

**Appendix H**  
**Air Quality**

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**Air Quality Appendix H1  
Methodology**

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# H.1 Methodology

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.

## H.1.1 Emission Calculation Methodology

Three years were determined to be representative of maximum impacts from construction and operation of the Proposed Project and were selected for further analysis: 2016, 2021, and 2032. The first year of cell construction for the Proposed Project would be 2016. Construction activities associated with entrance relocation would occur in 2014; however emissions calculated for entrance relocation were lower than emissions calculated for cell construction. Maximum impacts from cell construction would occur in 2016 because emissions from off-road diesel equipment would decrease over time as engines are replaced to meet the California Air Resources Board (CARB) emission requirements for a large fleet (CARB, 2013a). It was assumed that operation of the Proposed Project would ramp up over a 7-year period starting January 1, 2014. Therefore partial operation of the Proposed Project would also occur in 2016. Full operational buildout would occur in 2021, the same year in which the first new flare would be added and construction of the second cell would occur. Therefore, 2021 would be the worst case combined operation and construction year. Year 2033 represents the maximum year of landfill fugitive emissions; however the landfill closure date is 2032, and emissions would be higher when operation and landfill gas (LFG) generation overlap. A second new flare would be added in 2030, and all operational sources would be the same in 2032 as in 2030; therefore 2032 will be modeled as the worst case LFG generation year.

### H.1.1.1 Construction Emissions

Short-term emissions of oxides of nitrogen (NO<sub>x</sub>), volatile organic compounds (VOC), CO, sulfur oxides (SO<sub>x</sub>), particulate matter with aerodynamic diameter less than or equal to 10 microns (PM<sub>10</sub>), and particulate matter with aerodynamic diameter less than or equal to 2.5 microns (PM<sub>2.5</sub>) would be generated during entrance relocation and construction of new landfill modules. Construction activities during entrance relocation include site preparation, road construction, and foundation construction. Construction activities during landfill module construction include site preparation and excavation. Onsite and offsite construction emissions were divided into three categories: vehicle and construction equipment exhaust, fugitive dust generated by paved and unpaved road travel, and fugitive dust generated from earthmoving activities and paving activities. During onsite construction, activities are assumed to occur during daylight hours, for 5 days per week, or 20 days per month, and for 6 months a year during the late spring, summer, and early fall.

The Proposed Project would include best management practices (BMP) to reduce emissions during construction. Therefore, the following emission reductions were included in the unmitigated construction emissions to account for implementation of BMPs:

- The construction equipment would be equipped with engines meeting CARB requirements for a large fleet at the time of construction (CARB, 2013a). This would include a combination of Tier 3 and Tier 4 compliant equipment.
- The construction equipment would be equipped with diesel particulate filters (DPF) and lean NO<sub>x</sub> catalyst, which would result in an 85 percent reduction for particulate matter and a 40 percent reduction for NO<sub>x</sub> (EPA, 2013f).
- Unnecessary truck and equipment idling would be limited to less than 2 minutes, to the extent feasible.
- Use of all construction equipment would be suspended during second stage smog alerts (SCAQMD, 1993).
- Fugitive dust from vehicle travel on paved roads would be controlled using a 25-foot-long gravel trackout apron, which would result in a 46 percent reduction in particulate matter emissions (South Coast Air Quality Management District [SCAQMD], 2013a and 2013b). Paved roads would be cleaned three times

daily using a SCAQMD-approved street sweeper, which would result in an additional 45 percent emissions reduction for particulate matter (Western Regional Air Partnership [WRAP], 2006a).

- Fugitive dust from vehicle travel on unpaved roads would be controlled through watering two times daily, the use of dust palliatives, paving as much as possible, and limiting the maximum vehicle speed to 15 miles per hour, which would result in a combined effective control efficiency of 90 percent (SCAQMD, 2013c; WRAP, 2006b).
- Fugitive dust from soil disturbance would be suppressed with hourly watering and dust suppressant application, which would reduce particulate matter emissions by 90 percent (WRAP, 2006c).

### **Construction Exhaust Emissions**

Construction equipment exhaust emissions of VOC, CO, and SO<sub>x</sub> were estimated using SCAQMD OFFROAD 2007 emission factors, while NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions were estimated using CARB emission factors by engine tier level. Though CARB has released an updated version of the OFFROAD model, OFFROAD 2011, it was not used for this analysis as it provides inventory level emissions, not equipment specific emission factors. The construction equipment and trucks used for routine maintenance activities were considered onsite emission sources while worker commutes were considered offsite emission sources. As previously discussed, it was assumed that the construction equipment fleet would meet CARB requirements for a large fleet and be equipped with DPF as a project BMP. On-road vehicle exhaust emissions were estimated using EMFAC2011 average emission factors for SCAQMD. It was assumed that maintenance trucks would travel 5 miles per day onsite and employees would commute a distance of 40 miles roundtrip each. The vehicle exhaust emission calculation spreadsheets are included in Appendix H-2.

### **Construction Fugitive Dust Emissions from Vehicles and Equipment**

Fugitive dust would result from vehicle travel on unpaved and paved roads, and soil disturbing activities such as module excavation. 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). As discussed above, it was assumed that a gravel trackout apron would be used and paved roads would be cleaned three times daily as project BMPs; therefore, unmitigated particulate matter emissions from vehicle travel on paved roads were reduced by 90 percent. It was also assumed that unpaved roads would be watered two times daily, dust palliatives would be applied, and vehicle speed on unpaved roads would be reduced to 15 miles per hour as project BMPs. Therefore, the unmitigated unpaved road emissions were reduced by 90 percent. The fugitive dust emission calculation spreadsheets are included in Appendix H-2.

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). As previously discussed, it was assumed that areas with soil disturbance would be watered hourly and palliatives would be applied as project BMPs. Therefore, the unmitigated fugitive dust emissions from disturbed areas were reduced by 90 percent. The fugitive dust emission calculation spreadsheets are included in Appendix H-2.

#### **H.1.1.2 Operation Emissions**

Long-term emissions of NO<sub>x</sub>, VOC, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> would be generated from operation of the Proposed Project. Proposed Project operation emissions would be generated from routine landfill 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 paved and unpaved road travel, fugitive dust generated from earthmoving activities, and fugitive LFG. Operations at the landfill are assumed to occur 6 days per week, for a total of 312 days per year.

The project would include BMPs to reduce emissions during operation. Therefore, the following emission reductions were included in the unmitigated operation emissions to account for implementation of BMPs:

- Additional off-road diesel equipment would be equipped with engines meeting Tier 4 emission standards.
- Additional off-road diesel equipment would be equipped with DPF, which would result in an 85 percent reduction for particulate matter and a 40 percent reduction for NO<sub>x</sub> (EPA, 2013f).
- Unnecessary truck and equipment idling would be limited to less than 2 minutes, to the extent feasible.
- Use of all off-road diesel equipment would be suspended during second stage smog alerts (SCAQMD, 1993).
- Fugitive dust from vehicle travel on paved roads would be controlled through the use of a 25-foot-long gravel trackout apron and three times daily cleaning of the paved roads, which would result in a 90 percent reduction in particulate matter emissions (SCAQMD, 2013a and 2013b; WRAP, 2006a).
- Fugitive dust from vehicle travel on unpaved roads would be controlled through watering two times daily, applying dust palliatives at least twice a year, paving as much as possible, and limiting the maximum vehicle speed to 15 miles per hour, which would result in a combined effective control efficiency of 90 percent (SCAQMD, 2013c; WRAP, 2006b).
- Fugitive dust from soil disturbance would be suppressed with hourly watering and application of dust suppressants, which would reduce particulate matter emissions by 90 percent (SCAQMD, 2013a; WRAP, 2006c).

### Operation Exhaust Emissions

Off-road diesel equipment exhaust emissions of VOC, CO, and SO<sub>x</sub> were estimated using SCAQMD OFFROAD 2007 emission factors, while NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions were estimated using CARB emission factors by engine tier level. Though CARB has released an updated version of the OFFROAD model, OFFROAD 2011, it was not used for this analysis as it provides inventory level emissions, not equipment specific emission factors. Vehicle exhaust emissions were estimated using EMFAC2011 average emission factors for SCAQMD. Trucks used for routine maintenance activities were considered onsite emission sources while worker commutes 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.

Waste trucks would travel both onsite and offsite. As described in Chapter 18.0, Project Alternatives, car and truck traffic associated with transport of solid waste for the Proposed Project would be redirected to other landfills if the Proposed Project were not approved, relocating those daily operational emissions to other locations within the same air basin (South Coast Air Basin). Transportation-related air quality impacts would increase with transport of waste to more distant locations (i.e., Riverside and Imperial counties); therefore the Proposed Project would result in a net reduction in vehicle exhaust emissions from transport of solid waste. Vehicle exhaust emissions from waste trucks were calculated and included in the air dispersion modeling and health risk assessment (HRA) to determine potential impacts to local receptors, but were not included in the maximum daily operational totals per the SCAQMD *CEQA Air Quality Handbook* (SCAQMD, 1993). It was assumed that waste trucks would travel 6 miles per day offsite and 4 miles per day onsite with an idling time of 3.5 minutes. The vehicle exhaust emission calculation spreadsheets are included in Appendix H-2.

It was assumed that since CCL is a large operator of diesel off-road equipment, all additional pieces of off-road diesel equipment used for operational activities would be model year 2014 or would meet model year 2014 emission control requirements (Tier 4). Additionally, all additional pieces of off-road diesel equipment would be equipped with DPF as a project BMP.

## Stationary Source Exhaust Emissions

CCL currently operates two LFG flares onsite. As part of the Proposed Project, two additional flares would be installed—the first in 2021 and the second in 2030. Emissions from the project flares were estimated based on the potential to emit (PTE) rates of the existing flares. Facility data indicates that on average, 85 percent of LFG generated is combusted in the flares. Therefore, it was assumed that 85 percent of future LFG generated would be combusted by the flares. The stationary source exhaust emission calculation spreadsheets are included in Appendix H-2.

## Operation Fugitive Dust Emissions from Vehicles and Equipment

Fugitive dust would result from vehicle travel on unpaved and paved roads, and soil disturbing activities such as daily landfill covering and compacting. Fugitive dust emissions from vehicle travel on unpaved and paved roads were estimated using EPA-approved emission factors and methodology published in AP-42<sup>1</sup>. As previously discussed, it was assumed that a gravel trackout apron and three times daily street cleaning would be used as project BMPs; therefore, unmitigated particulate matter emissions from vehicle travel on paved roads were reduced by 90 percent. It was also assumed that unpaved roads would be watered two times daily, dust palliatives would be applied at least twice a year, paving would be completed as much as possible, and vehicle speed on unpaved roads would be reduced to 15 miles per hour as project BMPs. Therefore, the unmitigated unpaved road emissions were reduced by 90 percent. The fugitive dust emission calculation spreadsheets are included in Appendix H-2.

Fugitive dust emissions from soil disturbance (e.g., grading activities) were estimated using recommended emission factors from the SCAQMD *CEQA Air Quality Handbook* (SCAQMD, 1993). As previously discussed, it was assumed that areas with soil disturbance would be watered hourly and would receive application of dust suppressants as project BMPs. Therefore, the unmitigated fugitive dust from disturbed areas was reduced by 90 percent. The fugitive dust emission calculation spreadsheets are included in Appendix H-2.

## 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 LFG emissions per 40 *Code of Federal Regulations* (CFR) 60 Subpart WWW; however facility data indicate that, on average, 85 percent of LFG generated is combusted in the flare. Based on the LFG capture rate, it was determined that 15 percent of LFG generated would be emitted as fugitive. The fugitive LFG calculation spreadsheets are included in Appendix H-2.

## H.1.2 Dispersion Modeling Methodology

Dispersion modeling was conducted to assess the potential NO<sub>x</sub>, CO, sulfur dioxide (SO<sub>2</sub>), PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from construction and operation of the Proposed Project. Emissions were modeled using the EPA-approved AERMOD dispersion modeling system (Version 12345). 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 meteorological data preprocessor AERMET. The AERMOD model was run using regulatory default control options and rural dispersion mode. Results from the dispersion modeling analysis for each pollutant and averaging time were compared to their respective thresholds.

AERMAP (Version 11103) was used to determine receptor and source base elevations. United States Geological Survey (USGS) National Elevation Dataset (NED) 1 arc second format data were used as the input to AERMAP. All coordinates were referenced to Universal Transverse Mercator North American Datum 1983, Zone 11. Source elevations were based on the most recent land surveys for the facility.

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<sup>1</sup> United States Environmental Protection Agency. 2006. AP-42, Compilation of Air Pollutant Emission Factors. Chapter 13. Volume 1. Fifth Edition.



Receptors 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 (LULC) maps for year 2006. These receptor locations were then further refined based on the most recent USGS satellite imagery available.

Meteorological data for the modeling analysis was available pre-processed using AERMET (Version 12345) from SCAQMD for the years 2005 through 2009 for the Santa Clarita station. These data were downloaded from the SCAQMD Web site.

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**

Source Name	Source Type
<b>Construction Sources</b>	
Landfill Module Construction (Fugitive Dust)	Area
Landfill Module Construction (Exhaust)	Gridded Point
<b>Operational Sources</b>	
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

As described above, modeling was conducted for the Proposed Project initial construction year (2016), peak operations year (2021), and final landfill closeout year (2032). AERMOD was run separately for the construction and operation of the project to better characterize potential impacts for comparison to SCAQMD thresholds.

To better characterize the conversion of modeled NO<sub>x</sub> to nitrogen dioxide (NO<sub>2</sub>), initial impacts assumed a 100 percent conversion of NO<sub>x</sub> to NO<sub>2</sub>. If further refinement of the NO<sub>x</sub> to NO<sub>2</sub> conversion was required, the annual impacts then assumed the default ambient ratio of NO<sub>x</sub> to NO<sub>2</sub> conversion of 0.75. For the 1-hour short-term conversion of NO<sub>x</sub> to NO<sub>2</sub>, the LST distance methodology was utilized (SCAQMD, 2006).

### H.1.3 Health Risk Assessment

The HRA was performed following the latest guidance outlined in the “*Air Toxics Hot Spots Program Risk Assessment Guidelines*” (Office of Environmental Health Hazard Assessment [OEHHA], 2003). 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 predicts health impacts in terms of cancer risk, acute hazard index (HIA), and chronic hazard index (HIC) by factoring AERMOD-predicted pollutant concentrations by pollutant-specific cancer potency values and chronic/acute reference exposure levels (REL) obtained from OEHHA (CARB, 2003a).

Following the OEHHA guidance and SCAQMD guideline, the HRA included potential health impacts from homegrown produce, dermal absorption, soil ingestion, and mother's milk. In addition, because inhalation is the dominant pathway of 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, 2003b).

For the purposes of quantifying emission increases and performing HRA analysis, impacts were characterized as either associated with construction or operation of the landfill. Emission sources associated with the landfill expansion for operation were divided into four categories: (1) LFG flares, (2) fugitive LFG, (3) onsite equipment and vehicle travel, and (4) offsite vehicle travel. The emission increases from the first three source categories are onsite emissions associated with the proposed landfill operation. The fourth category covers the offsite diesel particulate matter (DPM) emissions from all landfill 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) near the landfill. The offsite diesel emissions were included in the HRA to represent a more conservative case for future landfill operation.

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

For the emissions associated with landfill operation during 2016 and 2021, a conservative exposure duration of 30 years was selected for both residential and commercial/industrial receptors, although the duration of the Proposed Project would be less than 30 years. For landfill operation emissions associated with 2032 operation, a 70-year exposure was conservatively assumed. In addition, since inhalation is the dominant pathway of cancer risks, the Derived (Adjusted) Method in HARP was used for the cancer risk evaluation.

For construction periods, the cancer risks were estimated using highly-conservative assumptions of a 9-year exposure duration for residential and worker receptors.

The modeled impacts of cancer and noncancer risks associated with toxic air contaminant (TAC) emissions were evaluated and compared to the applicable SCAQMD significance thresholds. Maximally exposed individual (MEI) locations were selected from the modeled receptor grids of the residential and commercial/industrial receptors. The residential MEI (MEIR) was selected from receptors in residential areas in the facility vicinity, especially in the northwest and northeast areas. The worker MEI (MEIW) was selected from receptors in commercial areas near the facility. Both carcinogenic and non-carcinogenic impacts were compared to the SCAQMD thresholds.

#### **H.1.4 CO Hotspot Analysis**

Localized CO impacts resulting from the Proposed Project were assessed by using the California LINE Source Dispersion Model, Version 4 (CALINE4), to estimate CO concentrations in the vicinity of the affected intersection for the project year 2014. This is consistent with the traffic analysis described in Chapter 10.0, Traffic and Transportation. CO concentrations for year 2014 are expected to be higher than CO concentrations for the project horizon year, 2032, due to improvements in emission control technology.

Five signalized intersections were screened using level of service (LOS) and traffic data estimates to identify the intersections 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 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 emission factors were calculated using EMFAC2011. 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 (NAAQS and CAAQS) for CO to determine whether the Proposed Project would cause a hotspot at this intersection.

### H.1.5 Odor Analysis

As bacterial decomposition proceeds, odoriferous compounds can escape from the landfill surface through cracks in the surface cover. Other possible sources of odors are the actual wastes. Some household and consumer products contain substances with distinctive odors. Because offensive odors rarely cause any physical harm and no requirements for their control are included in state or federal air quality regulations, SCAQMD does not currently have any rules or regulations that place quantifiable limitations on emissions of odorous substances. Any actions related to odors are based on citizen complaints to local governments and SCAQMD.

SCAQMD has not established specific thresholds for determining the significance of odor impacts. Therefore, the Bay Area Air Quality Management District (BAAQMD) guidelines are used to qualitatively evaluate the potential for a significant odor impact.

According to the BAAQMD *CEQA Air Quality Guidelines* (2012), determining the significance of possible odor impacts involves determining whether the project would result in an odor source in relation to the sensitive receptors nearby. Two qualitative steps are followed in the odor significance determination: disclosure of odor parameters and odor complaint history.

#### Step 1: Disclosure of Odor Parameters

Potential odors associated with the Proposed Project may originate from waste delivered to the landfill for disposal, as well as bacterial decomposition of buried waste. The landfill is open Monday to Saturday, with operation hours from 4:30 a.m. to 5:00 p.m. on Mondays, 3:00 a.m. to 5:00 p.m. Tuesdays through Fridays, and 4:30 a.m. to 2:00 p.m. on Saturdays.

The nearest sensitive receptor is a residence located approximately 500 feet northwest of the landfill property boundary. Sensitive receptors were evaluated using LULC maps for year 2006 in order to best align with receptor placement used for the HRA and dispersion modeling analyses, as described in Section H.1.2. Figure 11-1 shows the various land use/land classifications surrounding the landfill. As shown in the figure, low intensity to high intensity developed land is located immediately northwest, northeast, and east of the landfill, indicating residential and commercial use areas. Fortunately, the landfill is situated in a valley with the closest sensitive receptors located on the other side of the Val Verde hills. The sensitive receptors are generally located upwind of the landfill.

#### Step 2: Odor Complaint History

The impact of an existing odor source on surrounding sensitive receptors is also evaluated by identifying the number of confirmed complaints received for that specific odor source. BAAQMD *CEQA Air Quality Guidelines* recommend reviewing odor complaints from the past 3 years for the source in question. BAAQMD considers a source to have a substantial number of odor complaints if the complaint history includes five or more confirmed complaints per year averaged over a 3-year period.

A confirmed complaint is any complaint in which the District Inspector performs an odor survey in response to the complaint and confirms the presences of an odor outside of the landfill boundaries emitting from CCL. Odor complaints for CCL were requested from SCAQMD. Of the 20 complaints filed over the past 3 years

(April 30, 2010 through April 30, 2013), 13<sup>2</sup> of them were confirmed complaints. This calculates to an average of 4.33 confirmed complaints per year over a 3-year period, signifying an insignificant odor impact per BAAQMD *CEQA Air Quality Guidelines*.

### **Significance Determination**

BAAQMD recognizes that there is not one piece of information that can solely be used to determine the significance of an odor impact. Therefore, the information provided above was collectively evaluated to determine the potential for a significant odor impact.

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<sup>2</sup> The confirmed odor complaint total conservatively includes multiple complaints on the same day that only had one combined inspection, excluding the multiple complaints combined into one inspection results in seven confirmed complaints over the past 3 years, calculating to an average of 2.33 confirmed complaints per year.

