987

Field Engineer - Oakland Scavenger Company (Oakland, CA)

As the field engineer for Oakland Scavenger Company/Waste Management from 1983 to 1987 he managed landfill development and construction projects for several sites ranging in size from 200 to 7,000 tons per day.

During his employment with Oakland Scavenger/Waste Management, Mr. Bolton supervised the in-house preparation of operations plans for all of Oakland Scavenger Company's landfills. Additionally, he played a key role in the training of landfill equipment operators to perform all on-site landfill construction projects - virtually eliminating the need to subcontract out heavy construction projects. These projects included liner, leachate collection systems and final cover construction, installation of methane venting systems, road, pond, and ditch construction. These projects were performed in addition to the day-to-day excavation and landfilling at the sites.

1978-1983

Laborer, Operator, Foreman –
Bolton Construction (Woodland, CA)

Bolton Construction is a grading and paving company. During the 5 years he was there, Mr. Bolton worked as a laborer, operator, estimator and foreman. His duties included positions on a grading, paving and underground crew. Additionally he supervised numerous construction projects, did bidding & estimating, and drove dump trucks. His equipment operating experience includes; dozers, backhoes, rollers, motor graders, loaders, water trucks, scrapers and trenching machines.

Writing & Conference Presentations:

BOOKS

Mr. Bolton has written two books related to landfills:

The Handbook of Landfill Operations, a 500+page text, published by Blue Ridge Services, 1995. Mr. Bolton's book is used by landfills throughout the world. In addition to being used as a college textbook in the U.S. and Canada, it is used as a textbook by the Solid Waste Association of North America (SWANA).

The Handbook of Landfill Safety, a 350+page text, published by Blue Ridge Services, 2009. This is the waste industry's most comprehensive book on landfill safety. It is considered a vital reference on landfill safety.

VIDEOS

Mr. Bolton has also developed 125 Safety videos for Landfills and Transfer Stations. Some have been translated into Spanish and Greek. He has also supervised the development of several operational videos for the solid waste industry.

As the author of more than 200 articles and technical papers on solid waste and landfills, Mr. Bolton is one of the industry's best known experts on landfill operations. A partial list of his articles is provided below. He is also the author of, "The Handbook of Landfill" and The Handbook of Landfill Safety."

PARTIAL LIST OF ARTICLES, TECHNICAL PAPERS AND CONFERENCE PRESENTATIONS

Mr. Bolton has written nearly 200 articles for solid waste trade magazines. The following (partial) list includes more than 90 columns for Solid Waste Online (http://www.solidwasteonline.com). His column is entitled, *"Bolton on Landfill Management,"* verticalnet.com.

Mr. Bolton also writes a regular column in MSW Management Magazine. It is entitled, *"The Landfill Manager's Notebook,"* Forester Communications. In addition to his regular column, he has written numerous feature articles for MSW Management Magazine. He also writes an occasional safety column for this magazine.

"Using Compactors for Optimum Density," Solid Waste Technologies magazine, Adams Publishing, May/June, 1997.

"Landfill Equipment - Choosing the Right Machines," Solid Waste Technologies magazine, Adams Publishing, March/April, 1997.

"How to Remain King of the Hill," World Waste Magazine, Intertec Publishing, December, 1996.

"Equipment - Repair vs. Replace," a technical presentation given at the Western Regional Symposium. Sponsored by SWANA. Lake Tahoe, Nevada, May, 1996.

"Landfill Equipment Selection, Operation, Safety and Preventive Maintenance Training Course," A two day course covering the essentials of landfill operations. Sponsored by Montana State University Extension Services, SWANA, and Montana Department of Health and Environmental Sciences. Billings, Montana, June, 1995

"Alternative Daily Cover - What are the Benefits?" A technical paper prepared for Evan Edgar of the California Refuse Removal Council, January, 1995.

"Survival of Subtitle D." Presentation and Panel Discussion, given at the 43rd Annual Environmental Health Educational Conference, sponsored by the Montana Environmental Health Assn., Big Sky, Montana, October 1994.

"Landfill Operations Seminar," A one Day Short Course, Sponsored by Blue Ridge Services, Bozeman, MT, September, 1992.

"Optimizing Your Landfill Operation," Waste Age Magazine, National Solid Wastes Management Association, September, 1991.

"*Landfill Operations, Closure and Optimization,*" Mountain/Plains States Solid Waste Training, sponsored by Midwest Assistance Program and Region VIII EPA, Cody, Wyoming, December, 1990.

"*Landfill Closure - Options and Costs,*" Mountain/Plains States Solid Waste Training, sponsored by Midwest Assistance Program and Region VIII EPA, Missoula, Montana, November, 1990.

"*Landfill Closure - Options and Costs,*" Mountain/Plains States Solid Waste Training, sponsored by Midwest Assistance Program and Region VIII EPA, Billings, Montana, October, 1990.

"*Day-To-Day Landfill Operations,*" North Dakota Solid Waste Symposium, sponsored by North Dakota Department of Health, Bismarck, North Dakota, October, 1990.

"*Landfill Operations and Equipment Selection,*" Montana Landfill Short Course, sponsored by Blue Ridge Services and Schafer and Associates, Havre, Montana, June, 1989.

MSW Management (Partial List)

1. Who Says You Have a Litter Problem?
2. Is Your Landfill Secure?
3. A Look at Marginal Costs
4. When You Have To Rip, Use Your Head
5. How to Calculate Ripping Production
6. Prepare Now for Wet Weather
7. Dealing with Offensive Loads
8. Scraper Production: Moving Dirt or Making Dust?
9. Bee Careful - A Buzzword on Landfill Safety
10. What's Black and White Gray All Over?
11. Slope Stability - Excavation Areas
12. Dealing with Slope Erosion
13. Focus for Success
14. Is Overtime Overloading Your Crew?
15. Metal Detector: A Valuable Tool for Landfills
16. Noise
17. So, You Think You're Saving Money with that Old Iron? ...Think Again
18. ADC Regulations - Where Are We Headed?
19. ADC Offers Flexibility to Landfills
20. The ABC's of ADC. What to know about ADC? We've got you covered
21. Landfill Airspace and Waste Density... The Big Picture
22. "Compactonomics"
23. WHAT IS THE OPTIMUM DENSITY?
24. Alternative Daily Cover *Finding the Bottom Line*
25. Valuing Airspace
26. Airspace Management
27. Maximizing Airspace
28. Cell Geometry
29. Alternative Daily Cover (ADC)
30. Soil Conversion
31. Soil Cover
32. Landfill Planning
33. Landfill Safety
34. Fire Safety
35. Landfill Audits
36. Audit Information
37. Site Planning
38. Elements 1998
39. Elements 1999
40. Slow Down to Get Around
41. Prioritizing Safety Issues
42. State Profile – Hawaii

43. State Profile - Montana

Solid Waste Online

1. Introduction to "Bolton on Landfill Management"
2. Equipment Cost and Utilization
3. Reducing Costs
4. Landfill Shortcuts
1. Field Engineer as Liaison
2. Teamwork Works
3. Training for Excellence
4. Time Studies
5. Too Much Dirt
6. Work with Regulators
7. Regulatory Orientation – 1
8. Regulatory Orientation – 2
9. Staff Meetings
10. Landfill Signage
11. Cover Soil – Introduction
12. Soil Stockpiles
13. Competition
14. Track Walking
15. Soil Stripping
16. Soil Techniques
17. Scraper V. Dozer
18. Ready for Winter
19. Cover Soil Budget
20. Tipping Pad Planning
21. Managing Contact Water
22. Wood Waste
23. Commercial and Self-haul Vehicles
24. Public Disposal Facility
25. Dumping Risks
26. Scavenging
27. Landfill Shops
28. Landfills and the Web
29. Surveying Tools
30. Bird Control
31. Equipment Maintenance – Downtime
32. Site Capacity
33. Y2K
34. Small Landfills
35. Time to Split
36. Equipment Selection Criteria
37. Operator as Maintenance Man
38. Bears
39. Multiple Machines
40. Is Your Landfill Balanced?
41. Hardhats
42. Recycling
43. Floating Tires
44. Wet/Dry Weather
45. Traffic Control
46. Settlement
47. Emergency Response
48. Earth Day
49. Poisonous Snakes
50. Traffic Spotter