**Air Quality Appendix H2  
Tables**

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## Summary Data Request

### Construction

Sources included in the proposed project:

Schedule

Notes and Assumptions

<b>Construction Sources / Assumptions (See Construction Tab for information provided by CCL - for rows 5-11)</b>		
Construction of modules 6	4/2016 - 10/2016	Construction equipment assumptions based on data provided on July 20, 2011 and included in construction tab (attached). The construction fleet average models that are compliant with CARB requirements at the time of construction would be used (2016 Large Fleet - combination of Tier 3 and Tier 4 values). Diesel off-road equipment would be equipped with diesel particulate filters as a project control. When there are inconsistencies associated with the # and type of equipment for the activities (ex 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.
Construction of modules 7	4/2021 - 10/2021	
Construction of modules 8	4/2023 - 10/2023	
Construction of modules 9	4/2024 - 10/2024	
Construction of modules 10	4/2025 - 10/2025	
Construction of modules 11	4/2026 - 10/2026	

### **New Entrance Area and Construction**

Construction of new paved road entrance	10 days	<b>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.</b> 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)	3/2014 - 9/2014	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. <b>Total area for new entrance (including new paved road): Approx. 30 acres (based on maps and estimated areas).</b>

### **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) 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

<i>Operational Sources / Assumptions:</i>	<i>Schedule</i>	<i>Notes and Assumptions</i>
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 6 new modules = 11 MMCY per module increase	Emissions at 2016, 2021, and 2032	<b>Source of Data - Based on data provided by Golder Associates (04/2011)</b>  Annual LFG recovery rate is 85% based on actual facility data, 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 4/11 LFG Report)		<b>The project does not include the operation of the existing two flares. The operating schedule is based Golder Associates 4/11 LFG report.</b>
Flare 1 Location: (UTM NAD 27): X,Y Coordinates Needed	1 Flare will start operation in 2021	Flare emissions: <b>Flare emission rates from the 2011 source test will be used to represent the emissions associated with the two new flares.</b>
Flare 2 Location (UTM NAD 27): X,Y Coordinates Needed	2nd flare will start operation in 2030	Flare Stack parameters (temperature, flow rate, stack diameter): Based on existing flares source test data provided (height 50 feet, diameter 11.3 feet, exhaust temperature 1720 F, exhaust velocity 12.5 feet per second)

### *Operation Assumptions (See Operation Tab for information provided by CCL - also taken from previous analysis)*

<i>Operational Sources / Assumptions:</i>	<i>Schedule</i>	<i>Notes and Assumptions</i>
Operation Workers: include 25 new staff (total 50 but project only includes 25) - <b>Source: Project Description</b>	Ramp-up: 2014-2020 Full Operation: 2021	Assumes operation of the Proposed Project would ramp up evenly over a seven year period starting January 1, 2014, with full operation beginning in 2021. This assumes that the new equipment and employees will be used to operate the additional capacity from the existing landfill. <b>(Air Quality Assumption)</b>
Operation Onsite Off-road Equipment: <b>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)</b>	Ramp-up: 2014-2020 Full Operation: 2021	Assumes operation of the Proposed Project would ramp up evenly over a seven year period starting January 1, 2014, with full operation beginning in 2021. 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). <b>It is also assumed that since CCL is a large operator of diesel off-road equipment, all off-road diesel equipment used for operational activities will be model year 2014 or meet model year 2014 emission control requirements (Tier 4) unless otherwise indicated. Diesel off-road equipment would be equipped with diesel particulate filters as a project control. 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.</b>

<i>Operational Sources / Assumptions:</i>	<i>Schedule</i>	<i>Notes and Assumptions</i>
Operation on temporary dirt haul roads	N/A	No truck deliveries will occur on temporary dirt roads. <b>(Air Quality Assumption)</b>

<i>Operational Waste Deliveries Assumptions</i>	<i>Schedule</i>	<i>Notes and Assumptions</i>
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## Summary Data Request

Truck Trips		
Operational Truck deliveries (from Project Description: Tables 2-4 in the Project Description dated 03/27/13): <sup>1</sup>		
	HHDT	277
	MHDT	63
	LHDT2	40
	LDT2	0
	LDT1	4
	LDA	25

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**

**Waste Trucks:** Onsite travel on paved roads: 4 miles, Onsite travel on unpaved roads (gravel): 0 miles; road paved as project control.

**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)

**Offsite vehicle travel** (employees, waste trucks): 40 miles on paved roads (Includes 6 miles on paved roads from the interstate)

Total duration of waste trucks idling time is 3.5 min

*Assumes operation of the Proposed Project would ramp up evenly over a seven year period starting January 1, 2014, with full operation beginning in 2021.*

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

Landfill gas emissions for existing capacity  
 Operation of 2 existing flares  
 Operation of the waste to energy generation unit

#### Notes:

1 Average weight data from Table 2-6 of Project Description dated 3/09/12. 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 Best Management Practices (BMPs) to reduce fugitive dust emissions during construction and operation.  
 Total annual project emissions are compared to the SCAQMD emission thresholds  
 MM measures are used whenever the annual project emissions exceed the SCAQMD daily threshold:  
 Annual emissions estimated for each year of construction activity  
 Annual emissions estimated for operation in 2016, 2021, and 2030

#### Air Dispersion Modeling

AERMOD used to evaluate the emissions associated with combined construction and operational worst case years (2016, 2021, and 2032)  
 Modeling done for the sources as indicated in summaryReq tab  
 HRA modeling done for all the same sources identified in the AERMOD analyses except for fugitive dust sources.  
 CO Hot spot analysis done as per CO Protocol

#### Truck Emissions

It is assumed that only the emissions associated with travel along the road from the I5 to the landfill are associated with the project. This is because it is assumed that the truck emissions associated with trash collection are already accounted for in the SCAB, and that the 'new project' emissions are from sending the trash to CCL over another landfill location.



The years to be modeled

Project Construction Sources	2014 <sup>1</sup>	2016	2021	2032	Source Location	Description
Construction equipment exhaust *	x	x	x	No	Onsite	Based on a representative module
Fugitives from construction earth moving* <sup>2</sup>	x	x	x	No	Onsite	Based on a representative module
Offsite (employee commute) *	x	x	x	No	Offsite	NA - not modeled
ROG fugitives from paving	x	No	No	No	Onsite	NA - not modeled
Project Operation Sources	2014	2016 <sup>3</sup>	2021	2032 <sup>4</sup>	Source Location	Description
Operation equipment exhaust *	No	x	same as 2016	same as 2016	Onsite	Based on a representative module
Fugitives from operations earth moving *	No	x	same as 2016	same as 2016	Onsite	Based on a representative module
Roadway fugitive Onsite *	No	x	Include full build out of truck trips	same as 2021	Onsite only	roads (paved / unpaved)
Roadway fugitive Offsite	No	x	Include full build out of truck trips	same as 2021	Emissions only	Paved Roads
Flares *	No	no	1 Flare	2 Flares	Onsite	Assume located at existing flare locations
Landfill gas *	No	x	Increase from 2016	Increase from 2021	Onsite	Fugitive landfill gas
DPM from offsite trucks *	No	x	Include full build out of truck trips	decrease from 2021	Offsite	Emissions from I5 to landfill
DPM from onsite trucks *	No	x	Include full build out of truck trips	decrease from 2021	Onsite	located on roads within facility
<b>Time Averaged Emission Requirements:</b>	Daily & Annual	modeling averages	modeling averages	modeling averages		

**Modeling Averages:**

NOx: 1hr, 24hr, annual  
 PM10: 24hr, annual  
 PM2.5: 24hr, annual  
 CO: 1hr, 8hr  
 VOC: 1hr, 24hr, annual  
 SOx: 1hr, 24hr, annual (1hr = 3hr)

**Notes:**

- 1 Entrance construction includes buildings and roads and is the only activity occurring in 2014
  - 2 Onsite fugitive dust from travel on paved and unpaved roads is included in the total onsite emission estimates for construction and is a small % of the total onsite fugitive emissions during construction. The only unpaved travel on roads is travel on gravel.
  - 3 Operation of the Proposed Project would ramp up evenly over a seven year period starting January 1, 2014, with full operation beginning in 2021.
  - 4 2030 is the year when a second flare would be installed. 2032 represents the maximum year of landfill fugitive emissions during which landfill operation would occur. All other sources would be the same as in 2030.
- \* Sources to be included in the HRA modeling analysis



**Chiquita Canyon Landfill EIR**  
**Summary Construction and Operation Emissions**  
 Controlled Emissions

Year: 2014

Emission Activity	Emissions (lb/hr)												Emissions (lb/day)							
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Construction (exhaust / fugitive from earth moving/service)	14.65	38.01	3.98	0.04	2.07	1.91	2.29	0.48	N/A	N/A	N/A	N/A	114.17	314.80	32.15	0.36	16.24	14.94	22.90	4.76
Off-site Construction Mobile Sources (trucks / cars)	1.02	0.09	0.03	0.00	0.00	0.00	0.40	0.10	N/A	N/A	N/A	N/A	2.04	0.18	0.05	0.01	0.00	0.00	0.80	0.21
On-site Construction Mobile Sources (trucks / cars)	0.03	0.00	0.00	0.00	0.00	0.00	0.37	0.04	N/A	N/A	N/A	N/A	0.26	0.01	0.01	0.00	0.00	0.00	3.75	0.40
<b>Yearly Construction Total</b>	<b>15.69</b>	<b>38.10</b>	<b>4.01</b>	<b>0.05</b>	<b>2.07</b>	<b>1.91</b>	<b>3.07</b>	<b>0.62</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>116.47</b>	<b>315.00</b>	<b>32.21</b>	<b>0.37</b>	<b>16.24</b>	<b>14.94</b>	<b>27.45</b>	<b>5.38</b>
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
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
Operation (exhaust / fugitive from earth moving)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	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 Operational 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
On-site Operational 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
Operation: Indirect 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
Yearly Operational 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
<b>Yearly Total</b>	<b>15.69</b>	<b>38.10</b>	<b>4.01</b>	<b>0.05</b>	<b>2.07</b>	<b>1.91</b>	<b>3.07</b>	<b>0.62</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>116.47</b>	<b>315.00</b>	<b>32.21</b>	<b>0.37</b>	<b>16.24</b>	<b>14.94</b>	<b>27.45</b>	<b>5.38</b>

Year: 2016

Emission Activity	Emissions (lb/hr)												Emissions (lb/day)							
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Construction (exhaust / fugitive from earth moving/service)	33.43	48.75	8.63	0.10	0.64	0.59	5.83	1.21	N/A	N/A	N/A	N/A	312.79	462.16	81.58	0.93	5.96	5.49	58.28	12.12
Off-site Construction Mobile Sources (trucks / cars)	1.64	0.14	0.04	0.01	0.00	0.00	0.80	0.21	N/A	N/A	N/A	N/A	3.29	0.29	0.07	0.01	0.00	0.00	1.60	0.42
On-site Construction Mobile Sources (trucks / cars)	0.01	0.00	0.00	0.00	0.00	0.00	0.19	0.02	N/A	N/A	N/A	N/A	0.11	0.01	0.00	0.00	0.00	0.00	1.87	0.20
<b>Yearly Construction Total</b>	<b>35.09</b>	<b>48.90</b>	<b>8.66</b>	<b>0.10</b>	<b>0.64</b>	<b>0.59</b>	<b>6.82</b>	<b>1.44</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>316.19</b>	<b>462.45</b>	<b>81.65</b>	<b>0.94</b>	<b>5.97</b>	<b>5.49</b>	<b>61.76</b>	<b>12.74</b>
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
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
Operation (exhaust / fugitive from earth moving)	3.40	0.80	0.93	0.01	0.01	0.01	0.61	0.13	N/A	N/A	N/A	N/A	20.14	5.28	5.39	0.06	0.07	0.06	6.07	1.26
Off-site Operational Mobile Sources (trucks / cars)	0.58	1.97	0.03	0.00	0.01	0.01	0.33	0.09	N/A	N/A	N/A	N/A	2.14	19.42	0.24	0.03	0.13	0.12	1.55	0.41
On-site Operational Mobile Sources (trucks / cars)	0.79	2.51	0.14	0.00	0.01	0.01	1.68	0.40	N/A	N/A	N/A	N/A	7.94	25.14	1.41	0.04	0.12	0.11	16.84	4.02
Operation: Indirect 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
Yearly Operational Total	4.77	5.28	1.11	0.02	0.04	0.03	2.62	0.62	N/A	N/A	N/A	N/A	30.22	49.84	7.05	0.13	0.32	0.29	24.46	5.70
<b>Yearly Total</b>	<b>39.86</b>	<b>54.18</b>	<b>9.77</b>	<b>0.12</b>	<b>0.68</b>	<b>0.62</b>	<b>9.44</b>	<b>2.06</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>346.40</b>	<b>512.29</b>	<b>88.70</b>	<b>1.07</b>	<b>6.29</b>	<b>5.78</b>	<b>86.22</b>	<b>18.44</b>

Year: 2021

Emission Activity	Emissions (lb/hr)												Emissions (lb/day)							
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Construction (exhaust / fugitive from earth moving/service)	28.85	47.80	6.54	0.10	0.63	0.58	5.83	1.21	N/A	N/A	N/A	N/A	269.44	453.20	61.94	0.93	5.85	5.38	58.28	12.12
Off-site Construction Mobile Sources (trucks / cars)	1.12	0.10	0.02	0.01	0.00	0.00	0.80	0.21	N/A	N/A	N/A	N/A	2.24	0.20	0.04	0.01	0.00	0.00	1.60	0.42
On-site Construction Mobile Sources (trucks / cars)	0.01	0.00	0.00	0.00	0.00	0.00	0.19	0.02	N/A	N/A	N/A	N/A	0.07	0.00	0.00	0.00	0.00	0.00	1.87	0.20
<b>Yearly Construction Total</b>	<b>29.97</b>	<b>47.90</b>	<b>6.56</b>	<b>0.10</b>	<b>0.63</b>	<b>0.58</b>	<b>6.82</b>	<b>1.44</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>271.75</b>	<b>453.40</b>	<b>61.98</b>	<b>0.94</b>	<b>5.85</b>	<b>5.38</b>	<b>61.76</b>	<b>12.74</b>
Flares	1.38	1.38	0.28	1.81	0.14	0.14	N/A	N/A	N/A	N/A	N/A	N/A	33.12	33.12	6.67	43.44	3.36	3.36	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
Operation (exhaust / fugitive from earth moving)	5.90	1.53	1.38	0.02	0.02	0.02	0.61	0.13	N/A	N/A	N/A	N/A	44.17	12.99	10.71	0.15	0.17	0.15	6.07	1.26
Off-site Operational Mobile Sources (trucks / cars)	0.97	3.15	0.07	0.01	0.02	0.02	0.76	0.20	N/A	N/A	N/A	N/A	4.14	30.97	0.56	0.08	0.24	0.22	3.58	0.96
On-site Operational Mobile Sources (trucks / cars)	2.12	4.18	0.38	0.01	0.02	0.02	3.89	0.93	N/A	N/A	N/A	N/A	21.22	41.81	3.79	0.08	0.21	0.20	38.94	9.34
Operation: Indirect 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
Yearly Operational Total	10.37	10.23	2.11	1.85	0.21	0.20	5.26	1.26	N/A	N/A	N/A	N/A	102.65	118.89	21.74	43.76	3.98	3.93	48.59	11.57
<b>Yearly Total</b>	<b>40.35</b>	<b>58.14</b>	<b>8.66</b>	<b>1.95</b>	<b>0.83</b>	<b>0.78</b>	<b>12.08</b>	<b>2.70</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>374.40</b>	<b>572.30</b>	<b>83.71</b>	<b>44.70</b>	<b>9.83</b>	<b>9.32</b>	<b>110.36</b>	<b>24.31</b>

Year: 2032

Emission Activity	Emissions (lb/hr)												Emissions (lb/day)							
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
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
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
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
<b>Yearly Construction Total</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
Flares	2.76	2.76	0.56	3.62	0.28	0.28	N/A	N/A	N/A	N/A	N/A	N/A	66.24	66.24	13.34	86.88	6.72	6.72	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
Operation (exhaust / fugitive from earth moving) <sup>1</sup>	5.44	1.53	1.15	0.02	0.02	0.02	0.61	0.13	N/A	N/A	N/A	N/A	40.39	12.99	8.92	0.15	0.17	0.15	6.07	1.26
Off-site Operational Mobile Sources (trucks / cars) <sup>1</sup>	0.85	1.71	0.06	0.01	0.02	0.02	0.76	0.20	N/A	N/A	N/A	N/A	3.88	16.66	0.58	0.08	0.20	0.18	3.58	0.96
On-site Operational Mobile Sources (trucks / cars) <sup>1</sup>	2.21	3.01	0.40	0.01	0.02	0.02	3.89	0.93	N/A	N/A	N/A	N/A	22.10	30.14	3.97	0.08	0.18	0.17	38.94	9.34
Operation: Indirect 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
Yearly Operational Total	11.26	9.01	2.17	3.66	0.34	0.33	5.26	1.26	N/A	N/A	N/A	N/A	132.62	126.04	26.82	87.19	7.26	7.22	48.59	11.57
<b>Yearly Total</b>	<b>11.26</b>	<b>9.01</b>	<b>2.17</b>	<b>3.66</b>	<b>0.34</b>	<b>0.33</b>	<b>5.26</b>	<b>1.26</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>132.62</b>	<b>126.04</b>	<b>26.82</b>	<b>87.19</b>	<b>7.26</b>	<b>7.22</b>	<b>48.59</b>	<b>11.57</b>

**Chiquita Canyon Landfill EIR**  
**Summary Construction and Operation Emissions**  
Controlled Emissions

Year: 2014

Emission Activity	Emissions (lb/day) (cont.)				Emissions (lb/yr)											
	CO2	CH4	N2O	CO2e	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive	CO2	CH4	N2O	CO2e
Construction (exhaust / fugitive from earth moving/service)	N/A	N/A	N/A	N/A	7,599.53	20,723.27	2,094.93	23.40	1,140.16	1,048.95	984.22	204.72	2,241,872.04	N/A	N/A	2,241,872.04
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	244.87	21.80	6.14	0.63	0.42	0.21	96.28	25.10	60,079.12	N/A	N/A	60,079.12
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	30.90	1.78	0.83	0.03	0.01	0.00	449.93	48.51	3,463.92	N/A	N/A	3,463.92
<b>Yearly Construction Total</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>7,875.29</b>	<b>20,746.85</b>	<b>2,101.89</b>	<b>24.06</b>	<b>1,140.59</b>	<b>1,049.16</b>	<b>1,530.43</b>	<b>278.33</b>	<b>2,305,415.08</b>	<b>N/A</b>	<b>N/A</b>	<b>2,305,415.08</b>
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
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
Operation (exhaust / fugitive from earth moving)	N/A	N/A	N/A	N/A	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 Operational 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
On-site Operational 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
Operation: Indirect 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
Yearly Operational 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
<b>Yearly Total</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>7,875.29</b>	<b>20,746.85</b>	<b>2,101.89</b>	<b>24.06</b>	<b>1,140.59</b>	<b>1,049.16</b>	<b>1,530.43</b>	<b>278.33</b>	<b>2,305,415.08</b>	<b>N/A</b>	<b>N/A</b>	<b>2,305,415.08</b>

Year: 2016

Emission Activity	Emissions (lb/day) (cont.)				Emissions (lb/yr)											
	CO2	CH4	N2O	CO2e	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive	CO2	CH4	N2O	CO2e
Construction (exhaust / fugitive from earth moving/service)	N/A	N/A	N/A	N/A	19,678.43	29,487.49	5,198.86	59.49	374.51	344.55	3,465.36	720.79	5,792,024.01	N/A	N/A	5,792,024.01
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	394.50	34.71	8.47	1.27	0.42	0.42	192.56	50.21	120,269.57	3.81	N/A	120,269.57
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	12.75	0.73	0.30	0.02	0.00	0.00	224.97	24.25	1,735.14	0.11	N/A	1,735.14
<b>Yearly Construction Total</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>20,085.68</b>	<b>29,522.93</b>	<b>5,207.62</b>	<b>60.77</b>	<b>374.94</b>	<b>344.98</b>	<b>3,882.88</b>	<b>795.26</b>	<b>5,914,028.73</b>	<b>3.92</b>	<b>N/A</b>	<b>5,914,028.73</b>
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
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	30,966,082.32	11,285,979.56	N/A	267,971,653.06
Operation (exhaust / fugitive from earth moving)	N/A	N/A	N/A	N/A	6,284.14	1,647.39	1,682.15	18.87	21.15	19.46	2,152.74	447.77	1,817,839.47	N/A	N/A	1,817,839.47
Off-site Operational Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	666.70	6,058.79	75.69	10.83	41.61	38.09	482.50	129.38	1,058,980.88	3.36	N/A	1,058,980.88
On-site Operational Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	2,476.50	7,844.00	440.78	11.03	37.18	34.06	5,253.05	1,255.03	1,095,681.52	0.57	N/A	1,095,681.52
Operation: Indirect 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	195,548.10	8.59	1.83	196,296.36
Yearly Operational Total	N/A	N/A	N/A	N/A	9,427.34	15,550.18	2,198.62	40.74	99.95	91.61	7,888.29	1,832.18	35,134,132.28	11,285,992.07	1.83	272,140,451.29
<b>Yearly Total</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>29,513.02</b>	<b>45,073.11</b>	<b>7,406.24</b>	<b>101.51</b>	<b>474.89</b>	<b>436.58</b>	<b>11,771.17</b>	<b>2,627.43</b>	<b>41,048,161.01</b>	<b>11,285,995.99</b>	<b>1.83</b>	<b>278,054,480.02</b>