98. Erosion Control
43. Pushing Uphill
44. Pushing Downhill
45. Compactor Teeth
46. Ask and Tell
47. Fight Fire with Dirt
48. Owning Costs
49. Operating Costs
50. Compactor Sets the Pace
51. Sherlock Holmes on Fuel
52. Trucks v. Excavators
53. Sprinklers
54. Bring in Rubble
55. Hot Weather Ops
56. Public Image
57. Clean Out Junk
58. Landscape Landfill
59. Basic Comforts
60. Basic Training
61. Do a Newsletter
62. Marginal Costs
63. Dust control
64. Erosion Control — At Desert Landfills
65. Big Ditch Stabilization — Controlling Erosion and Sediment
66. Small Ditch Stabilization — Economically
67. Differential Rates
68. Safety is as Safety Does
69. Getting Down-to-Earth ...Day
70. A Look at Tipping Fee Units
71. Converting Cubic Yards to Tons
72. Don't Just Stand There ...Walk Around
73. Backup Machines - Do They Make Sense for Your Landfill?
74. Use That Grader!
75. Grader Techniques - Haul Road Tips
76. Grader Techniques - Ditch Construction & Maintenance
77. Your Competitive Range
78. Making History
79. Filling Procedures for the New Liner
80. Slope Stability - Excavation Areas

Solid Waste Technologies

81. Equipment Selection
82. Compaction

World Waste

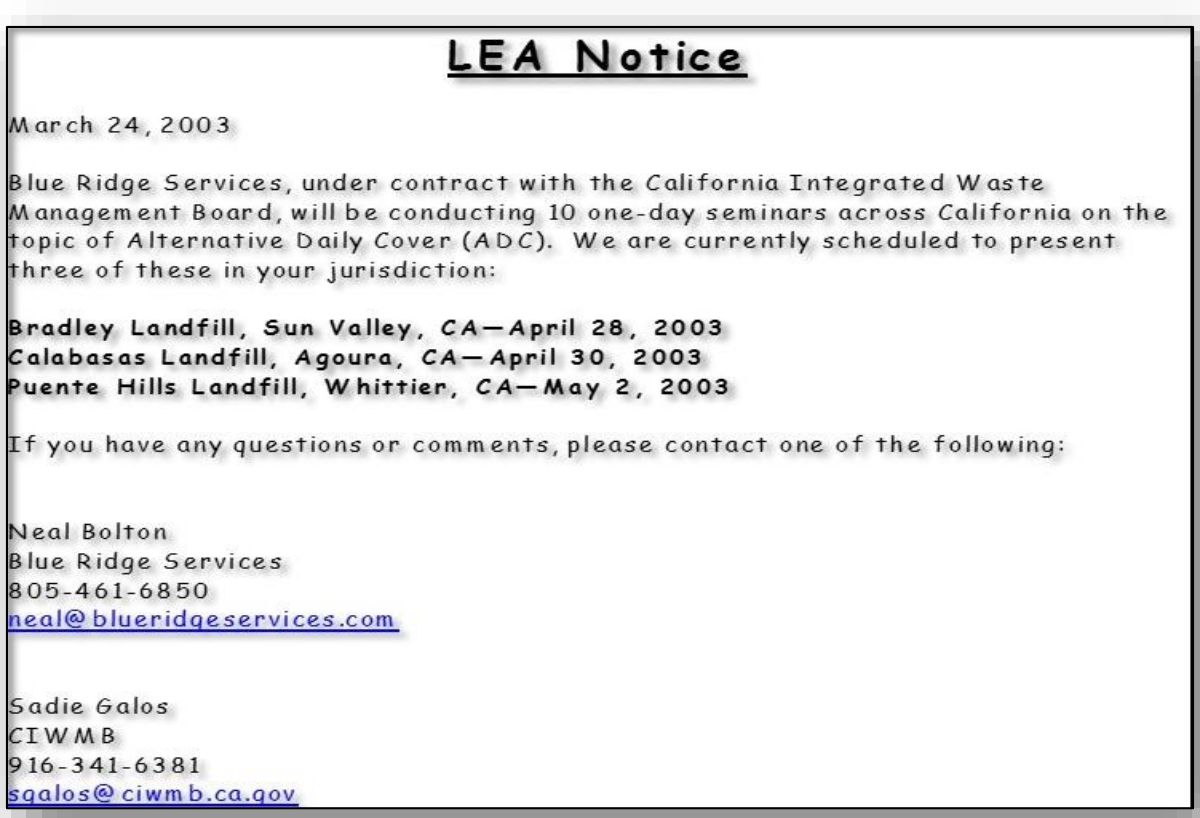
83. Managing Landfills

Waste Age

140. Optimizing Your Landfill Operation

Chiquita Canyon Landfill – Evaluation of Beneficial Reuse

Notice from a series of 10 classes taught for CalRecycle on the topic of ADC. A list of attendees and/or people on the waitlist (who may have attended) from Los Angeles County LEA is provided at the bottom of this page.



LEA Notice

March 24, 2003

Blue Ridge Services, under contract with the California Integrated Waste Management Board, will be conducting 10 one-day seminars across California on the topic of Alternative Daily Cover (ADC). We are currently scheduled to present three of these in your jurisdiction:

Bradley Landfill, Sun Valley, CA—April 28, 2003
Calabasas Landfill, Agoura, CA—April 30, 2003
Puente Hills Landfill, Whittier, CA—May 2, 2003

If you have any questions or comments, please contact one of the following:

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6. Don Stockenberg
7. Kelvin Kasai
8. Cindy Chen
9. Kelly Castellanose
10. Michael Edenedo
11. Kim Yapp
12. Richard Lange
13. Pete Oda
14. Herbert Sowe
15. Virginia Malokes
16. Larna Ilug

Appendix C

Sample Calculations & Topographic Map

Conversion from Tons to Surface Area

$$Surface\ Area = \frac{\left(\frac{Tons * 2{,}000\ lb/ton}{Density}\right) * 27\ ft^3/cy}{Thickness}$$

Conversion from Surface Area to Tons

$$Tons = \frac{(Surface\ Area) * (Thickness) * (Density)}{(27 ft^3/cy) * (2{,}000\ lb/ton)}$$

Calculation of Protective Cover Material on Wells & Headers (*$Tons_1$*)

Assumptions:

- *Protective Cover is made up of MRF & C&D Fines*
- *Raise 45 wells two times per year (raise 90 wells per year)*
- *Raise wells 20 feet at a time*
- *Apply 60 tons of material for every 5 feet of vertical raise*

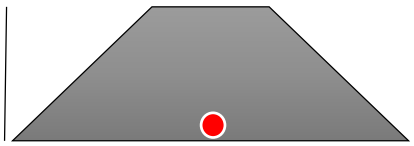
$$Tons_1 = (Material\ Application) * (Vertical\ Raise\ per\ Well) * (Wells\ Raised\ per\ Year)$$

$$Tons_1 = \left(\frac{60\ tons}{5\ feet}\right) * (20\ feet/well) * (90\ wells/year)$$

$$Tons_1 = 21{,}600\ {}^{tons}/_{year}$$

Calculation of Protective Cover Material on Laterals (*$Tons_2$*)

Assumptions:



- *Protective Cover is made up of MRF & C&D Fines*
- *Protect laterals with trapezoid of material*
- *Apply material 400 feet longitudinally at a time*
- *Apply material 90 times per year*
- *Material density of 1,600 pcy*

$$Area_{trapezoid} = \frac{(Top\ Width + Bottom\ Width)}{2} * (Height)$$

$$Area_{trapezoid} = \frac{(10\ ft + 30\ ft)}{2} * (10\ ft) = 200\ ft^2$$

$$Volume_{trapezoid} = (Area_{trapezoid}) * (Length_{trapezoid})$$

$$Volume_{trapezoid} = (200\ ft^2) * (400\ ft) = 80{,}000\ ft^3$$

$$Tons_2 = (Volume_{trapezoid}) * (Events\ per\ Year) * (Material\ Density)$$

$$Tons_2 = \frac{(80{,}000\ ft^3) * (90\ events/year) * (1{,}600\ lb/cy)}{(27 ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons_2 = 213{,}333\ {}^{tons}/_{year}$$

Calculation of Protective Cover Material on Slope Liner (*$Tons_3$*)

Assumptions:

- *Protective Cover is made up of MRF & C&D Fines*
- *Material applied on Cell 5 Slope (except bottom 25 feet and top 20 feet)*
- *Material applied over the course of 3 years*
- *Material applied at a thickness of 3 feet*
- *Material density of 1,600 pcy*

$$Surface\ Area\ Covered_{per\ year} = \frac{Total\ Surface\ Area\ Covered}{Time\ to\ Cover}$$

$$Surface\ Area\ Covered_{per\ year} = \frac{218{,}783.97\ ft^2}{3\ years}$$

$$Surface\ Area\ Covered_{per\ year} = 72{,}928\ {}^{ft^2}/_{year}$$

$$Tons_3 = (Surface\ Area\ Covered_{per\ year}) * (Thickness) * (Material\ Density)$$

$$Tons_3 = \frac{(72{,}928\ ft^2/year) * (3\ ft) * (1{,}600\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

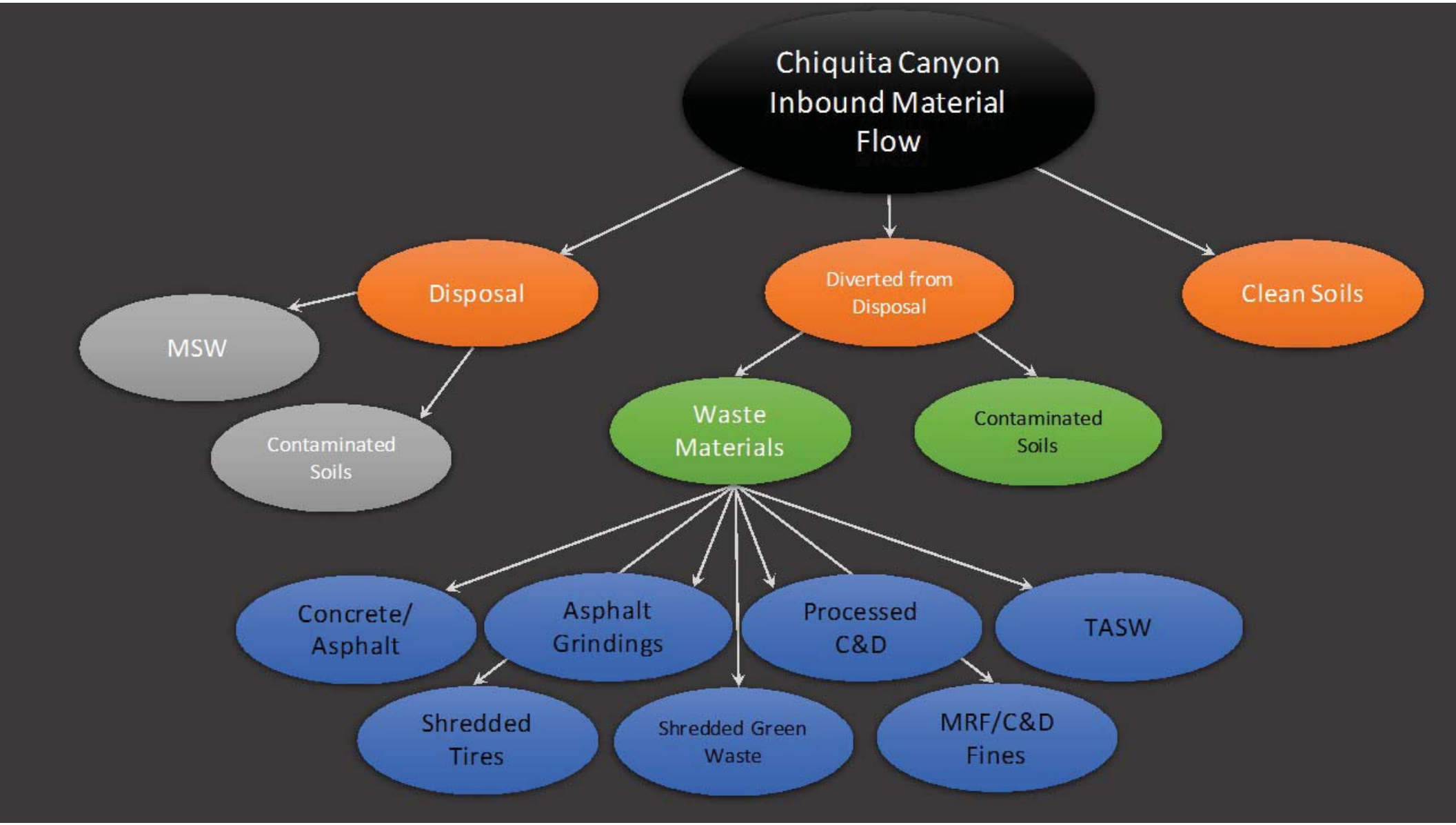
$$Tons_3 = 6{,}482\ {}^{tons}/_{year}$$

Chiquita Canyon

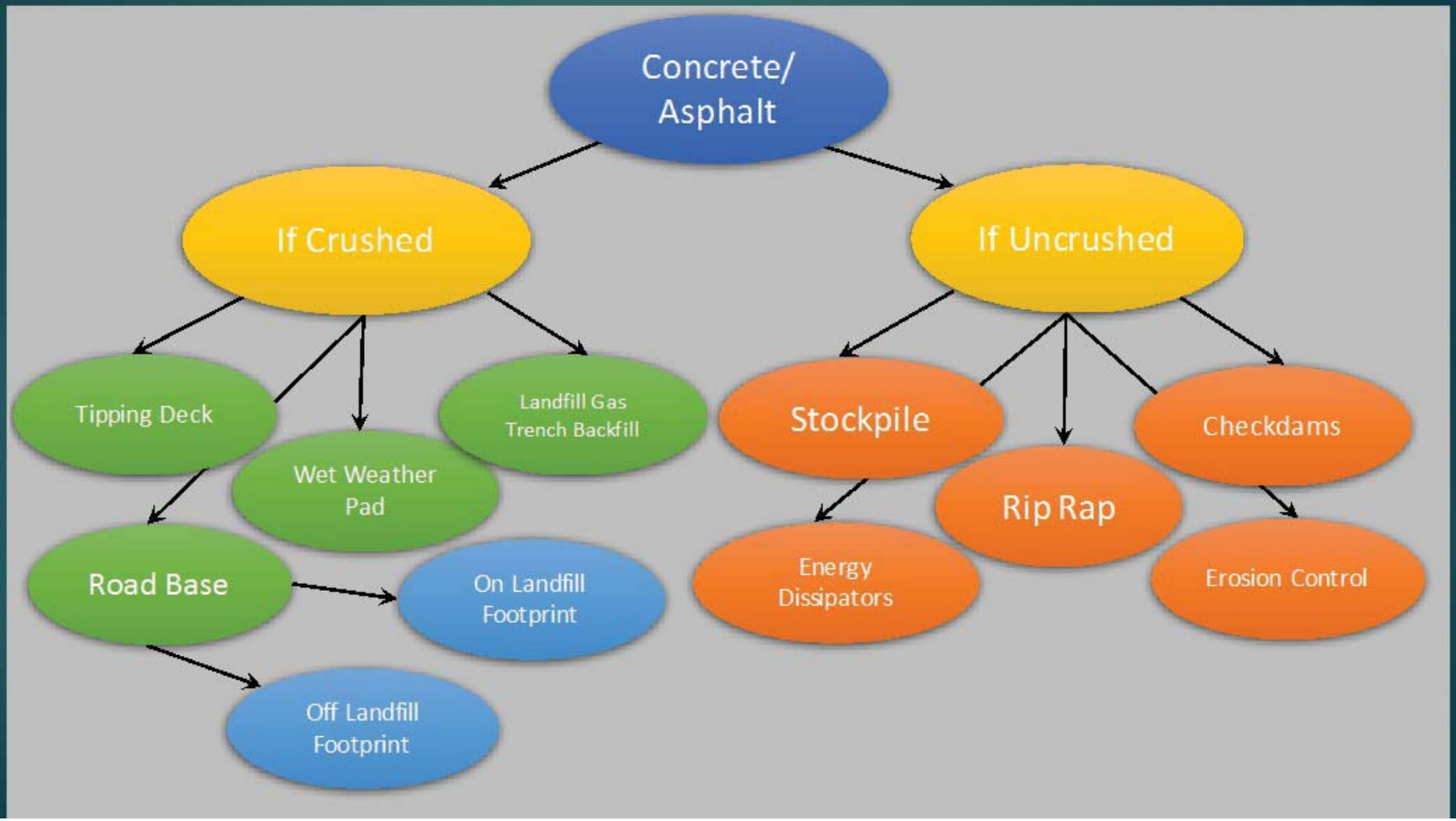
INBOUND MATERIAL FLOW – BENEFICIAL REUSE

INTRODUCTION: MATERIAL USAGE

- In compliance with Title 27, Section 20686, Chiquita Canyon Landfill is utilizing waste material as "beneficial reuse" in quantities that are "…appropriate for the specific use and in accordance with engineering, industry guidelines, or other standard practices…"
- The following slides show specifically how these materials are utilized at the landfill for beneficial reuse.
- Each slide shows an explanatory photo and volume calculations for these various materials.


Chiquita Canyon Inbound Material Flow
Disposal
Diverted from Disposal
Clean Soils
MSW
Contaminated Soils
Waste Materials
Contaminated Soils
Concrete/ Asphalt
Asphalt Grindings
Processed C&D
TASW
Shredded Tires
Shredded Green Waste
MRF/C&D Fines

CONCRETE/ASPHALT



CRUSHED CONCRETE/ASPHALT: TIPPING DECK



Concrete/Asphalt - If Crushed, *& Processed C&D* - Tipping Deck

Estimated Material Density	3,000	*lb/cy*
Estimated Material Application Thickness (typ.)	1.5	*ft*
Estimated Material Application Frequency (typ.)	1.5	*times/year*
Estimated Site Surface Area Demands	40,000	ft^2



$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(40{,}000\ ft^2) * (1.5\ times/year) * (1.5\ ft) * (3{,}000\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand	5,000	*tons/year*
Material Supply	2,457	*tons/year*
Material Difference	(2,543)	*tons/year*
Conclusion	*Not receiving enough material to meet the need for this use*	

CRUSHED CONCRETE/ASPHALT: WET WEATHER PAD



Concrete/Asphalt - If Crushed - Wet Weather Pad

Estimated Material Density	3,000	*lb/cy*
Estimated Material Application Thickness (typ.)	1.75	*ft*
Estimated Material Application Frequency (typ.)	1.5	*times/year*
Estimated Site Surface Area Demands	870,000	ft^2

1.5-2 ft.



$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(870{,}000\ ft^2) * (1.5\ times/year) * (1.75\ ft) * (3{,}000\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

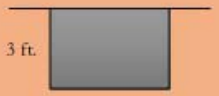
Estimated Material Demand	126,875	*tons/year*
Material Supply	7,780	*tons/year*
Material Difference	(119,095)	*tons/year*
Conclusion	*Not receiving enough material to meet the need for this use*	

CRUSHED CONCRETE/ASPHALT: LANDFILL GAS TRENCH BACKFILL



Concrete/Asphalt - If Crushed - Landfill Gas Trench Backfill

Estimated Material Density	3,000	*lb/cy*
Estimated Material Application Thickness (typ.)	3	*ft*
Estimated Material Application Frequency (typ.)	0.5	*times/year*