Year: 2021

Emission Activity	Emissions (lb/day) (cont.)				Emissions (lb/yr)											
	CO2	CH4	N2O	CO2e	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive	CO2	CH4	N2O	CO2e
Construction (exhaust / fugitive from earth moving/service)	N/A	N/A	N/A	N/A	16,901.21	28,916.25	3,955.77	59.49	367.24	337.86	3,465.36	720.79	5,791,999.80	N/A	N/A	5,791,999.80
Off-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	268.36	23.70	4.23	1.27	0.42	0.42	192.56	50.21	120,429.15	2.96	N/A	120,429.15
On-site Construction Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	8.50	0.48	0.16	0.02	0.00	0.00	224.97	24.25	1,741.46	0.08	N/A	1,741.46
<b>Yearly Construction Total</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>17,178.07</b>	<b>28,940.44</b>	<b>3,960.16</b>	<b>60.77</b>	<b>367.67</b>	<b>338.29</b>	<b>3,882.88</b>	<b>795.26</b>	<b>5,914,170.41</b>	<b>3.04</b>	<b>N/A</b>	<b>5,914,170.41</b>
Flares	N/A	N/A	N/A	N/A	12,088.80	12,088.80	2,435.28	15,855.60	1,226.40	1,226.40	N/A	N/A	34,914,761.77	N/A	N/A	34,914,761.77
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	42,768,128.76	15,587,384.35	N/A	370,103,200.10
Operation (exhaust / fugitive from earth moving)	N/A	N/A	N/A	N/A	13,782.16	4,053.84	3,341.32	48.08	51.96	47.80	2,152.74	447.77	4,626,874.34	N/A	N/A	4,626,874.34
Off-site Operational Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	1,291.07	9,663.42	175.47	25.18	75.11	69.65	1,116.75	299.52	2,288,851.20	5.81	N/A	2,288,851.20
On-site Operational Mobile Sources (trucks / cars)	N/A	N/A	N/A	N/A	6,621.29	13,044.27	1,183.25	25.70	66.96	61.93	12,149.46	2,915.38	2,366,096.41	0.87	N/A	2,366,096.41
Operation: Indirect 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	195,548.10	8.59	1.83	196,296.36
Yearly Operational Total	N/A	N/A	N/A	N/A	33,783.31	38,850.33	7,135.33	15,954.56	1,420.43	1,405.78	15,418.96	3,662.67	87,160,260.57	15,587,399.61	1.83	414,496,080.18
<b>Yearly Total</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>50,961.38</b>	<b>67,790.77</b>	<b>11,095.49</b>	<b>16,015.33</b>	<b>1,788.10</b>	<b>1,744.07</b>	<b>19,301.84</b>	<b>4,457.92</b>	<b>93,074,430.98</b>	<b>15,587,402.66</b>	<b>1.83</b>	<b>420,410,250.59</b>

Year: 2032

Emission Activity	Emissions (lb/day) (cont.)				Emissions (lb/yr)											
	CO2	CH4	N2O	CO2e	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive	CO2	CH4	N2O	CO2e
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
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
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
<b>Yearly Construction Total</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
Flares	N/A	N/A	N/A	N/A	24,177.60	24,177.60	4,870.56	31,711.20	2,452.80	2,452.80	N/A	N/A	181,670,305.12	N/A	N/A	181,670,305.12
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	68,772,870.36	25,065,140.66	N/A	595,140,824.28
Operation (exhaust / fugitive from earth moving) <sup>1</sup>	N/A	N/A	N/A	N/A	12,602.96	4,053.84	2,783.79	48.08	51.96	47.80	2,152.74	447.77	4,626,742.10	N/A	N/A	4,626,742.10
Off-site Operational Mobile Sources (trucks / cars) <sup>1</sup>	N/A	N/A	N/A	N/A	1,210.14	5,198.66	182.43	24.04	60.95	56.05	1,116.75	299.52	2,263,535.40	4.62	N/A	2,263,535.40
On-site Operational Mobile Sources (trucks / cars) <sup>1</sup>	N/A	N/A	N/A	N/A	6,896.28	9,404.38	1,238.63	24.93	56.29	52.15	12,149.46	2,915.38	2,348,668.47	0.45	N/A	2,348,668.47
Operation: Indirect 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	195,548.10	8.59	1.83	196,296.36
Yearly Operational Total	N/A	N/A	N/A	N/A	44,886.98	42,834.49	9,075.41	31,808.25	2,622.00	2,608.80	15,418.96	3,662.67	259,877,669.55	25,065,154.33	1.83	786,246,371.73
<b>Yearly Total</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>44,886.98</b>	<b>42,834.49</b>	<b>9,075.41</b>	<b>31,808.25</b>	<b>2,622.00</b>	<b>2,608.80</b>	<b>15,418.96</b>	<b>3,662.67</b>	<b>259,877,669.55</b>	<b>25,065,154.33</b>	<b>1.83</b>	<b>786,246,371.73</b>

**Chiquita Canyon Landfill EIR**  
**Summary Construction and Operation Emissions**  
Controlled Emissions

<b>GHG Global Warming Potentials</b>			
<b>Greenhouse Gas</b>	<b>Formula</b>	<b>Atmospheric Lifetime</b>	<b>Global Warming Potential</b>
Carbon Dioxide	CO <sub>2</sub>	50-200	1
Methane	CH <sub>4</sub>	12	21
Nitrous Oxide	N <sub>2</sub> O	114	310

<sup>1</sup> Operational emissions are expected to be very similar in the last few years of operation. As such, 2030 operational emissions were assumed representative of 2032 operational emissions for purposes of determining the worst-case emissions year.





**Chiquita Canyon Landfill EIR  
Mobile Sources**

**Assumptions:**

40 workers for module construction and 20 workers for new entrance construction (new entrance construction includes construction of the admin building, scale house, and berm).

Operation of the Proposed Project would ramp up evenly over a seven year period starting January 1, 2014, with full operation beginning in 2021. Number of vehicles for 2016 has been calculated as 3/7 of total for Proposed Project, rounded to the nearest vehicle.

All distances are roundtrip.

Worker commute is 40 miles on paved roads (includes 6 miles on paved roads from the interstate).

Travel Offsite, including Along Landfill travel, was assumed to occur on paved roads only.

Travel On-site was assumed to occur on both paved and unpaved roads.

One mile of onsite unpaved road traveled by waste trucks from the end of the onsite paved road to the dump site would be paved as a project control.

Onsite service trucks would be equipped with diesel particulate filters as a project control.

	Construction	Construction	Operation	Operation					
<b>Operating Schedule:</b>	Entrance Construction	Module Construction	Module	Module					
Duration	2014	2016 - 2026	2016	2021 - 2030					
Employee Commute Hours <sup>1</sup>	2	2	2	2					
weeks/yr	24	24	52	52					
days/week	5	5	6	6					
hrs/day	10	10	10	10					
<b>On Road Vehicles:</b>	# / day (ea)	# / day (ea)	# / day (ea)	# / day (ea)	RT Travel Offsite (miles)		RT Travel On-site (miles)		Operation (hrs/day)
Employees (LDA)	20	40	11	25	Along	Total Offsite	Paved	Gravel Road	
Onsite Service Truck (LDT1) <sup>2</sup>	8	4	2	4	0.2	40	0	0	2
Waste Trucks (HHDT) <sup>3</sup>	NA	NA	119	277	0	0	1	4	10
Waste Trucks (MHDT) <sup>3</sup>	NA	NA	27	63	0.2	6	4	0	10
Waste Trucks (LHDT2) <sup>3</sup>	NA	NA	17	40	0.2	6	4	0	10
Waste Trucks (LDT2) <sup>3</sup>	NA	NA	0	0	0.2	6	4	0	10
Entrance Gate Idle Time for Trucks (hrs) <sup>4</sup>	NA	NA	163	380	0.000	0	0.058	0	10

**Operation Emission Calculations**

**Emission Calculations**

Operation Year: 2016

**Emission Factors**

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation Year	Emission Factor Unit	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>
Employees (LDA)	Passenger Cars	5	2016	lb/VMT	2.05E-03	1.81E-04	4.41E-05	6.61E-06	2.20E-06	2.20E-06	6.26E-01	1.98E-05
Onsite Service Truck (LDT1)	Light-Light Duty Trucks	5	2016	lb/VMT	5.31E-03	3.06E-04	1.23E-04	6.61E-06	9.92E-07	9.92E-07	7.23E-01	4.63E-05
Waste Trucks (HHDT)	Heavy-Heavy Duty Trucks	5	2016	lb/VMT	1.26E-03	2.43E-02	2.36E-04	3.75E-05	1.50E-04	1.37E-04	3.68E+00	0.00E+00
Waste Trucks (MHDT)	Medium-Heavy Duty Trucks	5	2016	lb/VMT	9.39E-04	9.88E-03	2.19E-04	2.43E-05	1.36E-04	1.26E-04	2.34E+00	0.00E+00
Waste Trucks (LHDT2)	Light-Heavy Duty Trucks	5	2016	lb/VMT	1.77E-03	3.52E-03	1.90E-04	1.10E-05	3.31E-05	3.09E-05	1.08E+00	1.98E-05
Waste Trucks (LDT2)	Light-Duty Trucks	5	2016	lb/VMT	2.93E-03	3.24E-04	5.73E-05	8.82E-06	2.20E-06	2.20E-06	8.54E-01	2.87E-05
Truck Idle	Truck Idle	2	2016	lb/hr	7.43E-02	1.29E-01	1.33E-02	1.48E-04	3.25E-04	2.99E-04	1.50E+01	0.00E+00

**Chiquita Canyon Landfill EIR**  
**Mobile Sources**

**Emission Calculations**

Operation Year: 2021

**Emission Factors**

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation Year	Emission Factor Unit	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>
Employees (LDA)	Passenger Cars	5	2021	lb/VMT	1.40E-03	1.23E-04	2.20E-05	6.61E-06	2.20E-06	2.20E-06	6.27E-01	1.54E-05
Onsite Service Truck (LDT1)	Light-Light Duty Trucks	5	2021	lb/VMT	3.54E-03	2.01E-04	6.61E-05	6.61E-06	6.61E-07	6.61E-07	7.26E-01	3.31E-05
Waste Trucks (HHDT)	Heavy-Heavy Duty Trucks	5	2021	lb/VMT	1.33E-03	1.73E-02	2.67E-04	3.75E-05	1.23E-04	1.15E-04	3.39E+00	0.00E+00
Waste Trucks (MHDT)	Medium-Heavy Duty Trucks	5	2021	lb/VMT	7.24E-04	4.13E-03	1.75E-04	2.43E-05	7.14E-05	6.53E-05	2.16E+00	0.00E+00
Waste Trucks (LHDT2)	Light-Heavy Duty Trucks	5	2021	lb/VMT	1.04E-03	2.38E-03	1.28E-04	1.10E-05	2.65E-05	2.43E-05	1.08E+00	1.32E-05
Waste Trucks (LDT2)	Light-Duty Trucks	5	2021	lb/VMT	1.91E-03	1.94E-04	2.87E-05	8.82E-06	2.20E-06	2.20E-06	8.54E-01	1.98E-05
Truck Idle	Truck Idle	2	2021	lb/hr	8.72E-02	9.58E-02	1.55E-02	1.48E-04	2.51E-04	2.31E-04	1.40E+01	0.00E+00

**Emission Calculations**

Operation Year: 2030

**Emission Factors**

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation Year	Emission Factor Unit	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>
Employees (LDA)	Passenger Cars	5	2030	lb/VMT	1.15E-03	1.01E-04	1.54E-05	6.61E-06	4.41E-06	2.20E-06	6.27E-01	1.32E-05
Onsite Service Truck (LDT1)	Light-Light Duty Trucks	5	2030	lb/VMT	1.89E-03	1.01E-04	2.87E-05	6.61E-06	6.61E-07	6.61E-07	7.28E-01	1.98E-05
Waste Trucks (HHDT)	Heavy-Heavy Duty Trucks	5	2030	lb/VMT	1.39E-03	9.28E-03	2.93E-04	3.53E-05	9.70E-05	9.04E-05	3.34E+00	0.00E+00
Waste Trucks (MHDT)	Medium-Heavy Duty Trucks	5	2030	lb/VMT	7.01E-04	2.24E-03	1.71E-04	2.43E-05	6.75E-05	6.22E-05	2.15E+00	0.00E+00
Waste Trucks (LHDT2)	Light-Heavy Duty Trucks	5	2030	lb/VMT	6.44E-04	1.19E-03	7.28E-05	1.10E-05	1.76E-05	1.54E-05	1.08E+00	6.61E-06
Waste Trucks (LDT2)	Light-Duty Trucks	5	2030	lb/VMT	1.42E-03	1.34E-04	1.98E-05	8.82E-06	4.41E-06	2.20E-06	8.54E-01	1.54E-05
Truck Idle	Truck Idle	2	2030	lb/hr	9.13E-02	8.62E-02	1.62E-02	1.48E-04	2.40E-04	2.20E-04	1.40E+01	0.00E+00

**Construction Emission Calculations**

**Entrance Construction**

Construction Year: 2014

**Emission Factors**

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>
Employees (LDA)	Passenger Cars	5	2014	lb/VMT	2.55E-03	2.27E-04	6.39E-05	6.61E-06	4.41E-06	2.20E-06	6.26E-01	2.43E-05
Onsite Service Truck (LDT1)	Light-Light Duty Trucks	5	2014	lb/VMT	6.44E-03	3.70E-04	1.72E-04	6.61E-06	1.32E-06	9.92E-07	7.22E-01	5.51E-05

**Chiquita Canyon Landfill EIR  
Mobile Sources**

Construction Emission Calculations

**Module Construction**

Construction Year: 2016

**Emission Factors**

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>
Employees (LDA)	Passenger Cars	5	2016	lb/VMT	2.05E-03	1.81E-04	4.41E-05	6.61E-06	2.20E-06	2.20E-06	6.26E-01	1.98E-05
Onsite Service Truck (LDT1)	Light-Light Duty Trucks	5	2016	lb/VMT	5.31E-03	3.06E-04	1.23E-04	6.61E-06	9.92E-07	9.92E-07	7.23E-01	4.63E-05

Construction Emission Calculations

**Module Construction**

Construction Year: 2021

**Emission Factors**

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>
Employees (LDA)	Passenger Cars	5	2021	lb/VMT	1.40E-03	1.23E-04	2.20E-05	6.61E-06	2.20E-06	2.20E-06	6.27E-01	1.54E-05
Onsite Service Truck (LDT1)	Light-Light Duty Trucks	5	2021	lb/VMT	3.54E-03	2.01E-04	6.61E-05	6.61E-06	6.61E-07	6.61E-07	7.26E-01	3.31E-05

*Reference: Data Provided by Mike Dean on 7-20-2011 to Brenda Eells via e-mail*

<sup>1</sup> Assume that total commute occurs over 1 hr in the morning and 1 hr in the evening.

<sup>2</sup> Onsite service trucks: Operate 4 hrs per day which equates to 5 miles traveled total (~1 mile on paved roads and 4 miles on unpaved roads, which is the same assumption as for construction service trucks).

<sup>3</sup> Total truck travel distance is only based on the distance from the interstate because the truck would be operating within the SCAQMD without the project.

<sup>4</sup> Assume Idle EF for HHDT for all trucks and idle time is 3.5 minutes.

<sup>5</sup> Includes emissions from tire and brake wear.

<sup>6</sup> The total hourly, total daily, and total annual emissions are calculated assuming all vehicles are used at the same time.

**Chiquita Canyon Landfill EIR  
Mobile Sources**

Operation Emission Calculations  
Emission Calculations  
Operation Year: 2016

**Emission Factors**

Equipment Type
Employees (LDA)
Onsite Service Truck (LDT1)
Waste Trucks (HHDT)
Waste Trucks (MHDT)
Waste Trucks (LHDT2)
Waste Trucks (LDT2)
Truck Idle

Fugitive from Road Travel - Controlled							
All VMT <sup>5</sup>		Offsite VMT (Paved)		Onsite VMT (Paved)		Onsite VMT (Unpaved)	
PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
9.92E-05	3.97E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
9.92E-05	3.97E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
2.16E-04	7.72E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
3.13E-04	1.30E-04	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
1.61E-04	6.39E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
9.92E-05	3.97E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
NA	NA	NA	NA	NA	NA	NA	NA

**Chiquita Canyon Landfill EIR  
Mobile Sources**

**Emission Calculations**

Operation Year: 2021

**Emission Factors**

Equipment Type
Employees (LDA)
Onsite Service Truck (LDT1)
Waste Trucks (HHDT)
Waste Trucks (MHDT)
Waste Trucks (LHDT2)
Waste Trucks (LDT2)
Truck Idle

Fugitive from Road Travel - Controlled							
All VMT <sup>5</sup>		Offsite VMT (Paved)		Onsite VMT (Paved)		Onsite VMT (Unpaved)	
PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
9.92E-05	3.97E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
9.92E-05	3.97E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
2.16E-04	7.72E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
3.13E-04	1.30E-04	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
1.61E-04	6.39E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
9.92E-05	3.97E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
NA	NA	NA	NA	NA	NA	NA	NA

**Emission Calculations**

Operation Year: 2030

**Emission Factors**

Equipment Type
Employees (LDA)
Onsite Service Truck (LDT1)
Waste Trucks (HHDT)
Waste Trucks (MHDT)
Waste Trucks (LHDT2)
Waste Trucks (LDT2)
Truck Idle

Fugitive from Road Travel - Controlled							
All VMT <sup>5</sup>		Offsite VMT (Paved)		Onsite VMT (Paved)		Onsite VMT (Unpaved)	
PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
9.92E-05	3.97E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
9.92E-05	3.97E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
2.16E-04	7.72E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
3.13E-04	1.30E-04	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
1.61E-04	6.39E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
9.92E-05	3.97E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
NA	NA	NA	NA	NA	NA	NA	NA

**Construction Emission Calculations**

**Entrance Construction**

Construction Year: 2014

**Emission Factors**

Equipment Type
Employees (LDA)
Onsite Service Truck (LDT1)

Fugitive from Road Travel - Controlled							
All VMT <sup>5</sup>		Offsite VMT (Paved)		Onsite VMT (Paved)		Onsite VMT (Unpaved)	
PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
9.92E-05	3.97E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
9.92E-05	3.97E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02

**Chiquita Canyon Landfill EIR  
Mobile Sources**

Construction Emission Calculations

**Module Construction**

Construction Year: 2016

**Emission Factors**

Equipment Type
Employees (LDA)
Onsite Service Truck (LDT1)

Fugitive from Road Travel - Controlled							
All VMT <sup>5</sup>		Offsite VMT (Paved)		Onsite VMT (Paved)		Onsite VMT (Unpaved)	
PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
9.92E-05	3.97E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
9.92E-05	3.97E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02

Construction Emission Calculations

**Module Construction**

Construction Year: 2021

**Emission Factors**

Equipment Type
Employees (LDA)
Onsite Service Truck (LDT1)

Fugitive from Road Travel - Controlled							
All VMT <sup>5</sup>		Offsite VMT (Paved)		Onsite VMT (Paved)		Onsite VMT (Unpaved)	
PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
9.92E-05	3.97E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02
9.92E-05	3.97E-05	9.04E-04	2.22E-04	2.42E-02	5.93E-03	1.11E-01	1.11E-02

Chiquita Canyon Landfill EIR  
Mobile Sources

Operation Emission Calculations  
Emission Calculations  
Operation Year: 2016

Along Landfill

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	2.26E-03	1.99E-04	4.85E-05	7.28E-06	2.43E-06	2.43E-06	6.89E-01	2.18E-05	1.10E-03	2.88E-04
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	Waste Trucks (HHDT)	3.00E-03	5.79E-02	5.61E-04	8.92E-05	3.57E-04	3.25E-04	8.76E+00	0.00E+00	2.66E-03	7.12E-04
Waste Trucks (MHDT)	Waste Trucks (MHDT)	5.07E-04	5.34E-03	1.18E-04	1.31E-05	7.33E-05	6.79E-05	1.26E+00	0.00E+00	6.57E-04	1.90E-04
Waste Trucks (LHDT2)	Waste Trucks (LHDT2)	6.01E-04	1.20E-03	6.45E-05	3.75E-06	1.12E-05	1.05E-05	3.68E-01	6.75E-06	3.62E-04	9.72E-05
Waste Trucks (LDT2)	Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
	<b>Total<sup>o</sup></b>	<b>6.37E-03</b>	<b>6.47E-02</b>	<b>7.92E-04</b>	<b>1.13E-04</b>	<b>4.44E-04</b>	<b>4.06E-04</b>	<b>1.11E+01</b>	<b>2.86E-05</b>	<b>4.79E-03</b>	<b>1.29E-03</b>

**Chiquita Canyon Landfill EIR**  
**Mobile Sources**

**Emission Calculations**

Operation Year: 2021

**Along Landfill**

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	3.49E-03	3.09E-04	5.51E-05	1.65E-05	5.51E-06	5.51E-06	1.57E+00	3.86E-05	2.51E-03	6.54E-04
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	Waste Trucks (HHDT)	7.39E-03	9.57E-02	1.48E-03	2.08E-04	6.84E-04	6.35E-04	1.88E+01	0.00E+00	6.20E-03	1.66E-03
Waste Trucks (MHDT)	Waste Trucks (MHDT)	9.13E-04	5.21E-03	2.21E-04	3.06E-05	9.00E-05	8.22E-05	2.73E+00	0.00E+00	1.53E-03	4.43E-04
Waste Trucks (LHDT2)	Waste Trucks (LHDT2)	8.32E-04	1.90E-03	1.02E-04	8.82E-06	2.12E-05	1.94E-05	8.65E-01	1.06E-05	8.52E-04	2.29E-04
Waste Trucks (LDT2)	Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
<b>Total °</b>		<b>1.26E-02</b>	<b>1.03E-01</b>	<b>1.86E-03</b>	<b>2.64E-04</b>	<b>8.01E-04</b>	<b>7.42E-04</b>	<b>2.39E+01</b>	<b>4.92E-05</b>	<b>1.11E-02</b>	<b>2.98E-03</b>

**Emission Calculations**

Operation Year: 2030

**Along Landfill**

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	2.88E-03	2.54E-04	3.86E-05	1.65E-05	1.10E-05	5.51E-06	1.57E+00	3.31E-05	2.51E-03	6.54E-04
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	Waste Trucks (HHDT)	7.69E-03	5.14E-02	1.62E-03	1.95E-04	5.37E-04	5.01E-04	1.85E+01	0.00E+00	6.20E-03	1.66E-03
Waste Trucks (MHDT)	Waste Trucks (MHDT)	8.83E-04	2.82E-03	2.15E-04	3.06E-05	8.50E-05	7.83E-05	2.71E+00	0.00E+00	1.53E-03	4.43E-04
Waste Trucks (LHDT2)	Waste Trucks (LHDT2)	5.15E-04	9.49E-04	5.82E-05	8.82E-06	1.41E-05	1.23E-05	8.64E-01	5.29E-06	8.52E-04	2.29E-04
Waste Trucks (LDT2)	Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
<b>Total °</b>		<b>1.20E-02</b>	<b>5.55E-02</b>	<b>1.94E-03</b>	<b>2.51E-04</b>	<b>6.48E-04</b>	<b>5.97E-04</b>	<b>2.37E+01</b>	<b>3.84E-05</b>	<b>1.11E-02</b>	<b>2.98E-03</b>

**Construction Emission Calculations**

**Entrance Construction**

Construction Year: 2014

**Along Landfill**

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	5.10E-03	4.54E-04	1.28E-04	1.32E-05	8.82E-06	4.41E-06	1.25E+00	4.85E-05	2.01E-03	5.23E-04
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<b>Total °</b>		<b>5.10E-03</b>	<b>4.54E-04</b>	<b>1.28E-04</b>	<b>1.32E-05</b>	<b>8.82E-06</b>	<b>4.41E-06</b>	<b>1.25E+00</b>	<b>4.85E-05</b>	<b>2.01E-03</b>	<b>5.23E-04</b>



**Chiquita Canyon Landfill EIR**  
**Mobile Sources**

Construction Emission Calculations

**Module Construction**

Construction Year: 2016

**Along Landfill**

**Emission Factors**

<b>Emission Factors</b>		<b>Hourly Emissions (lb/hr)</b>									
		<b>CO</b>	<b>NOx</b>	<b>ROG</b>	<b>SOx</b>	<b>PM<sub>10</sub> Exhaust</b>	<b>PM<sub>2.5</sub> Exhaust</b>	<b>CO<sub>2</sub></b>	<b>CH<sub>4</sub></b>	<b>PM<sub>10</sub> Fugitive</b>	<b>PM<sub>2.5</sub> Fugitive</b>
<b>Equipment Type</b>	<b>Equipment Type</b>										
Employees (LDA)	Employees (LDA)	8.22E-03	7.23E-04	1.76E-04	2.65E-05	8.82E-06	8.82E-06	2.51E+00	7.94E-05	4.01E-03	1.05E-03
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	<b>Total °</b>	<b>8.22E-03</b>	<b>7.23E-04</b>	<b>1.76E-04</b>	<b>2.65E-05</b>	<b>8.82E-06</b>	<b>8.82E-06</b>	<b>2.51E+00</b>	<b>7.94E-05</b>	<b>4.01E-03</b>	<b>1.05E-03</b>

Construction Emission Calculations

**Module Construction**

Construction Year: 2021

**Along Landfill**

**Emission Factors**

<b>Emission Factors</b>		<b>Hourly Emissions (lb/hr)</b>									
		<b>CO</b>	<b>NOx</b>	<b>ROG</b>	<b>SOx</b>	<b>PM<sub>10</sub> Exhaust</b>	<b>PM<sub>2.5</sub> Exhaust</b>	<b>CO<sub>2</sub></b>	<b>CH<sub>4</sub></b>	<b>PM<sub>10</sub> Fugitive</b>	<b>PM<sub>2.5</sub> Fugitive</b>
<b>Equipment Type</b>	<b>Equipment Type</b>										
Employees (LDA)	Employees (LDA)	5.59E-03	4.94E-04	8.82E-05	2.65E-05	8.82E-06	8.82E-06	2.51E+00	6.17E-05	4.01E-03	1.05E-03
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	<b>Total °</b>	<b>5.59E-03</b>	<b>4.94E-04</b>	<b>8.82E-05</b>	<b>2.65E-05</b>	<b>8.82E-06</b>	<b>8.82E-06</b>	<b>2.51E+00</b>	<b>6.17E-05</b>	<b>4.01E-03</b>	<b>1.05E-03</b>

Chiquita Canyon Landfill EIR  
Mobile Sources

Operation Emission Calculations  
Emission Calculations  
Operation Year: 2016

Emission Factors Equipment Type	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	4.52E-03	3.98E-04	9.70E-05	1.46E-05	4.85E-06	4.85E-06	1.38E+00	4.37E-05	2.21E-03	5.75E-04
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	3.00E-02	5.79E-01	5.61E-03	8.92E-04	3.57E-03	3.25E-03	8.76E+01	0.00E+00	2.66E-02	7.12E-03
Waste Trucks (MHDT)	5.07E-03	5.34E-02	1.18E-03	1.31E-04	7.33E-04	6.79E-04	1.26E+01	0.00E+00	6.57E-03	1.90E-03
Waste Trucks (LHDT2)	6.01E-03	1.20E-02	6.45E-04	3.75E-05	1.12E-04	1.05E-04	3.68E+00	6.75E-05	3.62E-03	9.72E-04
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
	<b>0.046</b>	<b>0.645</b>	<b>0.008</b>	<b>0.001</b>	<b>0.004</b>	<b>0.004</b>	<b>105.330</b>	<b>0.000</b>	<b>0.039</b>	<b>0.011</b>

**Chiquita Canyon Landfill EIR**  
**Mobile Sources**

**Emission Calculations**

Operation Year: 2021

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	6.99E-03	6.17E-04	1.10E-04	3.31E-05	1.10E-05	1.10E-05	3.14E+00	7.72E-05	5.01E-03	1.31E-03
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	7.39E-02	9.57E-01	1.48E-02	2.08E-03	6.84E-03	6.35E-03	1.88E+02	0.00E+00	6.20E-02	1.66E-02
Waste Trucks (MHDT)	9.13E-03	5.21E-02	2.21E-03	3.06E-04	9.00E-04	8.22E-04	2.73E+01	0.00E+00	1.53E-02	4.43E-03
Waste Trucks (LHDT2)	8.32E-03	1.90E-02	1.02E-03	8.82E-05	2.12E-04	1.94E-04	8.65E+00	1.06E-04	8.52E-03	2.29E-03
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
	<b>0.098</b>	<b>1.029</b>	<b>0.018</b>	<b>0.003</b>	<b>0.008</b>	<b>0.007</b>	<b>226.764</b>	<b>0.000</b>	<b>0.091</b>	<b>0.025</b>

**Emission Calculations**

Operation Year: 2030

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	5.75E-03	5.07E-04	7.72E-05	3.31E-05	2.20E-05	1.10E-05	3.14E+00	6.61E-05	5.01E-03	1.31E-03
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	7.69E-02	5.14E-01	1.62E-02	1.95E-03	5.37E-03	5.01E-03	1.85E+02	0.00E+00	6.20E-02	1.66E-02
Waste Trucks (MHDT)	8.83E-03	2.82E-02	2.15E-03	3.06E-04	8.50E-04	7.83E-04	2.71E+01	0.00E+00	1.53E-02	4.43E-03
Waste Trucks (LHDT2)	5.15E-03	9.49E-03	5.82E-04	8.82E-05	1.41E-04	1.23E-04	8.64E+00	5.29E-05	8.52E-03	2.29E-03
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
	<b>0.097</b>	<b>0.553</b>	<b>0.019</b>	<b>0.002</b>	<b>0.006</b>	<b>0.006</b>	<b>224.059</b>	<b>0.000</b>	<b>0.091</b>	<b>0.025</b>

**Construction Emission Calculations**

**Entrance Construction**

Construction Year: 2014

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	1.02E-02	9.08E-04	2.56E-04	2.65E-05	1.76E-05	8.82E-06	2.50E+00	9.70E-05	4.01E-03	1.05E-03
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	<b>1.02E-02</b>	<b>9.08E-04</b>	<b>2.56E-04</b>	<b>2.65E-05</b>	<b>1.76E-05</b>	<b>8.82E-06</b>	<b>2.50E+00</b>	<b>9.70E-05</b>	<b>4.01E-03</b>	<b>1.05E-03</b>

**Chiquita Canyon Landfill EIR  
Mobile Sources**

Construction Emission Calculations

**Module Construction**

Construction Year: 2016

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	1.64E-02	1.45E-03	3.53E-04	5.29E-05	1.76E-05	1.76E-05	5.01E+00	1.59E-04	8.02E-03	2.09E-03
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	<b>1.64E-02</b>	<b>1.45E-03</b>	<b>3.53E-04</b>	<b>5.29E-05</b>	<b>1.76E-05</b>	<b>1.76E-05</b>	<b>5.01E+00</b>	<b>1.59E-04</b>	<b>8.02E-03</b>	<b>2.09E-03</b>

Construction Emission Calculations

**Module Construction**

Construction Year: 2021

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	1.12E-02	9.88E-04	1.76E-04	5.29E-05	1.76E-05	1.76E-05	5.02E+00	1.23E-04	8.02E-03	2.09E-03
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	<b>1.12E-02</b>	<b>9.88E-04</b>	<b>1.76E-04</b>	<b>5.29E-05</b>	<b>1.76E-05</b>	<b>1.76E-05</b>	<b>5.02E+00</b>	<b>1.23E-04</b>	<b>8.02E-03</b>	<b>2.09E-03</b>

Chiquita Canyon Landfill EIR  
Mobile Sources

Operation Emission Calculations  
Emission Calculations  
Operation Year: 2016

Emission Factors Equipment Type	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	1.41E+00	1.24E-01	3.03E-02	4.54E-03	1.51E-03	1.51E-03	4.30E+02	1.36E-02	6.88E-01	1.79E-01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	9.36E+00	1.81E+02	1.75E+00	2.78E-01	1.11E+00	1.01E+00	2.73E+04	0.00E+00	8.31E+00	2.22E+00
Waste Trucks (MHDT)	1.58E+00	1.67E+01	3.68E-01	4.09E-02	2.29E-01	2.12E-01	3.94E+03	0.00E+00	2.05E+00	5.93E-01
Waste Trucks (LHDT2)	1.88E+00	3.73E+00	2.01E-01	1.17E-02	3.51E-02	3.27E-02	1.15E+03	2.10E-02	1.13E+00	3.03E-01
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
	<b>14.231</b>	<b>201.256</b>	<b>2.351</b>	<b>0.335</b>	<b>1.379</b>	<b>1.261</b>	<b>32862.901</b>	<b>0.035</b>	<b>12.182</b>	<b>3.296</b>

**Chiquita Canyon Landfill EIR**  
**Mobile Sources**

**Emission Calculations**  
 Operation Year: 2021

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	2.18E+00	1.93E-01	3.44E-02	1.03E-02	3.44E-03	3.44E-03	9.78E+02	2.41E-02	1.56E+00	4.08E-01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	2.31E+01	2.99E+02	4.61E+00	6.48E-01	2.13E+00	1.98E+00	5.86E+04	0.00E+00	1.94E+01	5.17E+00
Waste Trucks (MHDT)	2.85E+00	1.63E+01	6.90E-01	9.53E-02	2.81E-01	2.57E-01	8.50E+03	0.00E+00	4.78E+00	1.38E+00
Waste Trucks (LHDT2)	2.60E+00	5.94E+00	3.19E-01	2.75E-02	6.60E-02	6.05E-02	2.70E+03	3.30E-02	2.66E+00	7.13E-01
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
	<b>30.680</b>	<b>321.023</b>	<b>5.654</b>	<b>0.781</b>	<b>2.484</b>	<b>2.302</b>	<b>70750.281</b>	<b>0.057</b>	<b>28.359</b>	<b>7.672</b>

**Emission Calculations**  
 Operation Year: 2030

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	1.80E+00	1.58E-01	2.41E-02	1.03E-02	6.88E-03	3.44E-03	9.79E+02	2.06E-02	1.56E+00	4.08E-01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	2.40E+01	1.60E+02	5.07E+00	6.10E-01	1.68E+00	1.56E+00	5.78E+04	0.00E+00	1.94E+01	5.17E+00
Waste Trucks (MHDT)	2.76E+00	8.81E+00	6.71E-01	9.53E-02	2.65E-01	2.44E-01	8.45E+03	0.00E+00	4.78E+00	1.38E+00
Waste Trucks (LHDT2)	1.61E+00	2.96E+00	1.82E-01	2.75E-02	4.40E-02	3.85E-02	2.70E+03	1.65E-02	2.66E+00	7.13E-01
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
	<b>30.165</b>	<b>172.392</b>	<b>5.945</b>	<b>0.743</b>	<b>1.993</b>	<b>1.849</b>	<b>69906.265</b>	<b>0.037</b>	<b>28.359</b>	<b>7.672</b>

**Construction Emission Calculations**  
**Entrance Construction**  
 Construction Year: 2014

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	1.22E+00	1.09E-01	3.07E-02	3.17E-03	2.12E-03	1.06E-03	3.00E+02	1.16E-02	4.81E-01	1.26E-01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	<b>1.22E+00</b>	<b>1.09E-01</b>	<b>3.07E-02</b>	<b>3.17E-03</b>	<b>2.12E-03</b>	<b>1.06E-03</b>	<b>3.00E+02</b>	<b>1.16E-02</b>	<b>4.81E-01</b>	<b>1.26E-01</b>

**Chiquita Canyon Landfill EIR  
Mobile Sources**

Construction Emission Calculations

**Module Construction**

Construction Year: 2016

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	1.97E+00	1.74E-01	4.23E-02	6.35E-03	2.12E-03	2.12E-03	6.01E+02	1.90E-02	9.63E-01	2.51E-01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	<b>1.97E+00</b>	<b>1.74E-01</b>	<b>4.23E-02</b>	<b>6.35E-03</b>	<b>2.12E-03</b>	<b>2.12E-03</b>	<b>6.01E+02</b>	<b>1.90E-02</b>	<b>9.63E-01</b>	<b>2.51E-01</b>

Construction Emission Calculations

**Module Construction**

Construction Year: 2021

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	1.34E+00	1.19E-01	2.12E-02	6.35E-03	2.12E-03	2.12E-03	6.02E+02	1.48E-02	9.63E-01	2.51E-01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	<b>1.34E+00</b>	<b>1.19E-01</b>	<b>2.12E-02</b>	<b>6.35E-03</b>	<b>2.12E-03</b>	<b>2.12E-03</b>	<b>6.02E+02</b>	<b>1.48E-02</b>	<b>9.63E-01</b>	<b>2.51E-01</b>

Chiquita Canyon Landfill EIR  
Mobile Sources

Operation Emission Calculations  
Emission Calculations  
Operation Year: 2016

Total Offsite

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	4.52E-01	3.98E-02	9.70E-03	1.46E-03	4.85E-04	4.85E-04	1.38E+02	4.37E-03	2.21E-01	5.75E-02
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	Waste Trucks (HHDT)	9.00E-02	1.74E+00	1.68E-02	2.68E-03	1.07E-02	9.76E-03	2.63E+02	0.00E+00	7.99E-02	2.13E-02
Waste Trucks (MHDT)	Waste Trucks (MHDT)	1.52E-02	1.60E-01	3.54E-03	3.93E-04	2.20E-03	2.04E-03	3.79E+01	0.00E+00	1.97E-02	5.70E-03
Waste Trucks (LHDT2)	Waste Trucks (LHDT2)	1.80E-02	3.59E-02	1.93E-03	1.12E-04	3.37E-04	3.15E-04	1.11E+01	2.02E-04	1.09E-02	2.91E-03
Waste Trucks (LDT2)	Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
	<b>Total<sup>o</sup></b>	<b>5.75E-01</b>	<b>1.97E+00</b>	<b>3.20E-02</b>	<b>4.64E-03</b>	<b>1.37E-02</b>	<b>1.26E-02</b>	<b>4.50E+02</b>	<b>4.57E-03</b>	<b>3.31E-01</b>	<b>8.75E-02</b>



**Chiquita Canyon Landfill EIR  
Mobile Sources**

**Emission Calculations**

Operation Year: 2021

**Total Offsite**

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	6.99E-01	6.17E-02	1.10E-02	3.31E-03	1.10E-03	1.10E-03	3.14E+02	7.72E-03	5.01E-01	1.31E-01
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	Waste Trucks (HHDT)	2.22E-01	2.87E+00	4.43E-02	6.23E-03	2.05E-02	1.91E-02	5.63E+02	0.00E+00	1.86E-01	4.97E-02
Waste Trucks (MHDT)	Waste Trucks (MHDT)	2.74E-02	1.56E-01	6.63E-03	9.17E-04	2.70E-03	2.47E-03	8.18E+01	0.00E+00	4.60E-02	1.33E-02
Waste Trucks (LHDT2)	Waste Trucks (LHDT2)	2.50E-02	5.71E-02	3.07E-03	2.65E-04	6.35E-04	5.82E-04	2.59E+01	3.17E-04	2.56E-02	6.86E-03
Waste Trucks (LDT2)	Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
<b>Total °</b>		<b>9.73E-01</b>	<b>3.15E+00</b>	<b>6.51E-02</b>	<b>1.07E-02</b>	<b>2.50E-02</b>	<b>2.32E-02</b>	<b>9.85E+02</b>	<b>8.03E-03</b>	<b>7.59E-01</b>	<b>2.01E-01</b>

**Emission Calculations**

Operation Year: 2030

**Total Offsite**

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	5.75E-01	5.07E-02	7.72E-03	3.31E-03	2.20E-03	1.10E-03	3.14E+02	6.61E-03	5.01E-01	1.31E-01
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	Waste Trucks (HHDT)	2.31E-01	1.54E+00	4.87E-02	5.86E-03	1.61E-02	1.50E-02	5.56E+02	0.00E+00	1.86E-01	4.97E-02
Waste Trucks (MHDT)	Waste Trucks (MHDT)	2.65E-02	8.47E-02	6.45E-03	9.17E-04	2.55E-03	2.35E-03	8.13E+01	0.00E+00	4.60E-02	1.33E-02
Waste Trucks (LHDT2)	Waste Trucks (LHDT2)	1.54E-02	2.85E-02	1.75E-03	2.65E-04	4.23E-04	3.70E-04	2.59E+01	1.59E-04	2.56E-02	6.86E-03
Waste Trucks (LDT2)	Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
<b>Total °</b>		<b>8.48E-01</b>	<b>1.71E+00</b>	<b>6.46E-02</b>	<b>1.04E-02</b>	<b>2.13E-02</b>	<b>1.88E-02</b>	<b>9.76E+02</b>	<b>6.77E-03</b>	<b>7.59E-01</b>	<b>2.01E-01</b>

**Construction Emission Calculations**

**Entrance Construction**

Construction Year: 2014

**Total Offsite**

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	1.02E+00	9.08E-02	2.56E-02	2.65E-03	1.76E-03	8.82E-04	2.50E+02	9.70E-03	4.01E-01	1.05E-01
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<b>Total °</b>		<b>1.02E+00</b>	<b>9.08E-02</b>	<b>2.56E-02</b>	<b>2.65E-03</b>	<b>1.76E-03</b>	<b>8.82E-04</b>	<b>2.50E+02</b>	<b>9.70E-03</b>	<b>4.01E-01</b>	<b>1.05E-01</b>

**Chiquita Canyon Landfill EIR**  
**Mobile Sources**

Construction Emission Calculations

**Module Construction**

Construction Year: 2016

**Total Offsite**

**Emission Factors**

<b>Emission Factors</b>		<b>Hourly Emissions (lb/hr)</b>									
		<b>CO</b>	<b>NOx</b>	<b>ROG</b>	<b>SOx</b>	<b>PM<sub>10</sub> Exhaust</b>	<b>PM<sub>2.5</sub> Exhaust</b>	<b>CO<sub>2</sub></b>	<b>CH<sub>4</sub></b>	<b>PM<sub>10</sub> Fugitive</b>	<b>PM<sub>2.5</sub> Fugitive</b>
Employees (LDA)	Employees (LDA)	1.64E+00	1.45E-01	3.53E-02	5.29E-03	1.76E-03	1.76E-03	5.01E+02	1.59E-02	8.02E-01	2.09E-01
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<b>Total °</b>		<b>1.64E+00</b>	<b>1.45E-01</b>	<b>3.53E-02</b>	<b>5.29E-03</b>	<b>1.76E-03</b>	<b>1.76E-03</b>	<b>5.01E+02</b>	<b>1.59E-02</b>	<b>8.02E-01</b>	<b>2.09E-01</b>

Construction Emission Calculations

**Module Construction**

Construction Year: 2021

**Total Offsite**

**Emission Factors**

<b>Emission Factors</b>		<b>Hourly Emissions (lb/hr)</b>									
		<b>CO</b>	<b>NOx</b>	<b>ROG</b>	<b>SOx</b>	<b>PM<sub>10</sub> Exhaust</b>	<b>PM<sub>2.5</sub> Exhaust</b>	<b>CO<sub>2</sub></b>	<b>CH<sub>4</sub></b>	<b>PM<sub>10</sub> Fugitive</b>	<b>PM<sub>2.5</sub> Fugitive</b>
Employees (LDA)	Employees (LDA)	1.12E+00	9.88E-02	1.76E-02	5.29E-03	1.76E-03	1.76E-03	5.02E+02	1.23E-02	8.02E-01	2.09E-01
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<b>Total °</b>		<b>1.12E+00</b>	<b>9.88E-02</b>	<b>1.76E-02</b>	<b>5.29E-03</b>	<b>1.76E-03</b>	<b>1.76E-03</b>	<b>5.02E+02</b>	<b>1.23E-02</b>	<b>8.02E-01</b>	<b>2.09E-01</b>