Estimated Site Surface Area Demands	18,000	*ft²*



$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(18{,}000\ ft^2) * (0.5\ times/year) * (3\ ft) * (3{,}000\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand	1,500	*tons/year*
Material Supply	2,866	*tons/year*
Material Difference	1,366	*tons/year*
Conclusion	*Receiving more than enough material to meet the need for this use*	

CRUSHED CONCRETE/ASPHALT: ON LF FOOTPRINT ROAD BASE



Concrete/Asphalt - If Crushed - On Landfill Footprint Road Base

Estimated Material Density	3,000	*lb/cy*
Estimated Material Application Thickness (typ.)	1.5	*ft*
Estimated Material Application Frequency (typ.)	1.5	*times/year*
Estimated Site Surface Area Demands	781,679	ft^2



$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(781{,}679\ ft^2) * (1.5\ times/year) * (1.5\ ft) * (3{,}000\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand	97,710	*tons/year*
Material Supply	12,284	*tons/year*
Material Difference	(85,426)	*tons/year*
Conclusion	*Not receiving enough material to meet the need for this use*	

CRUSHED CONCRETE/ASPHALT: OFF LF FOOTPRINT ROAD BASE



Concrete/Asphalt - If Crushed - Off Landfill Footprint Road Base

Estimated Material Density	3,000	*lb/cy*
Estimated Material Application Thickness (typ.)	1.5	*ft*
Estimated Material Application Frequency (typ.)	1	*time/year*
Estimated Site Surface Area Demands	265,947	*ft²*



$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(265{,}947\ ft^2) * (1\ time/year) * (1.5\ ft) * (3{,}000\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand	22,162	*tons/year*
Material Supply	15,560	*tons/year*
Material Difference	(6,602)	*tons/year*
Conclusion	*Not receiving enough material to meet the need for this use*	

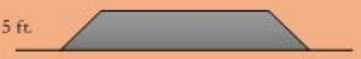
UNCRUSHED CONCRETE/ASPHALT: STOCKPILE





Concrete/Asphalt - If Uncrushed - Stockpile

Estimated Material Density	3,000	*lb/cy*
Estimated Material Application Thickness (typ.)	15	*ft*
Estimated Material Application Frequency (typ.)	1	*time/year*
Estimated Site Surface Area Demands	200,000	*ft²*



$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(200{,}000\ ft^2) * (1\ time/year) * (15\ ft) * (3{,}000\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	166,667	*tons/year*
Material Supply (2015)	12,986	*tons/year*
Material Difference (2015)	(153,680)	*tons/year*
Conclusion	*Not receiving enough material to meet the need for this use*	

UNCRUSHED CONCRETE/ASPHALT:
RIP RAP



Concrete/Asphalt - If Uncrushed - Rip Rap

Estimated Material Density	3,000	*lb/cy*
Estimated Material Application Thickness (typ.)	4	*ft*
Estimated Material Application Frequency (typ.)	0.75	*times/year*
Estimated Site Surface Area Demands	9,600	*ft²*

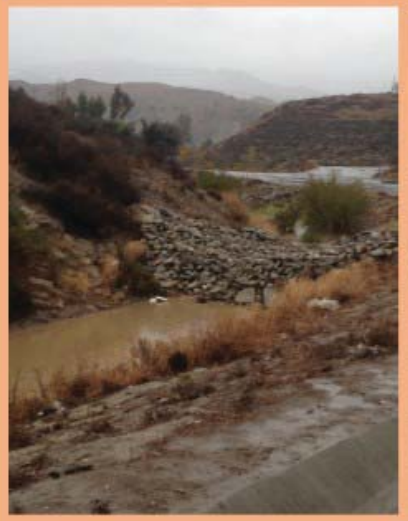


$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(9{,}600\ ft^2) * (0.75\ times/year) * (4\ ft) * (3{,}000\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	1,600	*tons/year*
Material Supply (2015)	1,579	*tons/year*
Material Difference (2015)	(21)	*tons/year*
Conclusion	*Not receiving enough material to meet the need for this use*	

UNCRUSHED CONCRETE/ASPHALT: CHECKDAMS





Concrete/Asphalt - If Uncrushed - Checkdams

Estimated Material Density	3,000	*lb/cy*
Estimated Material Application Thickness (typ.)	13.5	*ft*
Estimated Material Application Frequency (typ.)	0.5	*times/year*
Estimated Site Surface Area Demands	17,500	*ft²*

12-15ft.



$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(17{,}500\ ft^2) * (0.5\ times/year) * (13.5\ ft) * (3{,}000\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	6,563	*tons/year*
Material Supply (2015)	2,106	*tons/year*
Material Difference (2015)	(4,457)	*tons/year*
Conclusion	*Not receiving enough material to meet the need for this use*	

UNCRUSHED CONCRETE/ASPHALT: ENERGY DISSIPATORS



Concrete/Asphalt - If Uncrushed - Energy Dissipators

Estimated Material Density	3,000	*lb/cy*
Estimated Material Application Thickness (typ.)	2	*ft*
Estimated Material Application Frequency (typ.)	1	*time/year*
Estimated Site Surface Area Demands	1,000	ft^2

2 ft.

$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

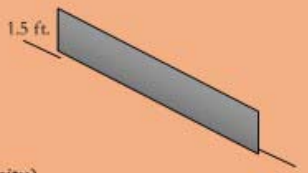
$$Tons = \frac{(1{,}000\ ft^2) * (1\ time/year) * (2\ ft) * (3{,}000\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	111	*tons/year*
Material Supply (2015)	351	*tons/year*
Material Difference (2015)	240	*tons/year*
Conclusion	*Receiving more than enough material to meet the need for this use*	

UNCRUSHED CONCRETE/ASPHALT: EROSION CONTROL



Concrete/Asphalt - If Uncrushed - Erosion Control



Estimated Material Density	3,000	*lb/cy*
Estimated Material Application Thickness (typ.)	1.5	*ft*
Estimated Material Application Frequency (typ.)	0.5	*times/year*
Estimated Site Surface Area Demands	180,220	ft^2

$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(180{,}220\ ft^2) * (0.5\ times/year) * (1.5\ ft) * (3{,}000\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	7,509	*tons/year*
Material Supply (2015)	526	*tons/year*
Material Difference (2015)	(6,983)	*tons/year*
Conclusion	*Not receiving enough material to meet the need for this use*	

ASPHALT GRINDINGS



ASPHALT GRINDINGS:
ROAD TOPPING



Asphalt Grindings - Road Topping

Estimated Material Density	2,500	*lb/cy*
Estimated Material Application Thickness (typ.)	1	*ft*
Estimated Material Application Frequency (typ.)	1	*time/year*
Estimated Site Surface Area Demands	582,015	*ft²*

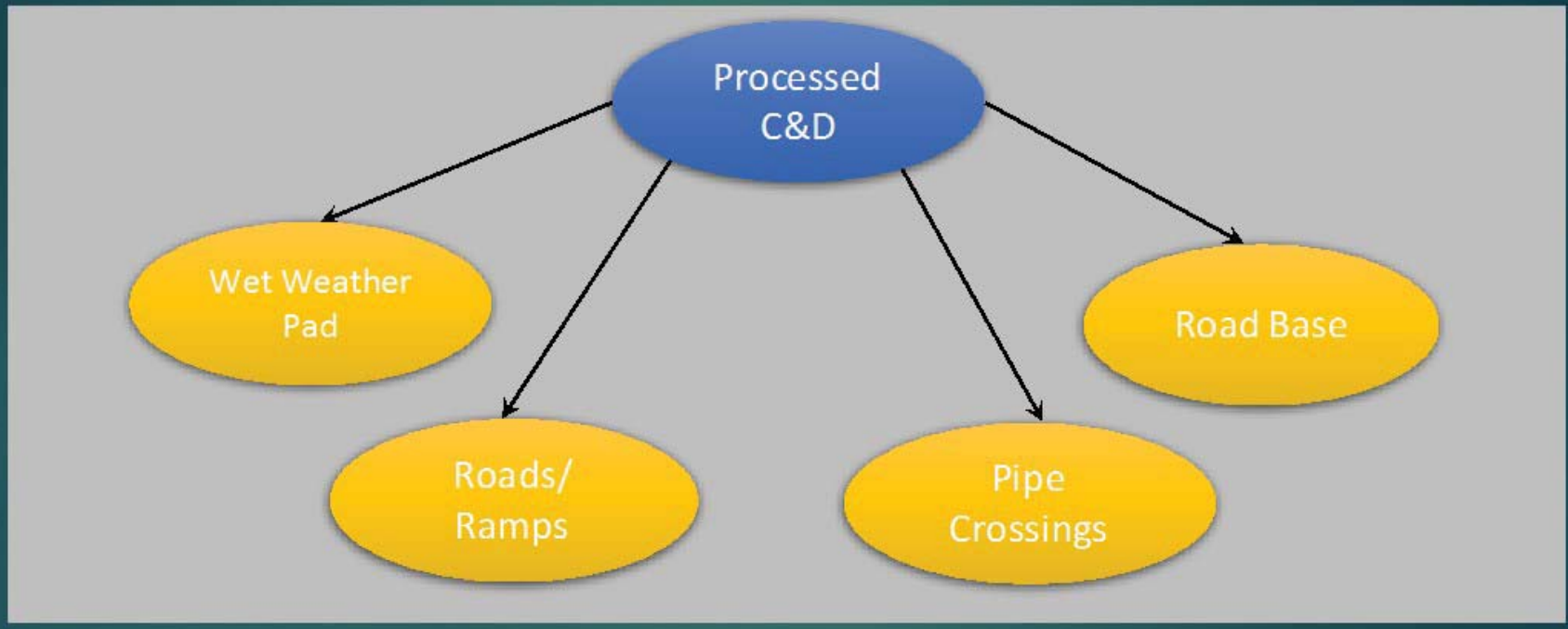
1 ft.

$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(582{,}015\ ft^2) * (1\ time/year) * (1\ ft) * (2{,}500\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	26,945	*tons/year*
Material Supply (2015)	4,300	*tons/year*
Material Difference (2015)	(22,645)	*tons/year*
Conclusion	*Not receiving enough material to meet the need for this use*	

PROCESSED C&D

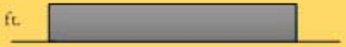


PROCESSED C&D:
WET WEATHER PAD



Processed C&D - Wet Weather Pad

Estimated Material Density	1,500	*lb/cy*
Estimated Material Application Thickness (typ.)	2	*ft*
Estimated Material Application Frequency (typ.)	1.5	*times/year*
Estimated Site Surface Area Demands	580,000	*ft²*



$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(580{,}000\ ft^2) * (1.5\ times/year) * (2\ ft) * (1{,}500\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	48,333	*tons/year*
Material Supply (2015)	27,560	*tons/year*
Material Difference (2015)	(20,773)	*tons/year*

PROCESSED C&D: ROADS/RAMPS



Processed C&D - Roads/Ramps

Estimated Material Density	1,500	*lb/cy*
Estimated Material Application Thickness (typ.)	1.5	*ft*
Estimated Material Application Frequency (typ.)	1.25	*times/year*
Estimated Site Surface Area Demands	11,640	*ft²*



$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(11{,}640\ ft^2) * (1.25\ times/year) * (1.5\ ft) * (1{,}500\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	606	*tons/year*
Material Supply (2015)	2,756	*tons/year*
Material Difference (2015)	2,150	*tons/year*
Conclusion	*Receiving more than enough material to meet the need for this use*	

PROCESSED C&D:
PIPE CROSSINGS



Processed C&D - Pipe Crossings

Estimated Material Density	1,500	*lb/cy*
Estimated Material Application Thickness (typ.)	2	*ft*
Estimated Material Application Frequency (typ.)	10	*times/year*
Estimated Site Surface Area Demands	400	ft^2



$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(400\ ft^2) * (10\ times/year) * (2\ ft) * (1{,}500\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

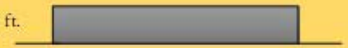
Estimated Material Demand (2015)	222	*tons/year*
Material Supply (2015)	2,362	*tons/year*
Material Difference (2015)	2,140	*tons/year*
Conclusion	*Receiving more than enough material to meet the need for this use*	

PROCESSED C&D: ROAD BASE



Processed C&D - Road Base

Estimated Material Density	1,500	*lb/cy*
Estimated Material Application Thickness (typ.)	1.5	*ft*
Estimated Material Application Frequency (typ.)	1.25	*times/year*
Estimated Site Surface Area Demands	116,403	*ft²*