Chiquita Canyon Landfill EIR  
Mobile Sources

Operation Emission Calculations  
Emission Calculations  
Operation Year: 2016

Emission Factors Equipment Type	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	9.04E-01	7.95E-02	1.94E-02	2.91E-03	9.70E-04	9.70E-04	2.76E+02	8.73E-03	4.41E-01	1.15E-01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	9.00E-01	1.74E+01	1.68E-01	2.68E-02	1.07E-01	9.76E-02	2.63E+03	0.00E+00	7.99E-01	2.13E-01
Waste Trucks (MHDT)	1.52E-01	1.60E+00	3.54E-02	3.93E-03	2.20E-02	2.04E-02	3.79E+02	0.00E+00	1.97E-01	5.70E-02
Waste Trucks (LHDT2)	1.80E-01	3.59E-01	1.93E-02	1.12E-03	3.37E-03	3.15E-03	1.11E+02	2.02E-03	1.09E-01	2.91E-02
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
	<b>2.14E+00</b>	<b>1.94E+01</b>	<b>2.43E-01</b>	<b>3.47E-02</b>	<b>1.33E-01</b>	<b>1.22E-01</b>	<b>3.39E+03</b>	<b>1.08E-02</b>	<b>1.55E+00</b>	<b>4.15E-01</b>

**Chiquita Canyon Landfill EIR**  
**Mobile Sources**

**Emission Calculations**

Operation Year: 2021

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	1.40E+00	1.23E-01	2.20E-02	6.61E-03	2.20E-03	2.20E-03	6.27E+02	1.54E-02	1.00E+00	2.61E-01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	2.22E+00	2.87E+01	4.43E-01	6.23E-02	2.05E-01	1.91E-01	5.63E+03	0.00E+00	1.86E+00	4.97E-01
Waste Trucks (MHDT)	2.74E-01	1.56E+00	6.63E-02	9.17E-03	2.70E-02	2.47E-02	8.18E+02	0.00E+00	4.60E-01	1.33E-01
Waste Trucks (LHDT2)	2.50E-01	5.71E-01	3.07E-02	2.65E-03	6.35E-03	5.82E-03	2.59E+02	3.17E-03	2.56E-01	6.86E-02
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
	<b>4.14E+00</b>	<b>3.10E+01</b>	<b>5.62E-01</b>	<b>8.07E-02</b>	<b>2.41E-01</b>	<b>2.23E-01</b>	<b>7.34E+03</b>	<b>1.86E-02</b>	<b>3.58E+00</b>	<b>9.60E-01</b>

**Emission Calculations**

Operation Year: 2030

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	1.15E+00	1.01E-01	1.54E-02	6.61E-03	4.41E-03	2.20E-03	6.27E+02	1.32E-02	1.00E+00	2.61E-01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	2.31E+00	1.54E+01	4.87E-01	5.86E-02	1.61E-01	1.50E-01	5.56E+03	0.00E+00	1.86E+00	4.97E-01
Waste Trucks (MHDT)	2.65E-01	8.47E-01	6.45E-02	9.17E-03	2.55E-02	2.35E-02	8.13E+02	0.00E+00	4.60E-01	1.33E-01
Waste Trucks (LHDT2)	1.54E-01	2.85E-01	1.75E-02	2.65E-03	4.23E-03	3.70E-03	2.59E+02	1.59E-03	2.56E-01	6.86E-02
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
	<b>3.88E+00</b>	<b>1.67E+01</b>	<b>5.85E-01</b>	<b>7.71E-02</b>	<b>1.95E-01</b>	<b>1.80E-01</b>	<b>7.25E+03</b>	<b>1.48E-02</b>	<b>3.58E+00</b>	<b>9.60E-01</b>

**Construction Emission Calculations**

**Entrance Construction**

Construction Year: 2014

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	2.04E+00	1.82E-01	5.11E-02	5.29E-03	3.53E-03	1.76E-03	5.01E+02	1.94E-02	8.02E-01	2.09E-01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	<b>2.04E+00</b>	<b>1.82E-01</b>	<b>5.11E-02</b>	<b>5.29E-03</b>	<b>3.53E-03</b>	<b>1.76E-03</b>	<b>5.01E+02</b>	<b>1.94E-02</b>	<b>8.02E-01</b>	<b>2.09E-01</b>

**Chiquita Canyon Landfill EIR  
Mobile Sources**

Construction Emission Calculations

**Module Construction**

Construction Year: 2016

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	3.29E+00	2.89E-01	7.05E-02	1.06E-02	3.53E-03	3.53E-03	1.00E+03	3.17E-02	1.60E+00	4.18E-01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	<b>3.29E+00</b>	<b>2.89E-01</b>	<b>7.05E-02</b>	<b>1.06E-02</b>	<b>3.53E-03</b>	<b>3.53E-03</b>	<b>1.00E+03</b>	<b>3.17E-02</b>	<b>1.60E+00</b>	<b>4.18E-01</b>

Construction Emission Calculations

**Module Construction**

Construction Year: 2021

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	2.24E+00	1.98E-01	3.53E-02	1.06E-02	3.53E-03	3.53E-03	1.00E+03	2.47E-02	1.60E+00	4.18E-01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	<b>2.24E+00</b>	<b>1.98E-01</b>	<b>3.53E-02</b>	<b>1.06E-02</b>	<b>3.53E-03</b>	<b>3.53E-03</b>	<b>1.00E+03</b>	<b>2.47E-02</b>	<b>1.60E+00</b>	<b>4.18E-01</b>

Chiquita Canyon Landfill EIR  
Mobile Sources

Operation Emission Calculations  
Emission Calculations  
Operation Year: 2016

Emission Factors Equipment Type	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	2.82E+02	2.48E+01	6.05E+00	9.08E-01	3.03E-01	3.03E-01	8.60E+04	2.72E+00	1.38E+02	3.59E+01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	2.81E+02	5.42E+03	5.25E+01	8.35E+00	3.34E+01	3.04E+01	8.20E+05	0.00E+00	2.49E+02	6.66E+01
Waste Trucks (MHDT)	4.74E+01	5.00E+02	1.11E+01	1.23E+00	6.86E+00	6.35E+00	1.18E+05	0.00E+00	6.15E+01	1.78E+01
Waste Trucks (LHDT2)	5.63E+01	1.12E+02	6.03E+00	3.51E-01	1.05E+00	9.82E-01	3.45E+04	6.31E-01	3.39E+01	9.09E+00
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
	<b>6.67E+02</b>	<b>6.06E+03</b>	<b>7.57E+01</b>	<b>1.08E+01</b>	<b>4.16E+01</b>	<b>3.81E+01</b>	<b>1.06E+06</b>	<b>3.36E+00</b>	<b>4.82E+02</b>	<b>1.29E+02</b>

**Chiquita Canyon Landfill EIR**  
**Mobile Sources**

**Emission Calculations**

Operation Year: 2021

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	4.36E+02	3.85E+01	6.88E+00	2.06E+00	6.88E-01	6.88E-01	1.96E+05	4.81E+00	3.13E+02	8.16E+01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	6.92E+02	8.96E+03	1.38E+02	1.94E+01	6.40E+01	5.94E+01	1.76E+06	0.00E+00	5.81E+02	1.55E+02
Waste Trucks (MHDT)	8.54E+01	4.88E+02	2.07E+01	2.86E+00	8.42E+00	7.70E+00	2.55E+05	0.00E+00	1.43E+02	4.15E+01
Waste Trucks (LHDT2)	7.79E+01	1.78E+02	9.57E+00	8.25E-01	1.98E+00	1.82E+00	8.10E+04	9.90E-01	7.97E+01	2.14E+01
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
	<b>1.29E+03</b>	<b>9.66E+03</b>	<b>1.75E+02</b>	<b>2.52E+01</b>	<b>7.51E+01</b>	<b>6.96E+01</b>	<b>2.29E+06</b>	<b>5.81E+00</b>	<b>1.12E+03</b>	<b>3.00E+02</b>

**Emission Calculations**

Operation Year: 2030

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	3.59E+02	3.16E+01	4.81E+00	2.06E+00	1.38E+00	6.88E-01	1.96E+05	4.13E+00	3.13E+02	8.16E+01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Waste Trucks (HHDT)	7.20E+02	4.81E+03	1.52E+02	1.83E+01	5.03E+01	4.69E+01	1.73E+06	0.00E+00	5.81E+02	1.55E+02
Waste Trucks (MHDT)	8.27E+01	2.64E+02	2.01E+01	2.86E+00	7.96E+00	7.33E+00	2.54E+05	0.00E+00	1.43E+02	4.15E+01
Waste Trucks (LHDT2)	4.82E+01	8.88E+01	5.45E+00	8.25E-01	1.32E+00	1.16E+00	8.09E+04	4.95E-01	7.97E+01	2.14E+01
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA
	<b>1.21E+03</b>	<b>5.20E+03</b>	<b>1.82E+02</b>	<b>2.40E+01</b>	<b>6.10E+01</b>	<b>5.60E+01</b>	<b>2.26E+06</b>	<b>4.62E+00</b>	<b>1.12E+03</b>	<b>3.00E+02</b>

**Construction Emission Calculations**

**Entrance Construction**

Construction Year: 2014

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	2.45E+02	2.18E+01	6.14E+00	6.35E-01	4.23E-01	2.12E-01	6.01E+04	2.33E+00	9.63E+01	2.51E+01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	<b>2.45E+02</b>	<b>2.18E+01</b>	<b>6.14E+00</b>	<b>6.35E-01</b>	<b>4.23E-01</b>	<b>2.12E-01</b>	<b>6.01E+04</b>	<b>2.33E+00</b>	<b>9.63E+01</b>	<b>2.51E+01</b>

**Chiquita Canyon Landfill EIR  
Mobile Sources**

Construction Emission Calculations

**Module Construction**

Construction Year: 2016

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	3.94E+02	3.47E+01	8.47E+00	1.27E+00	4.23E-01	4.23E-01	1.20E+05	3.81E+00	1.93E+02	5.02E+01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	<b>3.94E+02</b>	<b>3.47E+01</b>	<b>8.47E+00</b>	<b>1.27E+00</b>	<b>4.23E-01</b>	<b>4.23E-01</b>	<b>1.20E+05</b>	<b>3.81E+00</b>	<b>1.93E+02</b>	<b>5.02E+01</b>

Construction Emission Calculations

**Module Construction**

Construction Year: 2021

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	2.68E+02	2.37E+01	4.23E+00	1.27E+00	4.23E-01	4.23E-01	1.20E+05	2.96E+00	1.93E+02	5.02E+01
Onsite Service Truck (LDT1)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	<b>2.68E+02</b>	<b>2.37E+01</b>	<b>4.23E+00</b>	<b>1.27E+00</b>	<b>4.23E-01</b>	<b>4.23E-01</b>	<b>1.20E+05</b>	<b>2.96E+00</b>	<b>1.93E+02</b>	<b>5.02E+01</b>



Chiquita Canyon Landfill EIR  
Mobile Sources

Operation Emission Calculations  
Emission Calculations  
Operation Year: 2016

Total Onsite

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	5.31E-03	3.06E-04	1.23E-04	6.61E-06	9.92E-07	9.92E-07	7.23E-01	4.63E-05	9.37E-02	1.01E-02
Waste Trucks (HHDT)	Waste Trucks (HHDT)	6.00E-02	1.16E+00	1.12E-02	1.78E-03	7.14E-03	6.51E-03	1.75E+02	0.00E+00	1.16E+00	2.86E-01
Waste Trucks (MHDT)	Waste Trucks (MHDT)	1.01E-02	1.07E-01	2.36E-03	2.62E-04	1.47E-03	1.36E-03	2.53E+01	0.00E+00	2.64E-01	6.54E-02
Waste Trucks (LHDT2)	Waste Trucks (LHDT2)	1.20E-02	2.39E-02	1.29E-03	7.50E-05	2.25E-04	2.10E-04	7.37E+00	1.35E-04	1.65E-01	4.08E-02
Waste Trucks (LDT2)	Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	Truck Idle	7.06E-01	1.22E+00	1.26E-01	1.41E-03	3.09E-03	2.84E-03	1.43E+02	0.00E+00	NA	NA
	<b>Total<sup>o</sup></b>	<b>7.94E-01</b>	<b>2.51E+00</b>	<b>1.41E-01</b>	<b>3.54E-03</b>	<b>1.19E-02</b>	<b>1.09E-02</b>	<b>3.51E+02</b>	<b>1.81E-04</b>	<b>1.68E+00</b>	<b>4.02E-01</b>

**Chiquita Canyon Landfill EIR**  
**Mobile Sources**

**Emission Calculations**

Operation Year: 2021

**Total Onsite**

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	7.08E-03	4.02E-04	1.32E-04	1.32E-05	1.32E-06	1.32E-06	1.45E+00	6.61E-05	1.87E-01	2.02E-02
Waste Trucks (HHDT)	Waste Trucks (HHDT)	1.48E-01	1.91E+00	2.96E-02	4.15E-03	1.37E-02	1.27E-02	3.75E+02	0.00E+00	2.70E+00	6.66E-01
Waste Trucks (MHDT)	Waste Trucks (MHDT)	1.83E-02	1.04E-01	4.42E-03	6.11E-04	1.80E-03	1.64E-03	5.45E+01	0.00E+00	6.17E-01	1.53E-01
Waste Trucks (LHDT2)	Waste Trucks (LHDT2)	1.66E-02	3.81E-02	2.05E-03	1.76E-04	4.23E-04	3.88E-04	1.73E+01	2.12E-04	3.89E-01	9.59E-02
Waste Trucks (LDT2)	Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	Truck Idle	1.93E+00	2.12E+00	3.43E-01	3.28E-03	5.56E-03	5.11E-03	3.10E+02	0.00E+00	NA	NA
<b>Total °</b>		<b>2.12E+00</b>	<b>4.18E+00</b>	<b>3.79E-01</b>	<b>8.24E-03</b>	<b>2.15E-02</b>	<b>1.98E-02</b>	<b>7.58E+02</b>	<b>2.78E-04</b>	<b>3.89E+00</b>	<b>9.34E-01</b>

**Emission Calculations**

Operation Year: 2030

**Total Onsite**

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	3.77E-03	2.01E-04	5.73E-05	1.32E-05	1.32E-06	1.32E-06	1.46E+00	3.97E-05	1.87E-01	2.02E-02
Waste Trucks (HHDT)	Waste Trucks (HHDT)	1.54E-01	1.03E+00	3.25E-02	3.91E-03	1.07E-02	1.00E-02	3.70E+02	0.00E+00	2.70E+00	6.66E-01
Waste Trucks (MHDT)	Waste Trucks (MHDT)	1.77E-02	5.65E-02	4.30E-03	6.11E-04	1.70E-03	1.57E-03	5.42E+01	0.00E+00	6.17E-01	1.53E-01
Waste Trucks (LHDT2)	Waste Trucks (LHDT2)	1.03E-02	1.90E-02	1.16E-03	1.76E-04	2.82E-04	2.47E-04	1.73E+01	1.06E-04	3.89E-01	9.59E-02
Waste Trucks (LDT2)	Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	Truck Idle	2.02E+00	1.91E+00	3.59E-01	3.28E-03	5.31E-03	4.88E-03	3.09E+02	0.00E+00	NA	NA
<b>Total °</b>		<b>2.21E+00</b>	<b>3.01E+00</b>	<b>3.97E-01</b>	<b>7.99E-03</b>	<b>1.80E-02</b>	<b>1.67E-02</b>	<b>7.53E+02</b>	<b>1.46E-04</b>	<b>3.89E+00</b>	<b>9.34E-01</b>

**Construction Emission Calculations**

**Entrance Construction**

Construction Year: 2014

**Total Onsite**

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	2.57E-02	1.48E-03	6.88E-04	2.65E-05	5.29E-06	3.97E-06	2.89E+00	2.20E-04	3.75E-01	4.04E-02
<b>Total °</b>		<b>2.57E-02</b>	<b>1.48E-03</b>	<b>6.88E-04</b>	<b>2.65E-05</b>	<b>5.29E-06</b>	<b>3.97E-06</b>	<b>2.89E+00</b>	<b>2.20E-04</b>	<b>3.75E-01</b>	<b>4.04E-02</b>

Chiquita Canyon Landfill EIR  
Mobile Sources

Construction Emission Calculations

Module Construction

Construction Year: 2016

Total Onsite

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	1.06E-02	6.11E-04	2.47E-04	1.32E-05	1.98E-06	1.98E-06	1.45E+00	9.26E-05	1.87E-01	2.02E-02
	<b>Total °</b>	<b>1.06E-02</b>	<b>6.11E-04</b>	<b>2.47E-04</b>	<b>1.32E-05</b>	<b>1.98E-06</b>	<b>1.98E-06</b>	<b>1.45E+00</b>	<b>9.26E-05</b>	<b>1.87E-01</b>	<b>2.02E-02</b>

Construction Emission Calculations

Module Construction

Construction Year: 2021

Total Onsite

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	7.08E-03	4.02E-04	1.32E-04	1.32E-05	1.32E-06	1.32E-06	1.45E+00	6.61E-05	1.87E-01	2.02E-02
	<b>Total °</b>	<b>7.08E-03</b>	<b>4.02E-04</b>	<b>1.32E-04</b>	<b>1.32E-05</b>	<b>1.32E-06</b>	<b>1.32E-06</b>	<b>1.45E+00</b>	<b>6.61E-05</b>	<b>1.87E-01</b>	<b>2.02E-02</b>

Chiquita Canyon Landfill EIR  
Mobile Sources

Operation Emission Calculations  
Emission Calculations  
Operation Year: 2016

Emission Factors Equipment Type	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	5.31E-02	3.06E-03	1.23E-03	6.61E-05	9.92E-06	9.92E-06	7.23E+00	4.63E-04	9.37E-01	1.01E-01
Waste Trucks (HHDT)	6.00E-01	1.16E+01	1.12E-01	1.78E-02	7.14E-02	6.51E-02	1.75E+03	0.00E+00	1.16E+01	2.86E+00
Waste Trucks (MHDT)	1.01E-01	1.07E+00	2.36E-02	2.62E-03	1.47E-02	1.36E-02	2.53E+02	0.00E+00	2.64E+00	6.54E-01
Waste Trucks (LHDT2)	1.20E-01	2.39E-01	1.29E-02	7.50E-04	2.25E-03	2.10E-03	7.37E+01	1.35E-03	1.65E+00	4.08E-01
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	7.06E+00	1.22E+01	1.26E+00	1.41E-02	3.09E-02	2.84E-02	1.43E+03	0.00E+00	NA	NA
	<b>7.94E+00</b>	<b>2.51E+01</b>	<b>1.41E+00</b>	<b>3.54E-02</b>	<b>1.19E-01</b>	<b>1.09E-01</b>	<b>3.51E+03</b>	<b>1.81E-03</b>	<b>1.68E+01</b>	<b>4.02E+00</b>

**Chiquita Canyon Landfill EIR**  
**Mobile Sources**

**Emission Calculations**

Operation Year: 2021

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	7.08E-02	4.02E-03	1.32E-03	1.32E-04	1.32E-05	1.32E-05	1.45E+01	6.61E-04	1.87E+00	2.02E-01
Waste Trucks (HHDT)	1.48E+00	1.91E+01	2.96E-01	4.15E-02	1.37E-01	1.27E-01	3.75E+03	0.00E+00	2.70E+01	6.66E+00
Waste Trucks (MHDT)	1.83E-01	1.04E+00	4.42E-02	6.11E-03	1.80E-02	1.64E-02	5.45E+02	0.00E+00	6.17E+00	1.53E+00
Waste Trucks (LHDT2)	1.66E-01	3.81E-01	2.05E-02	1.76E-03	4.23E-03	3.88E-03	1.73E+02	2.12E-03	3.89E+00	9.59E-01
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	1.93E+01	2.12E+01	3.43E+00	3.28E-02	5.56E-02	5.11E-02	3.10E+03	0.00E+00	NA	NA
	<b>2.12E+01</b>	<b>4.18E+01</b>	<b>3.79E+00</b>	<b>8.24E-02</b>	<b>2.15E-01</b>	<b>1.98E-01</b>	<b>7.58E+03</b>	<b>2.78E-03</b>	<b>3.89E+01</b>	<b>9.34E+00</b>

**Emission Calculations**

Operation Year: 2030

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	3.77E-02	2.01E-03	5.73E-04	1.32E-04	1.32E-05	1.32E-05	1.46E+01	3.97E-04	1.87E+00	2.02E-01
Waste Trucks (HHDT)	1.54E+00	1.03E+01	3.25E-01	3.91E-02	1.07E-01	1.00E-01	3.70E+03	0.00E+00	2.70E+01	6.66E+00
Waste Trucks (MHDT)	1.77E-01	5.65E-01	4.30E-02	6.11E-03	1.70E-02	1.57E-02	5.42E+02	0.00E+00	6.17E+00	1.53E+00
Waste Trucks (LHDT2)	1.03E-01	1.90E-01	1.16E-02	1.76E-03	2.82E-03	2.47E-03	1.73E+02	1.06E-03	3.89E+00	9.59E-01
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	2.02E+01	1.91E+01	3.59E+00	3.28E-02	5.31E-02	4.88E-02	3.09E+03	0.00E+00	NA	NA
	<b>2.21E+01</b>	<b>3.01E+01</b>	<b>3.97E+00</b>	<b>7.99E-02</b>	<b>1.80E-01</b>	<b>1.67E-01</b>	<b>7.53E+03</b>	<b>1.46E-03</b>	<b>3.89E+01</b>	<b>9.34E+00</b>