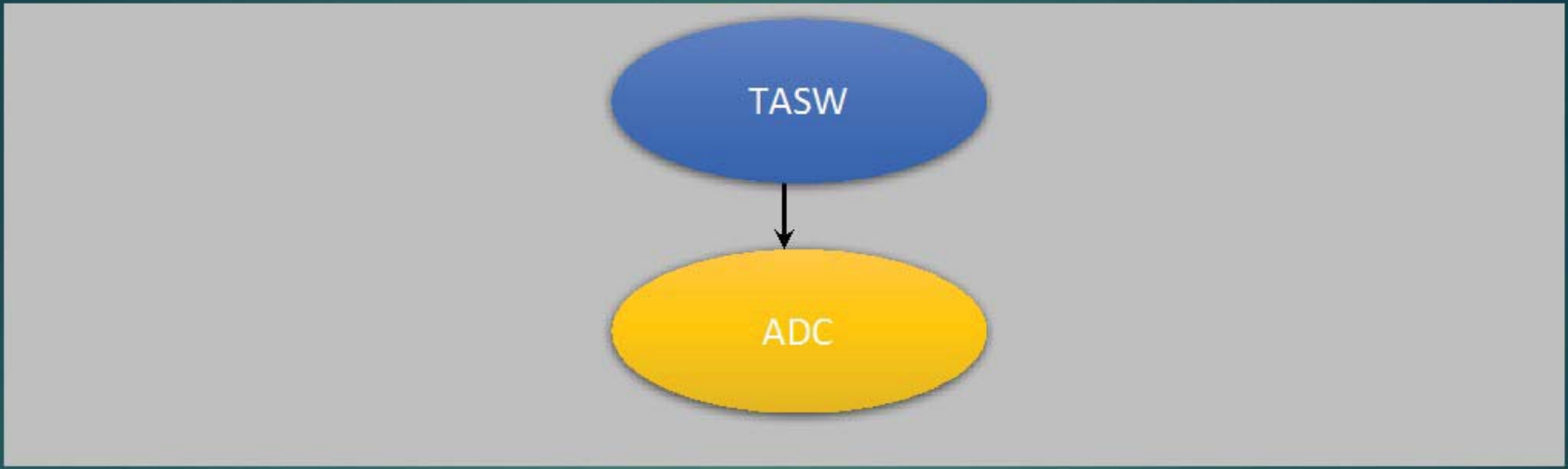


$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(116{,}403\ ft^2) * (1.25\ times/year) * (1.5\ ft) * (1{,}500\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	6,063	*tons/year*
Material Supply (2015)	6,693	*tons/year*
Material Difference (2015)	631	*tons/year*
Conclusion	*Receiving more than enough material to meet the need for this use*	

TASW



- ADC assumptions are as follows:
  - Area requiring daily cover is equal to 120,000 sq. ft. per day (60,000 sq. ft. twice per day)
  - Estimated 300 operating days per year
    - Contaminated soils are used for cover approximately 60 days per year
    - A combination of other waste-derived materials are used approximately 240 days per year
  - Compacted application thicknesses are based on Title 27, Section 20690 regulations

TASW: ADC



TASW - ADC

Estimated Compacted Material Density	800	*lb/cy*
Estimated Material Application Thickness (typ.)	2	*ft*
Estimated Material Application Frequency (typ.)	240	*times/year*
Estimated Site Surface Area Demands	30,000	ft^2

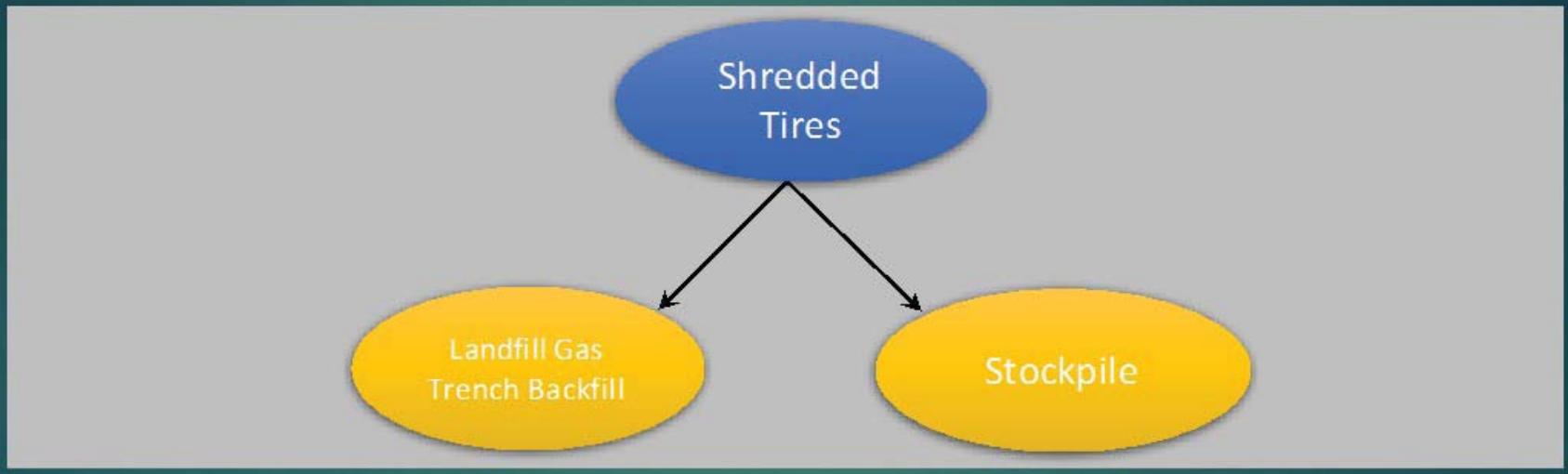
2 ft

$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(30{,}000\ ft^2) * (240\ times/year) * (2\ ft) * (800\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	213,333	*tons/year*
Material Supply (2015)	73,737	*tons/year*
Material Difference (2015)	(139,597)	*tons/year*
Conclusion	*Not receiving enough material to meet the need for this use*	

SHREDDED TIRES



SHREDDED TIRES:
LANDFILL GAS TRENCH BACKFILL



Shredded Tires - Landfill Gas Trench Backfill

Estimated Material Density	1,500	*lb/cy*
Estimated Material Application Thickness (typ.)	3	*ft*
Estimated Material Application Frequency (typ.)	0.5	*times/year*
Estimated Site Surface Area Demands	36,000	*ft²*



$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(36{,}000\ ft^2) * (0.5\ times/year) * (3\ ft) * (1{,}500\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	1,500	*tons/year*
Material Supply (2015)	1,350	*tons/year*
Material Difference (2015)	(150)	*tons/year*
Conclusion	*Not receiving enough material to meet the need for this use*	

SHREDDED TIRES: STOCKPILE



Shredded Tires - Stockpile

Estimated Material Density	1,500	*lb/cy*
Estimated Material Application Thickness (typ.)	15	*ft*
Estimated Material Application Frequency (typ.)	1	*time/year*
Estimated Site Surface Area Demands	22,500	*ft²*