**Construction Emission Calculations**

**Entrance Construction**

Construction Year: 2014

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	2.57E-01	1.48E-02	6.88E-03	2.65E-04	5.29E-05	3.97E-05	2.89E+01	2.20E-03	3.75E+00	4.04E-01
	<b>2.57E-01</b>	<b>1.48E-02</b>	<b>6.88E-03</b>	<b>2.65E-04</b>	<b>5.29E-05</b>	<b>3.97E-05</b>	<b>2.89E+01</b>	<b>2.20E-03</b>	<b>3.75E+00</b>	<b>4.04E-01</b>

**Chiquita Canyon Landfill EIR  
Mobile Sources**

Construction Emission Calculations

**Module Construction**

Construction Year: 2016

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	1.06E-01	6.11E-03	2.47E-03	1.32E-04	1.98E-05	1.98E-05	1.45E+01	9.26E-04	1.87E+00	2.02E-01
	<b>1.06E-01</b>	<b>6.11E-03</b>	<b>2.47E-03</b>	<b>1.32E-04</b>	<b>1.98E-05</b>	<b>1.98E-05</b>	<b>1.45E+01</b>	<b>9.26E-04</b>	<b>1.87E+00</b>	<b>2.02E-01</b>

Construction Emission Calculations

**Module Construction**

Construction Year: 2021

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	7.08E-02	4.02E-03	1.32E-03	1.32E-04	1.32E-05	1.32E-05	1.45E+01	6.61E-04	1.87E+00	2.02E-01
	<b>7.08E-02</b>	<b>4.02E-03</b>	<b>1.32E-03</b>	<b>1.32E-04</b>	<b>1.32E-05</b>	<b>1.32E-05</b>	<b>1.45E+01</b>	<b>6.61E-04</b>	<b>1.87E+00</b>	<b>2.02E-01</b>

Chiquita Canyon Landfill EIR  
Mobile Sources

Operation Emission Calculations  
Emission Calculations  
Operation Year: 2016

Emission Factors Equipment Type	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	1.66E+01	9.53E-01	3.85E-01	2.06E-02	3.10E-03	3.10E-03	2.26E+03	1.44E-01	2.92E+02	3.15E+01
Waste Trucks (HHDT)	1.87E+02	3.61E+03	3.50E+01	5.57E+00	2.23E+01	2.03E+01	5.47E+05	0.00E+00	3.62E+03	8.92E+02
Waste Trucks (MHDT)	3.16E+01	3.33E+02	7.37E+00	8.17E-01	4.58E+00	4.23E+00	7.88E+04	0.00E+00	8.25E+02	2.04E+02
Waste Trucks (LHDT2)	3.75E+01	7.46E+01	4.02E+00	2.34E-01	7.02E-01	6.55E-01	2.30E+04	4.21E-01	5.16E+02	1.27E+02
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	2.20E+03	3.82E+03	3.94E+02	4.40E+00	9.64E+00	8.87E+00	4.45E+05	0.00E+00	NA	NA
	<b>2.48E+03</b>	<b>7.84E+03</b>	<b>4.41E+02</b>	<b>1.10E+01</b>	<b>3.72E+01</b>	<b>3.41E+01</b>	<b>1.10E+06</b>	<b>5.65E-01</b>	<b>5.25E+03</b>	<b>1.26E+03</b>

**Chiquita Canyon Landfill EIR**  
**Mobile Sources**

**Emission Calculations**

Operation Year: 2021

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	2.21E+01	1.25E+00	4.13E-01	4.13E-02	4.13E-03	4.13E-03	4.53E+03	2.06E-01	5.85E+02	6.31E+01
Waste Trucks (HHDT)	4.61E+02	5.97E+03	9.22E+01	1.30E+01	4.27E+01	3.96E+01	1.17E+06	0.00E+00	8.43E+03	2.08E+03
Waste Trucks (MHDT)	5.70E+01	3.25E+02	1.38E+01	1.91E+00	5.62E+00	5.13E+00	1.70E+05	0.00E+00	1.92E+03	4.76E+02
Waste Trucks (LHDT2)	5.19E+01	1.19E+02	6.38E+00	5.50E-01	1.32E+00	1.21E+00	5.40E+04	6.60E-01	1.21E+03	2.99E+02
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	6.03E+03	6.63E+03	1.07E+03	1.02E+01	1.73E+01	1.60E+01	9.66E+05	0.00E+00	NA	NA
	<b>6.62E+03</b>	<b>1.30E+04</b>	<b>1.18E+03</b>	<b>2.57E+01</b>	<b>6.70E+01</b>	<b>6.19E+01</b>	<b>2.37E+06</b>	<b>8.67E-01</b>	<b>1.21E+04</b>	<b>2.92E+03</b>

**Emission Calculations**

Operation Year: 2030

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	1.18E+01	6.27E-01	1.79E-01	4.13E-02	4.13E-03	4.13E-03	4.54E+03	1.24E-01	5.85E+02	6.31E+01
Waste Trucks (HHDT)	4.80E+02	3.21E+03	1.01E+02	1.22E+01	3.35E+01	3.12E+01	1.16E+06	0.00E+00	8.43E+03	2.08E+03
Waste Trucks (MHDT)	5.51E+01	1.76E+02	1.34E+01	1.91E+00	5.30E+00	4.89E+00	1.69E+05	0.00E+00	1.92E+03	4.76E+02
Waste Trucks (LHDT2)	3.21E+01	5.92E+01	3.63E+00	5.50E-01	8.80E-01	7.70E-01	5.39E+04	3.30E-01	1.21E+03	2.99E+02
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	6.32E+03	5.96E+03	1.12E+03	1.02E+01	1.66E+01	1.52E+01	9.66E+05	0.00E+00	NA	NA
	<b>6.90E+03</b>	<b>9.40E+03</b>	<b>1.24E+03</b>	<b>2.49E+01</b>	<b>5.63E+01</b>	<b>5.21E+01</b>	<b>2.35E+06</b>	<b>4.54E-01</b>	<b>1.21E+04</b>	<b>2.92E+03</b>

**Construction Emission Calculations**

**Entrance Construction**

Construction Year: 2014

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	3.09E+01	1.78E+00	8.25E-01	3.17E-02	6.35E-03	4.76E-03	3.46E+03	2.65E-01	4.50E+02	4.85E+01
	<b>3.09E+01</b>	<b>1.78E+00</b>	<b>8.25E-01</b>	<b>3.17E-02</b>	<b>6.35E-03</b>	<b>4.76E-03</b>	<b>3.46E+03</b>	<b>2.65E-01</b>	<b>4.50E+02</b>	<b>4.85E+01</b>



**Chiquita Canyon Landfill EIR  
Mobile Sources**

Construction Emission Calculations

**Module Construction**

Construction Year: 2016

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	1.28E+01	7.33E-01	2.96E-01	1.59E-02	2.38E-03	2.38E-03	1.74E+03	1.11E-01	2.25E+02	2.43E+01
	<b>1.28E+01</b>	<b>7.33E-01</b>	<b>2.96E-01</b>	<b>1.59E-02</b>	<b>2.38E-03</b>	<b>2.38E-03</b>	<b>1.74E+03</b>	<b>1.11E-01</b>	<b>2.25E+02</b>	<b>2.43E+01</b>

Construction Emission Calculations

**Module Construction**

Construction Year: 2021

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Onsite Service Truck (LDT1)	8.50E+00	4.83E-01	1.59E-01	1.59E-02	1.59E-03	1.59E-03	1.74E+03	7.94E-02	2.25E+02	2.43E+01
	<b>8.50E+00</b>	<b>4.83E-01</b>	<b>1.59E-01</b>	<b>1.59E-02</b>	<b>1.59E-03</b>	<b>1.59E-03</b>	<b>1.74E+03</b>	<b>7.94E-02</b>	<b>2.25E+02</b>	<b>2.43E+01</b>

Chiquita Canyon Landfill EIR  
Mobile Sources

Operation Emission Calculations  
Emission Calculations  
Operation Year: 2016

Total

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	4.52E-01	3.98E-02	9.70E-03	1.46E-03	4.85E-04	4.85E-04	1.38E+02	4.37E-03	2.21E-01	5.75E-02
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	5.31E-03	3.06E-04	1.23E-04	6.61E-06	9.92E-07	9.92E-07	7.23E-01	4.63E-05	9.37E-02	1.01E-02
Waste Trucks (HHDT)	Waste Trucks (HHDT)	1.50E-01	2.90E+00	2.81E-02	4.46E-03	1.78E-02	1.63E-02	4.38E+02	0.00E+00	1.24E+00	3.07E-01
Waste Trucks (MHDT)	Waste Trucks (MHDT)	2.53E-02	2.67E-01	5.90E-03	6.55E-04	3.67E-03	3.39E-03	6.32E+01	0.00E+00	2.84E-01	7.11E-02
Waste Trucks (LHDT2)	Waste Trucks (LHDT2)	3.01E-02	5.98E-02	3.22E-03	1.87E-04	5.62E-04	5.25E-04	1.84E+01	3.37E-04	1.76E-01	4.37E-02
Waste Trucks (LDT2)	Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	Truck Idle	7.06E-01	1.22E+00	1.26E-01	1.41E-03	3.09E-03	2.84E-03	1.43E+02	0.00E+00	NA	NA
	<b>Total<sup>o</sup></b>	<b>1.37E+00</b>	<b>4.49E+00</b>	<b>1.73E-01</b>	<b>8.17E-03</b>	<b>2.56E-02</b>	<b>2.35E-02</b>	<b>8.01E+02</b>	<b>4.75E-03</b>	<b>2.01E+00</b>	<b>4.90E-01</b>

**Chiquita Canyon Landfill EIR  
Mobile Sources**

**Emission Calculations**

Operation Year: 2021

**Total**

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	6.99E-01	6.17E-02	1.10E-02	3.31E-03	1.10E-03	1.10E-03	3.14E+02	7.72E-03	5.01E-01	1.31E-01
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	7.08E-03	4.02E-04	1.32E-04	1.32E-05	1.32E-06	1.32E-06	1.45E+00	6.61E-05	1.87E-01	2.02E-02
Waste Trucks (HHDT)	Waste Trucks (HHDT)	3.69E-01	4.79E+00	7.39E-02	1.04E-02	3.42E-02	3.18E-02	9.39E+02	0.00E+00	2.89E+00	7.15E-01
Waste Trucks (MHDT)	Waste Trucks (MHDT)	4.56E-02	2.61E-01	1.11E-02	1.53E-03	4.50E-03	4.11E-03	1.36E+02	0.00E+00	6.63E-01	1.66E-01
Waste Trucks (LHDT2)	Waste Trucks (LHDT2)	4.16E-02	9.52E-02	5.11E-03	4.41E-04	1.06E-03	9.70E-04	4.32E+01	5.29E-04	4.15E-01	1.03E-01
Waste Trucks (LDT2)	Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	Truck Idle	1.93E+00	2.12E+00	3.43E-01	3.28E-03	5.56E-03	5.11E-03	3.10E+02	0.00E+00	NA	NA
<b>Total °</b>		<b>3.10E+00</b>	<b>7.33E+00</b>	<b>4.44E-01</b>	<b>1.90E-02</b>	<b>4.64E-02</b>	<b>4.31E-02</b>	<b>1.74E+03</b>	<b>8.31E-03</b>	<b>4.65E+00</b>	<b>1.14E+00</b>

**Emission Calculations**

Operation Year: 2030

**Total**

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	5.75E-01	5.07E-02	7.72E-03	3.31E-03	2.20E-03	1.10E-03	3.14E+02	6.61E-03	5.01E-01	1.31E-01
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	3.77E-03	2.01E-04	5.73E-05	1.32E-05	1.32E-06	1.32E-06	1.46E+00	3.97E-05	1.87E-01	2.02E-02
Waste Trucks (HHDT)	Waste Trucks (HHDT)	3.85E-01	2.57E+00	8.12E-02	9.77E-03	2.69E-02	2.50E-02	9.26E+02	0.00E+00	2.89E+00	7.15E-01
Waste Trucks (MHDT)	Waste Trucks (MHDT)	4.42E-02	1.41E-01	1.08E-02	1.53E-03	4.25E-03	3.92E-03	1.35E+02	0.00E+00	6.63E-01	1.66E-01
Waste Trucks (LHDT2)	Waste Trucks (LHDT2)	2.57E-02	4.74E-02	2.91E-03	4.41E-04	7.05E-04	6.17E-04	4.32E+01	2.65E-04	4.15E-01	1.03E-01
Waste Trucks (LDT2)	Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	Truck Idle	2.02E+00	1.91E+00	3.59E-01	3.28E-03	5.31E-03	4.88E-03	3.09E+02	0.00E+00	NA	NA
<b>Total °</b>		<b>3.06E+00</b>	<b>4.72E+00</b>	<b>4.62E-01</b>	<b>1.83E-02</b>	<b>3.93E-02</b>	<b>3.56E-02</b>	<b>1.73E+03</b>	<b>6.92E-03</b>	<b>4.65E+00</b>	<b>1.14E+00</b>

**Construction Emission Calculations**

**Entrance Construction**

Construction Year: 2014

**Total**

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	1.02E+00	9.08E-02	2.56E-02	2.65E-03	1.76E-03	8.82E-04	2.50E+02	9.70E-03	4.01E-01	1.05E-01
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	2.57E-02	1.48E-03	6.88E-04	2.65E-05	5.29E-06	3.97E-06	2.89E+00	2.20E-04	3.75E-01	4.04E-02
<b>Total °</b>		<b>1.05E+00</b>	<b>9.23E-02</b>	<b>2.63E-02</b>	<b>2.67E-03</b>	<b>1.77E-03</b>	<b>8.86E-04</b>	<b>2.53E+02</b>	<b>9.92E-03</b>	<b>7.76E-01</b>	<b>1.45E-01</b>

Chiquita Canyon Landfill EIR  
Mobile Sources

Construction Emission Calculations

Module Construction

Construction Year: 2016

Total

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	1.64E+00	1.45E-01	3.53E-02	5.29E-03	1.76E-03	1.76E-03	5.01E+02	1.59E-02	8.02E-01	2.09E-01
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	1.06E-02	6.11E-04	2.47E-04	1.32E-05	1.98E-06	1.98E-06	1.45E+00	9.26E-05	1.87E-01	2.02E-02
<b>Total °</b>		<b>1.65E+00</b>	<b>1.45E-01</b>	<b>3.55E-02</b>	<b>5.30E-03</b>	<b>1.77E-03</b>	<b>1.77E-03</b>	<b>5.03E+02</b>	<b>1.60E-02</b>	<b>9.90E-01</b>	<b>2.29E-01</b>

Construction Emission Calculations

Module Construction

Construction Year: 2021

Total

Emission Factors		Hourly Emissions (lb/hr)									
Equipment Type	Equipment Type	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	Employees (LDA)	1.12E+00	9.88E-02	1.76E-02	5.29E-03	1.76E-03	1.76E-03	5.02E+02	1.23E-02	8.02E-01	2.09E-01
Onsite Service Truck (LDT1)	Onsite Service Truck (LDT1)	7.08E-03	4.02E-04	1.32E-04	1.32E-05	1.32E-06	1.32E-06	1.45E+00	6.61E-05	1.87E-01	2.02E-02
<b>Total °</b>		<b>1.13E+00</b>	<b>9.92E-02</b>	<b>1.78E-02</b>	<b>5.30E-03</b>	<b>1.77E-03</b>	<b>1.77E-03</b>	<b>5.03E+02</b>	<b>1.24E-02</b>	<b>9.90E-01</b>	<b>2.29E-01</b>

Chiquita Canyon Landfill EIR  
Mobile Sources

Operation Emission Calculations  
Emission Calculations  
Operation Year: 2016

Emission Factors Equipment Type	Daily Emissions (lb/day)									
	CO	NO <sub>x</sub>	ROG	SO <sub>x</sub>	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	9.04E-01	7.95E-02	1.94E-02	2.91E-03	9.70E-04	9.70E-04	2.76E+02	8.73E-03	4.41E-01	1.15E-01
Onsite Service Truck (LDT1)	5.31E-02	3.06E-03	1.23E-03	6.61E-05	9.92E-06	9.92E-06	7.23E+00	4.63E-04	9.37E-01	1.01E-01
Waste Trucks (HHDT)	1.50E+00	2.90E+01	2.81E-01	4.46E-02	1.78E-01	1.63E-01	4.38E+03	0.00E+00	1.24E+01	3.07E+00
Waste Trucks (MHDT)	2.53E-01	2.67E+00	5.90E-02	6.55E-03	3.67E-02	3.39E-02	6.32E+02	0.00E+00	2.84E+00	7.11E-01
Waste Trucks (LHDT2)	3.01E-01	5.98E-01	3.22E-02	1.87E-03	5.62E-03	5.25E-03	1.84E+02	3.37E-03	1.76E+00	4.37E-01
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	7.06E+00	1.22E+01	1.26E+00	1.41E-02	3.09E-02	2.84E-02	1.43E+03	0.00E+00	NA	NA
	<b>1.01E+01</b>	<b>4.46E+01</b>	<b>1.66E+00</b>	<b>7.01E-02</b>	<b>2.53E-01</b>	<b>2.31E-01</b>	<b>6.91E+03</b>	<b>1.26E-02</b>	<b>1.84E+01</b>	<b>4.44E+00</b>

**Chiquita Canyon Landfill EIR**  
**Mobile Sources**

**Emission Calculations**

Operation Year: 2021

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	1.40E+00	1.23E-01	2.20E-02	6.61E-03	2.20E-03	2.20E-03	6.27E+02	1.54E-02	1.00E+00	2.61E-01
Onsite Service Truck (LDT1)	7.08E-02	4.02E-03	1.32E-03	1.32E-04	1.32E-05	1.32E-05	1.45E+01	6.61E-04	1.87E+00	2.02E-01
Waste Trucks (HHDT)	3.69E+00	4.79E+01	7.39E-01	1.04E-01	3.42E-01	3.18E-01	9.39E+03	0.00E+00	2.89E+01	7.15E+00
Waste Trucks (MHDT)	4.56E-01	2.61E+00	1.11E-01	1.53E-02	4.50E-02	4.11E-02	1.36E+03	0.00E+00	6.63E+00	1.66E+00
Waste Trucks (LHDT2)	4.16E-01	9.52E-01	5.11E-02	4.41E-03	1.06E-02	9.70E-03	4.32E+02	5.29E-03	4.15E+00	1.03E+00
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	1.93E+01	2.12E+01	3.43E+00	3.28E-02	5.56E-02	5.11E-02	3.10E+03	0.00E+00	NA	NA
	<b>2.54E+01</b>	<b>7.28E+01</b>	<b>4.35E+00</b>	<b>1.63E-01</b>	<b>4.55E-01</b>	<b>4.22E-01</b>	<b>1.49E+04</b>	<b>2.14E-02</b>	<b>4.25E+01</b>	<b>1.03E+01</b>

**Emission Calculations**

Operation Year: 2030

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	1.15E+00	1.01E-01	1.54E-02	6.61E-03	4.41E-03	2.20E-03	6.27E+02	1.32E-02	1.00E+00	2.61E-01
Onsite Service Truck (LDT1)	3.77E-02	2.01E-03	5.73E-04	1.32E-04	1.32E-05	1.32E-05	1.46E+01	3.97E-04	1.87E+00	2.02E-01
Waste Trucks (HHDT)	3.85E+00	2.57E+01	8.12E-01	9.77E-02	2.69E-01	2.50E-01	9.26E+03	0.00E+00	2.89E+01	7.15E+00
Waste Trucks (MHDT)	4.42E-01	1.41E+00	1.08E-01	1.53E-02	4.25E-02	3.92E-02	1.35E+03	0.00E+00	6.63E+00	1.66E+00
Waste Trucks (LHDT2)	2.57E-01	4.74E-01	2.91E-02	4.41E-03	7.05E-03	6.17E-03	4.32E+02	2.65E-03	4.15E+00	1.03E+00
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	2.02E+01	1.91E+01	3.59E+00	3.28E-02	5.31E-02	4.88E-02	3.09E+03	0.00E+00	NA	NA
	<b>2.60E+01</b>	<b>4.68E+01</b>	<b>4.55E+00</b>	<b>1.57E-01</b>	<b>3.76E-01</b>	<b>3.47E-01</b>	<b>1.48E+04</b>	<b>1.63E-02</b>	<b>4.25E+01</b>	<b>1.03E+01</b>

**Construction Emission Calculations**

**Entrance Construction**

Construction Year: 2014

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	2.04E+00	1.82E-01	5.11E-02	5.29E-03	3.53E-03	1.76E-03	5.01E+02	1.94E-02	8.02E-01	2.09E-01
Onsite Service Truck (LDT1)	2.57E-01	1.48E-02	6.88E-03	2.65E-04	5.29E-05	3.97E-05	2.89E+01	2.20E-03	3.75E+00	4.04E-01
	<b>2.30E+00</b>	<b>1.96E-01</b>	<b>5.80E-02</b>	<b>5.56E-03</b>	<b>3.58E-03</b>	<b>1.80E-03</b>	<b>5.30E+02</b>	<b>2.16E-02</b>	<b>4.55E+00</b>	<b>6.13E-01</b>

**Chiquita Canyon Landfill EIR  
Mobile Sources**

Construction Emission Calculations

**Module Construction**

Construction Year: 2016

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	3.29E+00	2.89E-01	7.05E-02	1.06E-02	3.53E-03	3.53E-03	1.00E+03	3.17E-02	1.60E+00	4.18E-01
Onsite Service Truck (LDT1)	1.06E-01	6.11E-03	2.47E-03	1.32E-04	1.98E-05	1.98E-05	1.45E+01	9.26E-04	1.87E+00	2.02E-01
	<b>3.39E+00</b>	<b>2.95E-01</b>	<b>7.30E-02</b>	<b>1.07E-02</b>	<b>3.55E-03</b>	<b>3.55E-03</b>	<b>1.02E+03</b>	<b>3.27E-02</b>	<b>3.48E+00</b>	<b>6.21E-01</b>