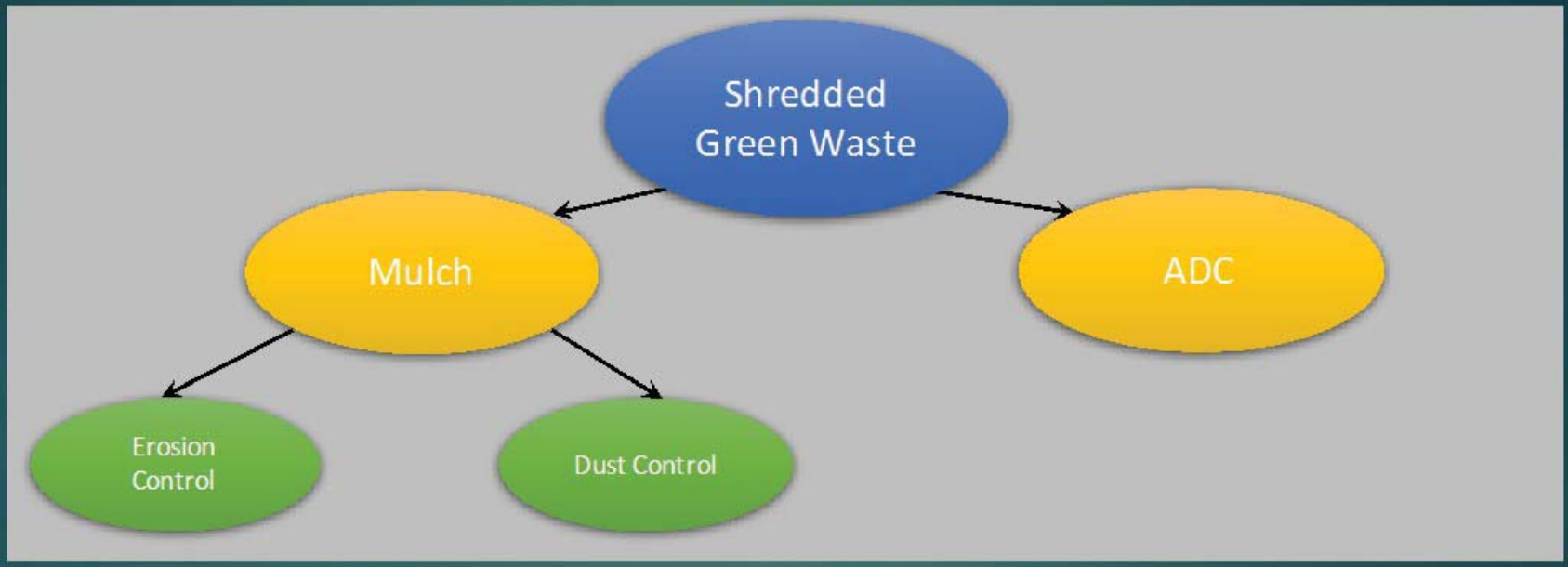


$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(22{,}500\ ft^2) * (1\ time/year) * (15\ ft) * (1{,}500\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	9,375	*tons/year*
Material Supply (2015)	150	*tons/year*
Material Difference (2015)	(9,225)	*tons/year*
Conclusion	*Not receiving enough material to meet the need for this use*	

SHREDDED GREEN WASTE

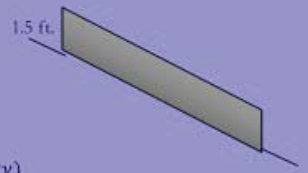


SHREDDED GREEN WASTE:
MULCH EROSION CONTROL



Shredded Green Waste - Mulch - Erosion Control

Estimated Material Density	750	*lb/cy*
Estimated Material Application Thickness (typ.)	1.5	*ft*
Estimated Material Application Frequency (typ.)	0.5	*times/year*
Estimated Site Surface Area Demands	4,415,384	*ft²*



$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(4{,}415{,}384\ ft^2) * (0.5\ times/year) * (1.5\ ft) * (750\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

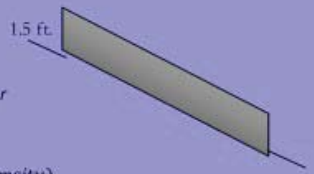
Estimated Material Demand (2015)	45,994	*tons/year*
Material Supply (2015)	19,783	*tons/year*
Material Difference (2015)	(26,211)	*tons/year*
Conclusion	*Not receiving enough material to meet the need for this use*	

SHREDDED GREEN WASTE:
MULCH DUST CONTROL



Shredded Green Waste - Mulch - Dust Control

Estimated Material Density	750	*lb/cy*
Estimated Material Application Thickness (typ.)	1.5	*ft*
Estimated Material Application Frequency (typ.)	0.5	*times/year*
Estimated Site Surface Area Demands	4,415,384	*ft²*



$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(4{,}415{,}384\ ft^2) * (0.5\ times/year) * (1.5\ ft) * (750\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	45,994	*tons/year*
Material Supply (2015)	19,783	*tons/year*
Material Difference (2015)	(26,211)	*tons/year*
Conclusion	*Not receiving enough material to meet the need for this use*	

SHREDDED GREEN WASTE:
ADC



Shredded Green Waste - ADC

Estimated Compacted Material Density	1,400	*lb/cy*
Estimated Material Application Thickness (typ.)	1	*ft*
Estimated Material Application Frequency (typ.)	240	*times/year*
Estimated Site Surface Area Demands	60,000	ft^2

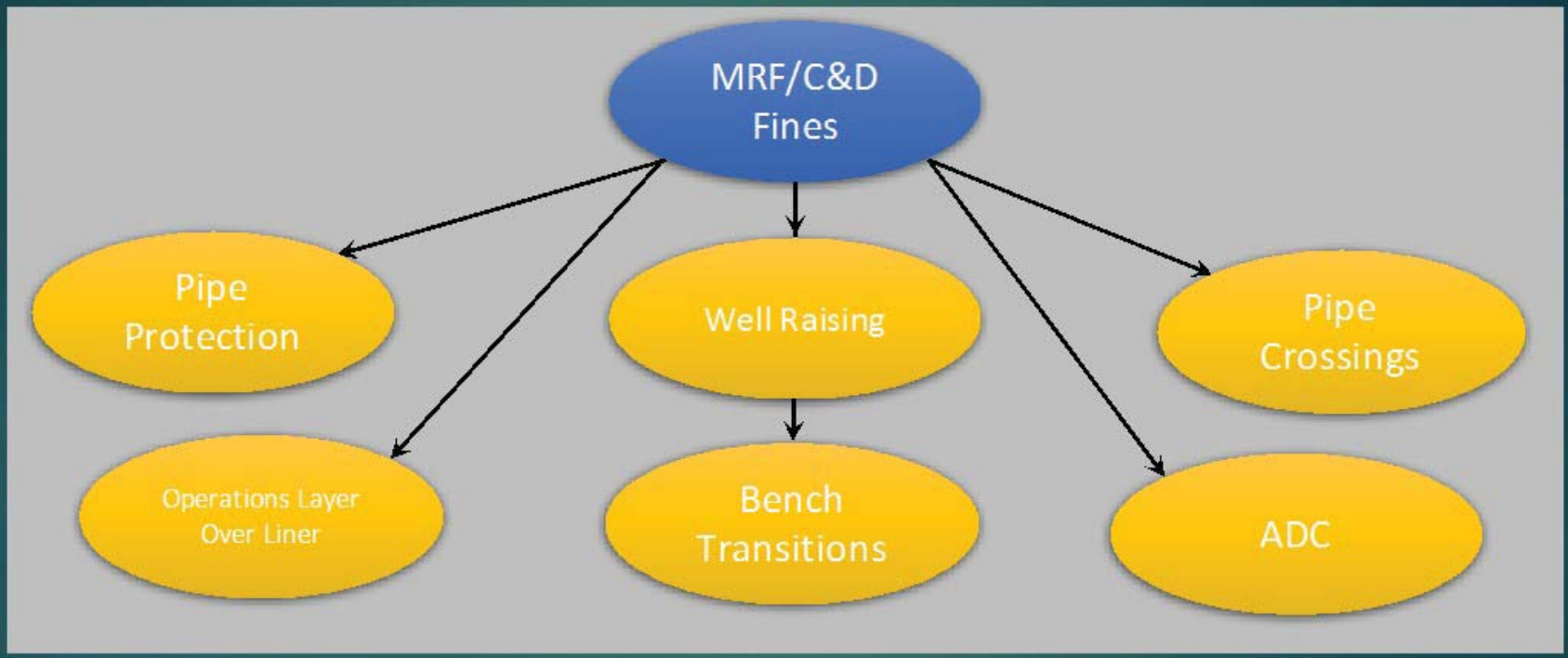
1 ft.

$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(60{,}000\ ft^2) * (240\ times/year) * (1\ ft) * (1{,}400\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	373,333	*tons/year*
Material Supply (2015)	4,396	*tons/year*
Material Difference (2015)	(368,937)	*tons/year*
Conclusion	*Not receiving enough material to meet the need for this use*	

MRF/C&D FINES


MRF/C&D Fines
Pipe Protection
Well Raising
Pipe Crossings
Operations Layer Over Liner
Bench Transitions
ADC

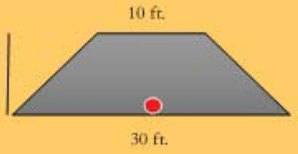
MRF/C&D FINES:
PIPE PROTECTION





MRF/C&D Fines - Pipe Protection

Estimated Material Density	1,600	lb/cy
Estimated Height of Material Trapezoid	10	ft
Estimated Top Width of Material Trapezoid	10	ft
Estimated Bottom Width of Material Trapezoid	30	ft
Estimated Material Application Frequency	25	times/yr
Estimated Longitudinal Material Application	400	ft



$$Tons = \frac{(Volume_{Trapezoid}) * (Material\ Application\ Frequency) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(80{,}000\ ft^3) * (25\ times/year) * (1{,}600\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

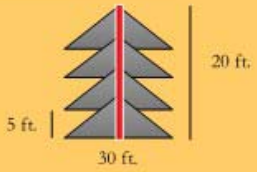
Estimated Material Demand (2015)	59,259	tons/year
Material Supply (2015)	58,165	tons/year
Material Difference (2015)	(1,094)	tons/year
Conclusion	*Not receiving enough material to meet the need for this use*	

MRF/C&D FINES:
WELL RAISING



MRF/C&D Fines - Well Raising

Estimated Material Density	1,600	*lb/cy*
Number of Wells Raised per Year	40	*wells/year*
Height Raised per Event	20	*ft*
Volume of Material Used per Event	7,142	ft^3



$$Volume = 4 * \left(\pi r^2 \frac{h}{3}\right) = 4\pi \left[\left((15\,ft)^2 * \frac{8\,ft}{3}\right) - \left((5.625\,ft)^2 * \frac{3\,ft}{3}\right)\right] = 7{,}142\ ft^3$$

$$Tons = \frac{Volume\ *\ Density\ *\ Material\ Application\ Frequency}{(27\ ft^3/cy) * (2{,}000\ lb/ton)} = \frac{(7{,}142\,ft^3) * (1{,}600\ lb/cy) * (40\ wells/year)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	8,465	*tons/year*
Material Supply (2015)	62,819	*tons/year*
Material Difference (2015)	54,354	*tons/year*
Conclusion	*Receiving more than enough material to meet the need for this use*	

MRF/C&D FINES:
PIPE CROSSINGS



MRF/C&D Fines - Pipe Crossings

Estimated Material Density	1,600	*lb/cy*
Estimated Material Application Thickness	2	*ft*
Estimated Material Application Frequency	10	*times/year*
Estimated Site Surface Area Demands	400	ft^2

2 ft.

$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(400\ ft^2) * (10\ times/year) * (2\ ft) * (1{,}600\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	237	*tons/year*
Material Supply (2015)	9,306	*tons/year*
Material Difference (2015)	9,069	*tons/year*
Conclusion	*Receiving more than enough material to meet the need for this use*	

MRF/C&D FINES:
OPERATIONS LAYER OVER LINER



MRF/C&D Fines - Operations Layer Over Liner

Estimated Material Density	1,600	*lb/cy*
Estimated Material Application Thickness	3.5	*ft*
Estimated Material Application Frequency	1	*time/year*
Estimated Site Surface Area Demands	130,680	ft^2

3.5 ft.

$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(130{,}680\ ft^2) * (1\ time/year) * (3.5\ ft) * (1{,}600\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	13,552	*tons/year*
Material Supply (2015)	69,799	*tons/year*
Material Difference (2015)	56,247	*tons/year*
Conclusion	*Receiving more than enough material to meet the need for this use*	

MRF/C&D FINES:
BENCH TRANSITIONS



MRF/C&D Fines - Bench Transitions

Estimated Material Density	1,600	*lb/cy*
Estimated Material Application Thickness	2	*ft*
Estimated Material Application Frequency	1	*time/year*
Estimated Site Surface Area Demands	120,000	*ft²*



$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(120{,}000\ ft^2) * (1\ time/year) * (2\ ft) * (1{,}600\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	3,556	*tons/year*
Material Supply (2015)	13,960	*tons/year*
Material Difference (2015)	10,404	*tons/year*
Conclusion	*Receiving more than enough material to meet the need for this use*	

MRF/C&D FINES: ADC



MRF/C&D Fines - ADC

Estimated Compacted Material Density	1,600	*lb/cy*
Estimated Material Application Thickness	1.5	*ft*
Estimated Material Application Frequency	240	*times/year*
Estimated Site Surface Area Demands	30,000	ft^2

1.5 ft

$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(30{,}000\ ft^2) * (240\ times/year) * (1.5\ ft) * (1{,}600\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	320,000	*tons/year*
Material Supply (2015)	18,613	*tons/year*
Material Difference (2015)	(301,387)	*tons/year*
Conclusion	*Not receiving enough material to properly cover site*	

CONTAMINATED SOILS:
COVER SOIL



Contaminated Soils - Cover Soil

Estimated Compacted Material Density	2,800	*lb/cy*
Estimated Material Application Thickness (typ.)	1	*ft*
Estimated Material Application Frequency (typ.)	60	*times/year*
Estimated Site Surface Area Demands	120,000	*ft²*

1 ft.

$$Tons = \frac{(Surface\ Area) * (Application\ Frequency) * (Thickness) * (Density)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

$$Tons = \frac{(120{,}000\ ft^2) * (60\ times/year) * (1\ ft) * (2{,}800\ lb/cy)}{(27\ ft^3/cy) * (2{,}000\ lb/ton)}$$

Estimated Material Demand (2015)	373,333	*tons/year*
Material Supply (2015)	355,519	*tons/year*
Material Difference (2015)	(17,815)	*tons/year*
Conclusion	*Not receiving enough material to meet the need for this use*	

Summary: SUPPLY V. DEMAND

- The individual and net quantities of each beneficial reuse material are shown on the following page.
- Please note that while individual uses within each main category are estimated, the sum quantity of those categories reflect actual inbound tonnage.

Material	Potential Use	Material Demand (tons)	Material Supply (tons)	Material Difference (tons)
Concrete/Asphalt	If Crushed - Road Base - On Landfill Footprint	97,710	12,284	(85,426)
	If Crushed - Road Base - Off Landfill Footprint	22,162	15,560	(6,602)
	If Crushed - Tipping Deck *(and Processed C&D)*	5,000	2,457	(2,543)
	If Crushed - Wet Weather Pad	126,875	7,780	(119,095)
	If Crushed - Landfill Gas Trench Backfill	1,500	2,866	1,366
	If Uncrushed - Stockpile	166,667	12,986	(153,680)
	If Uncrushed - Rip Rap	1,600	1,579	(21)
	If Uncrushed - Checkdams	6,563	2,106	(4,457)
	If Uncrushed - Energy Dissipators	111	351	240
	If Uncrushed - Erosion Control	7,509	526	(6,983)
			Net Balance:	**(377,200)**
Asphalt Grindings	Road Topping	26,945	4,300	(22,645)
			Net Balance:	**(22,645)**
Processed C&D	Wet Weather Pad	48,333	27,560	(20,773)
	Road Base	6,063	6,693	631
	Roads/Ramps	606	2,756	2,150
	Pipe Crossings	222	2,362	2,140
			Net Balance:	**(15,852)**
TASW	ADC	213,333	73,737	(139,597)
			Net Balance:	**(139,597)**
Shredded Tires	Landfill Gas Trench Backfill	1,500	1,350	(150)
	Stockpile	9,375	150	(9,225)
			Net Balance:	**(9,375)**
Shredded Green Waste	Mulch - Erosion Control	45,994	19,783	(26,211)
	Mulch - Dust Control	45,994	19,783	(26,211)
	ADC	373,333	4,396	(368,937)
			Net Balance:	**(421,359)**
MRF/C&D Fines	Pipe Protection	59,259	58,165	(1,094)
	Well Raising	8,465	62,819	54,354
	Pipe Crossings	237	9,306	9,069
	Operations Layer Over Liner	13,552	69,799	56,247
	ADC	320,000	18,613	(301,387)
	Bench Transitions	3,556	13,960	10,404
			Net Balance:	**(172,407)**
Contaminated Soil	Cover Soil	373,333	355,519	(17,815)
			Net Balance:	**(17,815)**

All Quantities expressed in "tons."

Individual "Material Supply" quantities are estimated and vary slightly year to year, but sum of each material category is actual tonnage received.