Construction Emission Calculations

**Module Construction**

Construction Year: 2021

Emission Factors	Daily Emissions (lb/day)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	2.24E+00	1.98E-01	3.53E-02	1.06E-02	3.53E-03	3.53E-03	1.00E+03	2.47E-02	1.60E+00	4.18E-01
Onsite Service Truck (LDT1)	7.08E-02	4.02E-03	1.32E-03	1.32E-04	1.32E-05	1.32E-05	1.45E+01	6.61E-04	1.87E+00	2.02E-01
	<b>2.31E+00</b>	<b>2.02E-01</b>	<b>3.66E-02</b>	<b>1.07E-02</b>	<b>3.54E-03</b>	<b>3.54E-03</b>	<b>1.02E+03</b>	<b>2.54E-02</b>	<b>3.48E+00</b>	<b>6.21E-01</b>

Chiquita Canyon Landfill EIR  
Mobile Sources

Operation Emission Calculations  
Emission Calculations  
Operation Year: 2016

Emission Factors Equipment Type	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	2.82E+02	2.48E+01	6.05E+00	9.08E-01	3.03E-01	3.03E-01	8.60E+04	2.72E+00	1.38E+02	3.59E+01
Onsite Service Truck (LDT1)	1.66E+01	9.53E-01	3.85E-01	2.06E-02	3.10E-03	3.10E-03	2.26E+03	1.44E-01	2.92E+02	3.15E+01
Waste Trucks (HHDT)	4.68E+02	9.04E+03	8.76E+01	1.39E+01	5.57E+01	5.07E+01	1.37E+06	0.00E+00	3.87E+03	9.59E+02
Waste Trucks (MHDT)	7.91E+01	8.33E+02	1.84E+01	2.04E+00	1.14E+01	1.06E+01	1.97E+05	0.00E+00	8.86E+02	2.22E+02
Waste Trucks (LHDT2)	9.38E+01	1.87E+02	1.01E+01	5.85E-01	1.75E+00	1.64E+00	5.75E+04	1.05E+00	5.50E+02	1.36E+02
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	2.20E+03	3.82E+03	3.94E+02	4.40E+00	9.64E+00	8.87E+00	4.45E+05	0.00E+00	NA	NA
	<b>3.14E+03</b>	<b>1.39E+04</b>	<b>5.16E+02</b>	<b>2.19E+01</b>	<b>7.88E+01</b>	<b>7.21E+01</b>	<b>2.15E+06</b>	<b>3.92E+00</b>	<b>5.74E+03</b>	<b>1.38E+03</b>



**Chiquita Canyon Landfill EIR**  
**Mobile Sources**

**Emission Calculations**

Operation Year: 2021

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	4.36E+02	3.85E+01	6.88E+00	2.06E+00	6.88E-01	6.88E-01	1.96E+05	4.81E+00	3.13E+02	8.16E+01
Onsite Service Truck (LDT1)	2.21E+01	1.25E+00	4.13E-01	4.13E-02	4.13E-03	4.13E-03	4.53E+03	2.06E-01	5.85E+02	6.31E+01
Waste Trucks (HHDT)	1.15E+03	1.49E+04	2.31E+02	3.24E+01	1.07E+02	9.91E+01	2.93E+06	0.00E+00	9.01E+03	2.23E+03
Waste Trucks (MHDT)	1.42E+02	8.13E+02	3.45E+01	4.77E+00	1.40E+01	1.28E+01	4.25E+05	0.00E+00	2.07E+03	5.18E+02
Waste Trucks (LHDT2)	1.30E+02	2.97E+02	1.60E+01	1.38E+00	3.30E+00	3.03E+00	1.35E+05	1.65E+00	1.29E+03	3.21E+02
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	6.03E+03	6.63E+03	1.07E+03	1.02E+01	1.73E+01	1.60E+01	9.66E+05	0.00E+00	NA	NA
	<b>7.91E+03</b>	<b>2.27E+04</b>	<b>1.36E+03</b>	<b>5.09E+01</b>	<b>1.42E+02</b>	<b>1.32E+02</b>	<b>4.65E+06</b>	<b>6.67E+00</b>	<b>1.33E+04</b>	<b>3.21E+03</b>

**Emission Calculations**

Operation Year: 2030

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	3.59E+02	3.16E+01	4.81E+00	2.06E+00	1.38E+00	6.88E-01	1.96E+05	4.13E+00	3.13E+02	8.16E+01
Onsite Service Truck (LDT1)	1.18E+01	6.27E-01	1.79E-01	4.13E-02	4.13E-03	4.13E-03	4.54E+03	1.24E-01	5.85E+02	6.31E+01
Waste Trucks (HHDT)	1.20E+03	8.02E+03	2.53E+02	3.05E+01	8.38E+01	7.81E+01	2.89E+06	0.00E+00	9.01E+03	2.23E+03
Waste Trucks (MHDT)	1.38E+02	4.40E+02	3.35E+01	4.77E+00	1.33E+01	1.22E+01	4.23E+05	0.00E+00	2.07E+03	5.18E+02
Waste Trucks (LHDT2)	8.03E+01	1.48E+02	9.08E+00	1.38E+00	2.20E+00	1.93E+00	1.35E+05	8.25E-01	1.29E+03	3.21E+02
Waste Trucks (LDT2)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Truck Idle	6.32E+03	5.96E+03	1.12E+03	1.02E+01	1.66E+01	1.52E+01	9.66E+05	0.00E+00	NA	NA
	<b>8.11E+03</b>	<b>1.46E+04</b>	<b>1.42E+03</b>	<b>4.90E+01</b>	<b>1.17E+02</b>	<b>1.08E+02</b>	<b>4.61E+06</b>	<b>5.08E+00</b>	<b>1.33E+04</b>	<b>3.21E+03</b>

**Construction Emission Calculations**

**Entrance Construction**

Construction Year: 2014

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	2.45E+02	2.18E+01	6.14E+00	6.35E-01	4.23E-01	2.12E-01	6.01E+04	2.33E+00	9.63E+01	2.51E+01
Onsite Service Truck (LDT1)	3.09E+01	1.78E+00	8.25E-01	3.17E-02	6.35E-03	4.76E-03	3.46E+03	2.65E-01	4.50E+02	4.85E+01
	<b>2.76E+02</b>	<b>2.36E+01</b>	<b>6.96E+00</b>	<b>6.67E-01</b>	<b>4.30E-01</b>	<b>2.16E-01</b>	<b>6.35E+04</b>	<b>2.59E+00</b>	<b>5.46E+02</b>	<b>7.36E+01</b>

**Chiquita Canyon Landfill EIR  
Mobile Sources**

Construction Emission Calculations

**Module Construction**

Construction Year: 2016

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	3.94E+02	3.47E+01	8.47E+00	1.27E+00	4.23E-01	4.23E-01	1.20E+05	3.81E+00	1.93E+02	5.02E+01
Onsite Service Truck (LDT1)	1.28E+01	7.33E-01	2.96E-01	1.59E-02	2.38E-03	2.38E-03	1.74E+03	1.11E-01	2.25E+02	2.43E+01
	<b>4.07E+02</b>	<b>3.54E+01</b>	<b>8.76E+00</b>	<b>1.29E+00</b>	<b>4.26E-01</b>	<b>4.26E-01</b>	<b>1.22E+05</b>	<b>3.92E+00</b>	<b>4.18E+02</b>	<b>7.45E+01</b>

Construction Emission Calculations

**Module Construction**

Construction Year: 2021

Emission Factors	Annual Emissions (lb/yr)									
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CH <sub>4</sub>	PM <sub>10</sub> Fugitive	PM <sub>2.5</sub> Fugitive
Employees (LDA)	2.68E+02	2.37E+01	4.23E+00	1.27E+00	4.23E-01	4.23E-01	1.20E+05	2.96E+00	1.93E+02	5.02E+01
Onsite Service Truck (LDT1)	8.50E+00	4.83E-01	1.59E-01	1.59E-02	1.59E-03	1.59E-03	1.74E+03	7.94E-02	2.25E+02	2.43E+01
	<b>2.77E+02</b>	<b>2.42E+01</b>	<b>4.39E+00</b>	<b>1.29E+00</b>	<b>4.25E-01</b>	<b>4.25E-01</b>	<b>1.22E+05</b>	<b>3.04E+00</b>	<b>4.18E+02</b>	<b>7.45E+01</b>

## Chiquita Canyon Landfill EIR

### Construction Emissions - Proposed Project Exhaust Emissions

#### Assumptions: <sup>1</sup>

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 CCL and the construction contractor are large operators of diesel off-road equipment, all off-road diesel equipment fleet will be compliant with CARB requirements at the time of construction (combination of Tier 3 and Tier 4 equipment). Off-road diesel equipment would be equipped with diesel particulate filters as a project control.

#### Entrance Construction

Construction Period:	3/1/2014	to	9/1/2014
Number of workers: <sup>2</sup>	20	Duration (weeks):	24

Off Road Equipment Type	Number (ea)	Daily Hours	Annual Days Equipment Used <sup>3</sup>
<b>Demolition</b>			
Scraper - CAT 657	6	10	12
Water Truck - 4000 gal, 3 axle, 58000 gvw	2	8	12
<b>Site Preparation</b>			
Bulldozer - CAT D9, D7	2	8	30
Compactor - CAT 825/835	1	10	20
Trailer Mounted Light Plant	2	8	30
Tractors/Loaders/Backhoes <sup>4,5</sup>	4	8	20
Rubber Tired Dozers <sup>4,5</sup>	3	8	30
Water Truck - 4000 gal, 3 axle, 58000 gvw	2	8	30
<b>Grading</b>			
Graders - CAT 14G	2	8	12
Backhoe/Loader - CAT 440	2	8	20
Rubber Tired Dozers <sup>4,5</sup>	1	8	20
Tractors/Loaders/Backhoes <sup>4,5</sup>	3	8	20
Graders <sup>4,5</sup>	1	8	12
Excavators <sup>4,5</sup>	1	8	12
Water Truck - 4000 gal, 3 axle, 58000 gvw	2	8	20
<b>Berm Construction <sup>6</sup></b>			
Grader	1	6	62
Tractors/Loaders/Backhoes	1	6	62
Rubber Tired Dozers	1	7	62
Soil Haul Trucks <sup>7</sup>	5	8	62
Water Truck - 4000 gal, 3 axle, 58000 gvw	1	8	62
<b>Building Construction <sup>4,8</sup></b>			
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
<b>Paving <sup>9</sup></b>			
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	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>
<b>Demolition</b>											
Scraper	Scrapers	1	2014	lb/hr	9.89E-01	1.35E+00	2.65E-01	2.69E-03	1.69E-02	1.55E-02	2.62E+02
Water Truck	Off-Highway Trucks	1	2014	lb/hr	6.15E-01	1.45E+00	2.03E-01	2.66E-03	1.81E-02	1.66E-02	2.60E+02
<b>Site Preparation</b>											
Bulldozer	Rubber Tired Dozers	1	2014	lb/hr	1.11E+00	1.36E+00	2.85E-01	2.45E-03	1.70E-02	1.56E-02	2.39E+02
Compactor	Plate Compactors	1	2014	lb/hr	2.63E-02	5.93E-02	5.02E-03	6.71E-05	1.55E-03	1.43E-03	4.31E+00
Trailer Mounted Light Plant	Generator Sets	1	2014	lb/hr	2.97E-01	3.72E-01	7.02E-02	6.98E-04	7.95E-03	7.32E-03	6.10E+01
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2014	lb/hr	3.75E-01	3.32E-01	7.28E-02	7.75E-04	7.10E-03	6.53E-03	6.68E+01
Bulldozer	Rubber Tired Dozers	1	2014	lb/hr	1.11E+00	1.36E+00	2.85E-01	2.45E-03	1.70E-02	1.56E-02	2.39E+02
Water Truck	Off-Highway Trucks	1	2014	lb/hr	6.15E-01	1.45E+00	2.03E-01	2.66E-03	1.81E-02	1.66E-02	2.60E+02
<b>Grading</b>											
Graders	Graders	1	2014	lb/hr	5.99E-01	6.15E-01	1.36E-01	1.50E-03	1.13E-02	1.04E-02	1.33E+02
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2014	lb/hr	3.75E-01	3.32E-01	7.28E-02	7.75E-04	7.10E-03	6.53E-03	6.68E+01
Bulldozer	Rubber Tired Dozers	1	2014	lb/hr	1.11E+00	1.36E+00	2.85E-01	2.45E-03	1.70E-02	1.56E-02	2.39E+02
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2014	lb/hr	3.75E-01	3.32E-01	7.28E-02	7.75E-04	7.10E-03	6.53E-03	6.68E+01
Graders	Graders	1	2014	lb/hr	5.99E-01	6.15E-01	1.36E-01	1.50E-03	1.13E-02	1.04E-02	1.33E+02
Excavator	Excavators	1	2014	lb/hr	5.29E-01	5.96E-01	1.14E-01	1.32E-03	1.09E-02	1.00E-02	1.20E+02
Water Truck	Off-Highway Trucks	1	2014	lb/hr	6.15E-01	1.45E+00	2.03E-01	2.66E-03	1.81E-02	1.66E-02	2.60E+02
<b>Berm Construction</b>											
Graders	Graders	1	2014	lb/hr	5.99E-01	6.15E-01	1.36E-01	1.50E-03	1.13E-02	1.04E-02	1.33E+02
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2014	lb/hr	3.75E-01	3.32E-01	7.28E-02	7.75E-04	7.10E-03	6.53E-03	6.68E+01
Bulldozer	Rubber Tired Dozers	1	2014	lb/hr	1.11E+00	1.36E+00	2.85E-01	2.45E-03	1.70E-02	1.56E-02	2.39E+02
Haul Truck	Off-Highway Trucks	1	2014	lb/hr	6.15E-01	1.45E+00	2.03E-01	2.66E-03	1.81E-02	1.66E-02	2.60E+02
Water Truck	Off-Highway Trucks	1	2014	lb/hr	6.15E-01	1.45E+00	2.03E-01	2.66E-03	1.81E-02	1.66E-02	2.60E+02
<b>Building Construction</b>											
Crane	Cranes	1	2014	lb/hr	4.55E-01	7.90E-01	1.28E-01	1.38E-03	9.87E-03	9.08E-03	1.29E+02
Forklift	Forklifts	1	2014	lb/hr	2.21E-01	5.66E-01	4.97E-02	6.03E-04	1.04E-02	9.53E-03	5.44E+01
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2014	lb/hr	3.75E-01	3.32E-01	7.28E-02	7.75E-04	7.10E-03	6.53E-03	6.68E+01
Water Truck	Off-Highway Trucks	1	2014	lb/hr	6.15E-01	1.45E+00	2.03E-01	2.66E-03	1.81E-02	1.66E-02	2.60E+02
<b>Paving</b>											
Paver	Pavers	1	2014	lb/hr	5.28E-01	3.94E-01	1.43E-01	8.95E-04	8.43E-03	7.75E-03	7.79E+01
Cement and Mortar Mixer	Cement and Mortar Mixers	1	2014	lb/hr	4.20E-02	6.67E-02	8.94E-03	1.09E-04	1.74E-03	1.60E-03	7.25E+00
Roller	Rollers	1	2014	lb/hr	4.02E-01	3.72E-01	9.12E-02	7.70E-04	7.95E-03	7.32E-03	6.71E+01
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2014	lb/hr	3.75E-01	3.32E-01	7.28E-02	7.75E-04	7.10E-03	6.53E-03	6.68E+01
Paving Equipment	Paving Equipment	1	2014	lb/hr	4.27E-01	3.63E-01	1.08E-01	7.93E-04	7.76E-03	7.14E-03	6.89E+01

**Chiquita Canyon Landfill EIR**  
**Construction Emissions - Proposed Project**

**Entrance Construction**

Equipment Type	Hourly Emissions (lb/hr)							Daily Emissions (lb/day)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>
<b>Demolition</b>																					
Scraper	5.934	8.110	1.589	0.016	0.101	0.093	1,574.956	59.338	81.102	15.886	0.161	1.014	0.933	15,749.562	712.059	973.219	190.631	1.935	12.165	11.192	188,994.744
Water Truck	1.230	2.893	0.407	0.005	0.036	0.033	520.127	9.837	23.146	3.254	0.043	0.289	0.266	4,161.019	118.046	277.750	39.046	0.510	3.472	3.194	49,932.229
<b>Site Preparation</b>																					
Bulldozer	2.212	2.719	0.571	0.005	0.034	0.031	478.188	17.694	21.749	4.566	0.039	0.272	0.250	3,825.501	530.805	652.458	136.980	1.177	8.156	7.503	114,765.021
Compactor	0.026	0.059	0.005	0.000	0.002	0.001	4.314	0.263	0.593	0.050	0.001	0.015	0.014	43.138	5.268	11.852	1.004	0.013	0.310	0.285	862.761
Trailer Mounted Light Plant	0.595	0.744	0.140	0.001	0.016	0.015	121.985	4.759	5.949	1.124	0.011	0.127	0.117	975.883	142.764	178.478	33.715	0.335	3.818	3.512	29,276.488
Backhoe/Loader	1.499	1.328	0.291	0.003	0.028	0.026	267.201	11.989	10.624	2.330	0.025	0.227	0.209	2,137.610	239.784	212.474	46.594	0.496	4.545	4.181	42,752.200
Bulldozer	3.318	4.078	0.856	0.007	0.051	0.047	717.281	26.540	32.623	6.849	0.059	0.408	0.375	5,738.251	796.208	978.687	205.470	1.765	12.234	11.255	172,147.532
Water Truck	1.230	2.893	0.407	0.005	0.036	0.033	520.127	9.837	23.146	3.254	0.043	0.289	0.266	4,161.019	295.115	694.376	97.616	1.276	8.680	7.985	124,830.572
<b>Grading</b>																					
Graders	1.197	1.230	0.272	0.003	0.023	0.021	265.486	9.579	9.842	2.179	0.024	0.180	0.166	2,123.889	114.949	118.099	26.151	0.287	2.162	1.989	25,486.662
Backhoe/Loader	0.749	0.664	0.146	0.002	0.014	0.013	133.601	5.995	5.312	1.165	0.012	0.114	0.105	1,068.805	119.892	106.237	23.297	0.248	2.272	2.091	21,376.100
Bulldozer	1.106	1.359	0.285	0.002	0.017	0.016	239.094	8.847	10.874	2.283	0.020	0.136	0.125	1,912.750	176.935	217.486	45.660	0.392	2.719	2.501	38,255.007
Backhoe/Loader	1.124	0.996	0.218	0.002	0.021	0.020	200.401	8.992	7.968	1.747	0.019	0.170	0.157	1,603.208	179.838	159.355	34.945	0.372	3.409	3.136	32,064.150
Graders	0.599	0.615	0.136	0.001	0.011	0.010	132.743	4.790	4.921	1.090	0.012	0.090	0.083	1,061.944	57.474	59.049	13.076	0.144	1.081	0.994	12,743.331
Excavator	0.529	0.596	0.114	0.001	0.011	0.010	120.000	4.231	4.769	0.914	0.011	0.087	0.080	960.000	50.774	57.227	10.970	0.126	1.047	0.964	11,520.000
Water Truck	1.230	2.893	0.407	0.005	0.036	0.033	520.127	9.837	23.146	3.254	0.043	0.289	0.266	4,161.019	196.743	462.917	65.077	0.851	5.786	5.324	83,220.382
<b>Berm Construction</b>																					
Graders	0.599	0.615	0.136	0.001	0.011	0.010	132.743	3.592	3.691	0.817	0.009	0.068	0.062	796.458	222.714	228.816	50.668	0.557	4.188	3.853	49,380.409
Backhoe/Loader	0.375	0.332	0.073	0.001	0.007	0.007	66.800	2.248	1.992	0.437	0.005	0.043	0.039	400.802	139.374	123.500	27.083	0.288	2.642	2.430	24,849.717
Bulldozer	1.106	1.359	0.285	0.002	0.017	0.016	239.094	7.741	9.515	1.998	0.017	0.119	0.109	1,673.657	479.936	589.931	123.853	1.064	7.374	6.784	103,766.707
Haul Truck	3.074	7.233	1.017	0.013	0.090	0.083	1,300.318	24.593	57.865	8.135	0.106	0.723	0.665	10,402.548	1,524.761	3,587.608	504.348	6.593	44.845	41.257	644,957.957
Water Truck	0.615	1.447	0.203	0.003	0.018	0.017	260.064	4.919	11.573	1.627	0.021	0.145	0.133	2,080.510	304.952	717.522	100.870	1.319	8.969	8.251	128,991.591
<b>Building Construction</b>																					
Crane	0.455	0.790	0.128	0.001	0.010	0.009	128.635	1.821	3.159	0.510	0.006	0.039	0.036	514.541	87.412	151.633	24.490	0.264	1.895	1.744	24,697.959
Forklift	0.443	1.131	0.099	0.001	0.021	0.019	108.792	2.658	6.789	0.596	0.007	0.124	0.114	652.749	127.578	325.864	28.629	0.347	5.965	5.487	31,331.956
Backhoe/Loader	0.749	0.664	0.146	0.002	0.014	0.013	133.601	5.995	5.312	1.165	0.012	0.114	0.105	1,068.805	287.741	254.968	55.912	0.595	5.454	5.018	51,302.641
Water Truck	1.230	2.893	0.407	0.005	0.036	0.033	520.127	9.837	23.146	3.254	0.043	0.289	0.266	4,161.019	472.184	1,111.001	156.185	2.042	13.888	12.777	199,728.916
<b>Paving</b>																					
Paver	1.055	0.788	0.286	0.002	0.017	0.016	155.868	8.443	6.303	2.287	0.014	0.135	0.124	1,246.942	84.426	63.034	22.871	0.143	1.348	1.240	12,469.420
Cement and Mortar Mixer	0.042	0.067	0.009	0.000	0.002	0.002	7.248	0.336	0.533	0.071	0.001	0.014	0.013	57.985	3.357	5.333	0.715	0.009	0.139	0.128	579.852
Roller	0.804	0.744	0.182	0.002	0.016	0.015	134.104	6.428	5.949	1.459	0.012	0.127	0.117	1,072.835	64.282	59.493	14.590	0.123	1.273	1.171	10,728.346
Backhoe/Loader	0.375	0.332	0.073	0.001	0.007	0.007	66.800	2.997	2.656	0.582	0.006	0.057	0.052	534.403	29.973	26.559	5.824	0.062	0.568	0.523	5,344.025
Paving Equipment	0.427	0.363	0.108	0.001	0.008	0.007	68.942	3.418	2.904	0.866	0.006	0.062	0.057	551.536	34.184	29.038	8.658	0.063	0.621	0.571	5,515.363
<b>Total <sup>11</sup></b>	<b>14.647</b>	<b>22.807</b>	<b>3.985</b>	<b>0.043</b>	<b>0.311</b>	<b>0.286</b>	<b>4,108.116</b>	<b>114.175</b>	<b>188.883</b>	<b>32.153</b>	<b>0.362</b>	<b>2.436</b>	<b>2.241</b>	<b>35,264.555</b>	<b>7,599.526</b>	<b>12,433.963</b>	<b>2,094.928</b>	<b>23.397</b>	<b>171.024</b>	<b>157.342</b>	<b>2,241,872.038</b>

**Chiquita Canyon Landfill EIR**

**Construction Emissions - Proposed Project Exhaust Emissions**

**Module 6-11: Excavation and Construction** <sup>10</sup>

Number of workers: 40      Duration (weeks): 24

Equipment Type	Number (ea)	Daily Hours	Annual Days Equipment Used <sup>3</sup>
Scraper push/pull - CAT 657 <sup>13</sup>	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 <sup>13</sup>	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: 4/1/2016 to 10/1/2016

**Emission Factors**

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>
Scraper	Scrapers	1	2016	lb/hr	9.05E-01	1.31E+00	2.38E-01	2.69E-03	1.64E-02	1.51E-02	2.62E+02
Scraper	Scrapers	1	2016	lb/hr	9.05E-01	1.31E+00	2.38E-01	2.69E-03	1.64E-02	1.51E-02	2.62E+02
Bulldozer	Rubber Tired Dozers	1	2016	lb/hr	9.83E-01	1.32E+00	2.59E-01	2.45E-03	1.65E-02	1.52E-02	2.39E+02
Bulldozer	Rubber Tired Dozers	1	2016	lb/hr	9.83E-01	1.32E+00	2.59E-01	2.45E-03	1.65E-02	1.52E-02	2.39E+02
Bulldozer	Rubber Tired Dozers	1	2016	lb/hr	9.83E-01	1.32E+00	2.59E-01	2.45E-03	1.65E-02	1.52E-02	2.39E+02
Compactor	Plate Compactors	1	2016	lb/hr	2.63E-02	5.93E-02	5.02E-03	6.71E-05	1.52E-03	1.40E-03	4.31E+00
Graders	Graders	1	2016	lb/hr	5.88E-01	5.97E-01	1.20E-01	1.50E-03	1.09E-02	1.00E-02	1.33E+02
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2016	lb/hr	3.69E-01	3.22E-01	6.10E-02	7.75E-04	6.88E-03	6.33E-03	6.68E+01
Water Truck	Off-Highway Trucks	1	2016	lb/hr	5.83E-01	1.40E+00	1.82E-01	2.66E-03	1.75E-02	1.61E-02	2.60E+02
Water Truck	Off-Highway Trucks	1	2016	lb/hr	5.83E-01	1.40E+00	1.82E-01	2.66E-03	1.75E-02	1.61E-02	2.60E+02
Trailer Mounted Light Plant	Generator Sets	1	2016	lb/hr	2.86E-01	3.60E-01	5.81E-02	6.98E-04	7.70E-03	7.08E-03	6.10E+01
Tractor	Tractors/Loaders/Backhoes	1	2016	lb/hr	3.69E-01	3.22E-01	6.10E-02	7.75E-04	6.88E-03	6.33E-03	6.68E+01
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2016	lb/hr	3.69E-01	3.22E-01	6.10E-02	7.75E-04	6.88E-03	6.33E-03	6.68E+01
Loader	Tractors/Loaders/Backhoes	1	2016	lb/hr	3.69E-01	3.22E-01	6.10E-02	7.75E-04	6.88E-03	6.33E-03	6.68E+01
Forklift	Forklifts	1	2016	lb/hr	2.19E-01	5.49E-01	4.27E-02	6.03E-04	1.00E-02	9.23E-03	5.44E+01

**Module 7: Excavation and Construction**

Construction Period: 4/1/2021 to 10/1/2021

**Emission Factors**

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>
Scraper	Scrapers	1	2021	lb/hr	7.75E-01	1.29E+00	1.81E-01	2.69E-03	1.61E-02	1.48E-02	2.62E+02
Scraper	Scrapers	1	2021	lb/hr	7.75E-01	1.29E+00	1.81E-01	2.69E-03	1.61E-02	1.48E-02	2.62E+02
Bulldozer	Rubber Tired Dozers	1	2021	lb/hr	7.66E-01	1.29E+00	2.02E-01	2.45E-03	1.62E-02	1.49E-02	2.39E+02
Bulldozer	Rubber Tired Dozers	1	2021	lb/hr	7.66E-01	1.29E+00	2.02E-01	2.45E-03	1.62E-02	1.49E-02	2.39E+02
Bulldozer	Rubber Tired Dozers	1	2021	lb/hr	7.66E-01	1.29E+00	2.02E-01	2.45E-03	1.62E-02	1.49E-02	2.39E+02
Compactor	Plate Compactors	1	2021	lb/hr	2.63E-02	5.93E-02	5.02E-03	6.71E-05	1.51E-03	1.39E-03	4.31E+00
Graders	Graders	1	2021	lb/hr	5.75E-01	5.85E-01	8.61E-02	1.50E-03	1.07E-02	9.83E-03	1.33E+02
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2021	lb/hr	3.61E-01	3.15E-01	4.07E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Water Truck	Off-Highway Trucks	1	2021	lb/hr	5.48E-01	1.38E+00	1.37E-01	2.66E-03	1.72E-02	1.58E-02	2.60E+02
Water Truck	Off-Highway Trucks	1	2021	lb/hr	5.48E-01	1.38E+00	1.37E-01	2.66E-03	1.72E-02	1.58E-02	2.60E+02
Trailer Mounted Light Plant	Generator Sets	1	2021	lb/hr	2.71E-01	3.53E-01	3.63E-02	6.98E-04	7.54E-03	6.94E-03	6.10E+01
Tractor	Tractors/Loaders/Backhoes	1	2021	lb/hr	3.61E-01	3.15E-01	4.07E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2021	lb/hr	3.61E-01	3.15E-01	4.07E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Loader	Tractors/Loaders/Backhoes	1	2021	lb/hr	3.61E-01	3.15E-01	4.07E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Forklift	Forklifts	1	2021	lb/hr	2.15E-01	5.38E-01	2.94E-02	6.03E-04	9.83E-03	9.04E-03	5.44E+01

Chiquita Canyon Landfill EIR  
Construction Emissions - Proposed Project

Module 6: Excavation and Construction

Equipment Type	Hourly Emissions (lb/hr)							Daily Emissions (lb/day)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>
Scraper	20.822	30.153	5.480	0.062	0.377	0.347	6,037.269	208.221	301.532	54.804	0.618	3.769	3.468	60,372.693	14,991.929	21,710.280	3,945.903	44.498	271.379	249.668	4,346,833.889
Scraper	1.811	2.622	0.477	0.005	0.033	0.030	524.980	18.106	26.220	4.766	0.054	0.328	0.302	5,249.799	181.062	262.201	47.656	0.537	3.278	3.015	52,497.994
Bulldozer	1.967	2.637	0.518	0.005	0.033	0.030	478.181	15.734	21.094	4.146	0.039	0.264	0.243	3,825.448	944.052	1,265.638	248.742	2.354	15.820	14.555	229,526.853
Bulldozer	1.967	2.637	0.518	0.005	0.033	0.030	478.181	15.734	21.094	4.146	0.039	0.264	0.243	3,825.448	944.052	1,265.638	248.742	2.354	15.820	14.555	229,526.853
Bulldozer	0.983	1.318	0.259	0.002	0.016	0.015	239.090	7.867	10.547	2.073	0.020	0.132	0.121	1,912.724	236.013	316.409	62.185	0.588	3.955	3.639	57,381.713
Compactor	0.026	0.059	0.005	0.000	0.002	0.001	4.314	0.263	0.593	0.050	0.001	0.015	0.014	43.138	18.965	42.667	3.615	0.048	1.097	1.009	3,105.938
Graders	1.177	1.193	0.239	0.003	0.022	0.020	265.486	9.413	9.545	1.915	0.024	0.175	0.161	2,123.888	376.516	381.812	76.604	0.957	6.981	6.422	84,955.509
Backhoe/Loader	0.738	0.644	0.122	0.002	0.014	0.013	133.596	2.951	2.575	0.488	0.006	0.055	0.051	534.383	177.083	154.479	29.287	0.372	3.300	3.036	32,062.998
Water Truck	1.749	4.209	0.545	0.008	0.053	0.048	780.155	17.493	42.092	5.449	0.080	0.526	0.484	7,801.547	1,259.474	3,030.636	392.343	5.742	37.883	34.852	561,711.381
Water Wagon	0.583	1.403	0.182	0.003	0.018	0.016	260.052	5.831	14.031	1.816	0.027	0.175	0.161	2,600.516	349.854	841.843	108.984	1.595	10.523	9.681	156,030.939
Trailer Mounted Light Plant	0.286	0.360	0.058	0.001	0.008	0.007	60.993	0.572	0.721	0.116	0.001	0.015	0.014	121.985	34.347	43.254	6.970	0.084	0.924	0.850	7,319.122
Tractor	0.369	0.322	0.061	0.001	0.007	0.006	66.798	2.951	2.575	0.488	0.006	0.055	0.051	534.383	29.514	25.746	4.881	0.062	0.550	0.506	5,343.833
Backhoe/Loader	0.369	0.322	0.061	0.001	0.007	0.006	66.798	2.951	2.575	0.488	0.006	0.055	0.051	534.383	59.028	51.493	9.762	0.124	1.100	1.012	10,687.666
Loader	0.369	0.322	0.061	0.001	0.007	0.006	66.798	2.951	2.575	0.488	0.006	0.055	0.051	534.383	59.028	51.493	9.762	0.124	1.100	1.012	10,687.666
Forklift	0.219	0.549	0.043	0.001	0.010	0.009	54.396	1.752	4.390	0.342	0.005	0.080	0.074	435.166	17.517	43.897	3.419	0.048	0.803	0.738	4,351.661
<b>Total <sup>12</sup></b>	<b>33.435</b>	<b>48.750</b>	<b>8.629</b>	<b>0.098</b>	<b>0.638</b>	<b>0.587</b>	<b>9,517.086</b>	<b>312.792</b>	<b>462.157</b>	<b>81.575</b>	<b>0.932</b>	<b>5.963</b>	<b>5.486</b>	<b>90,449.884</b>	<b>19,678.432</b>	<b>29,487.488</b>	<b>5,198.856</b>	<b>59.488</b>	<b>374.513</b>	<b>344.552</b>	<b>5,792,024.015</b>

Module 7: Excavation and Construction

Equipment Type	Hourly Emissions (lb/hr)							Daily Emissions (lb/day)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>
Scraper	17.814	29.568	4.173	0.062	0.370	0.340	6,037.138	178.144	295.683	41.735	0.618	3.696	3.400	60,371.378	12,826.383	21,289.175	3,004.918	44.497	266.115	244.826	4,346,739.205
Scraper	1.549	2.571	0.363	0.005	0.032	0.030	524.969	15.491	25.712	3.629	0.054	0.321	0.296	5,249.685	154.908	257.116	36.291	0.537	3.214	2.957	52,496.850
Bulldozer	1.532	2.586	0.403	0.005	0.032	0.030	478.166	12.258	20.685	3.224	0.039	0.259	0.238	3,825.326	735.487	1,241.089	193.450	2.353	15.514	14.273	229,519.548
Bulldozer	1.532	2.586	0.403	0.005	0.032	0.030	478.166	12.258	20.685	3.224	0.039	0.259	0.238	3,825.326	735.487	1,241.089	193.450	2.353	15.514	14.273	229,519.548
Bulldozer	0.766	1.293	0.202	0.002	0.016	0.015	239.083	6.129	10.342	1.612	0.020	0.129	0.119	1,912.663	183.872	310.272	48.362	0.588	3.878	3.568	57,379.887
Compactor	0.026	0.059	0.005	0.000	0.002	0.001	4.314	0.263	0.593	0.050	0.001	0.015	0.014	43.138	18.965	42.667	3.615	0.048	1.086	0.999	3,105.939
Graders	1.149	1.170	0.172	0.003	0.021	0.020	265.486	9.196	9.360	1.377	0.024	0.171	0.157	2,123.888	367.821	374.407	55.090	0.957	6.840	6.293	84,955.507
Backhoe/Loader	0.721	0.631	0.081	0.002	0.013	0.012	133.598	2.885	2.524	0.326	0.006	0.054	0.050	534.391	173.090	151.431	19.540	0.372	3.232	2.974	32,063.474
Water Truck	1.643	4.128	0.411	0.008	0.052	0.047	780.249	16.427	41.276	4.109	0.080	0.516	0.475	7,802.495	1,182.738	2,971.852	295.874	5.743	37.148	34.176	561,779.606
Water Wagon	0.548	1.376	0.137	0.003	0.017	0.016	260.083	5.476	13.759	1.370	0.027	0.172	0.158	2,600.832	328.538	825.515	82.187	1.595	10.319	9.493	156,049.891
Trailer Mounted Light Plant	0.271	0.353	0.036	0.001	0.008	0.007	60.993	0.542	0.707	0.073	0.001	0.015	0.014	121.985	32.494	42.401	4.354	0.084	0.905	0.833	7,319.122
Tractor	0.361	0.315	0.041	0.001	0.007	0.006	66.799	2.885	2.524	0.326	0.006	0.054	0.050	534.391	28.848	25.239	3.257	0.062	0.539	0.496	5,343.912
Backhoe/Loader	0.361	0.315	0.041	0.001	0.007	0.006	66.799	2.885	2.524	0.326	0.006	0.054	0.050	534.391	57.697	50.477	6.513	0.124	1.077	0.991	10,687.825
Loader	0.361	0.315	0.041	0.001	0.007	0.006	66.799	2.885	2.524	0.326	0.006	0.054	0.050	534.391	57.697	50.477	6.513	0.124	1.077	0.991	10,687.825
Forklift	0.215	0.538	0.029	0.001	0.010	0.009	54.396	1.719	4.305	0.235	0.005	0.079	0.072	435.166	17.186	43.045	2.350	0.048	0.786	0.723	4,351.661
<b>Total <sup>12</sup></b>	<b>28.849</b>	<b>47.805</b>	<b>6.538</b>	<b>0.098</b>	<b>0.625</b>	<b>0.575</b>	<b>9,517.036</b>	<b>269.441</b>	<b>453.200</b>	<b>61.941</b>	<b>0.932</b>	<b>5.847</b>	<b>5.379</b>	<b>90,449.446</b>	<b>16,901.212</b>	<b>28,916.251</b>	<b>3,955.765</b>	<b>59.488</b>	<b>367.244</b>	<b>337.865</b>	<b>5,791,999.799</b>



**Chiquita Canyon Landfill EIR**  
**Construction Emissions - Proposed Project Exhaust Emissions**

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**Chiquita Canyon Landfill EIR**  
**Construction Emissions - Proposed Project Exhaust Emissions**

**Module 8: Excavation and Construction**

Construction Period: 4/1/2023 to 10/1/2023

**Emission Factors**

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>
Scraper	Scrapers	1	2023	lb/hr	7.43E-01	1.29E+00	1.64E-01	2.69E-03	1.61E-02	1.48E-02	2.62E+02
Scraper	Scrapers	1	2023	lb/hr	7.43E-01	1.29E+00	1.64E-01	2.69E-03	1.61E-02	1.48E-02	2.62E+02
Bulldozer	Rubber Tired Dozers	1	2023	lb/hr	7.08E-01	1.29E+00	1.83E-01	2.45E-03	1.62E-02	1.49E-02	2.39E+02
Bulldozer	Rubber Tired Dozers	1	2023	lb/hr	7.08E-01	1.29E+00	1.83E-01	2.45E-03	1.62E-02	1.49E-02	2.39E+02
Bulldozer	Rubber Tired Dozers	1	2023	lb/hr	7.08E-01	1.29E+00	1.83E-01	2.45E-03	1.62E-02	1.49E-02	2.39E+02
Compactor	Plate Compactors	1	2023	lb/hr	2.63E-02	5.93E-02	5.02E-03	6.71E-05	1.51E-03	1.39E-03	4.31E+00
Graders	Graders	1	2023	lb/hr	5.72E-01	5.85E-01	7.58E-02	1.50E-03	1.07E-02	9.83E-03	1.33E+02
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2023	lb/hr	3.59E-01	3.15E-01	3.65E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Water Truck	Off-Highway Trucks	1	2023	lb/hr	5.42E-01	1.38E+00	1.24E-01	2.66E-03	1.72E-02	1.58E-02	2.60E+02
Water Truck	Off-Highway Trucks	1	2023	lb/hr	5.42E-01	1.38E+00	1.24E-01	2.66E-03	1.72E-02	1.58E-02	2.60E+02
Trailer Mounted Light Plant	Generator Sets	1	2023	lb/hr	2.68E-01	3.53E+00	3.21E-02	6.98E-04	7.54E-03	6.94E-03	6.10E+01
Tractor	Tractors/Loaders/Backhoes	1	2023	lb/hr	3.59E-01	3.15E-01	3.65E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2023	lb/hr	3.59E-01	3.15E-01	3.65E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Loader	Tractors/Loaders/Backhoes	1	2023	lb/hr	3.59E-01	3.15E-01	3.65E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Forklift	Forklifts	1	2023	lb/hr	2.15E-01	5.38E-01	2.59E-02	6.03E-04	9.83E-03	9.04E-03	5.44E+01

**Module 9: Excavation and Construction**

Construction Period: 4/1/2024 to 10/1/2024

**Emission Factors**

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>
Scraper	Scrapers	1	2024	lb/hr	7.30E-01	1.29E+00	1.56E-01	2.69E-03	1.61E-02	1.48E-02	2.62E+02
Scraper	Scrapers	1	2024	lb/hr	7.30E-01	1.29E+00	1.56E-01	2.69E-03	1.61E-02	1.48E-02	2.62E+02
Bulldozer	Rubber Tired Dozers	1	2024	lb/hr	6.83E-01	1.29E+00	1.75E-01	2.45E-03	1.62E-02	1.49E-02	2.39E+02
Bulldozer	Rubber Tired Dozers	1	2024	lb/hr	6.83E-01	1.29E+00	1.75E-01	2.45E-03	1.62E-02	1.49E-02	2.39E+02
Bulldozer	Rubber Tired Dozers	1	2024	lb/hr	6.83E-01	1.29E+00	1.75E-01	2.45E-03	1.62E-02	1.49E-02	2.39E+02
Compactor	Plate Compactors	1	2024	lb/hr	2.63E-02	5.93E-02	5.02E-03	6.71E-05	1.51E-03	1.39E-03	4.31E+00
Graders	Graders	1	2024	lb/hr	5.71E-01	5.85E-01	7.14E-02	1.50E-03	1.07E-02	9.83E-03	1.33E+02
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2024	lb/hr	3.59E-01	3.15E-01	3.49E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Water Truck	Off-Highway Trucks	1	2024	lb/hr	5.40E-01	1.38E+00	1.19E-01	2.66E-03	1.72E-02	1.58E-02	2.60E+02
Water Truck	Off-Highway Trucks	1	2024	lb/hr	5.40E-01	1.38E+00	1.19E-01	2.66E-03	1.72E-02	1.58E-02	2.60E+02
Trailer Mounted Light Plant	Generator Sets	1	2024	lb/hr	2.67E-01	3.53E+00	3.03E-02	6.98E-04	7.54E-03	6.94E-03	6.10E+01
Tractor	Tractors/Loaders/Backhoes	1	2024	lb/hr	3.59E-01	3.15E-01	3.49E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2024	lb/hr	3.59E-01	3.15E-01	3.49E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Loader	Tractors/Loaders/Backhoes	1	2024	lb/hr	3.59E-01	3.15E-01	3.49E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Forklift	Forklifts	1	2024	lb/hr	2.15E-01	5.38E-01	2.46E-02	6.03E-04	9.83E-03	9.04E-03	5.44E+01

**Chiquita Canyon Landfill EIR**  
**Construction Emissions - Proposed Project**

**Module 8: Excavation and Construction**

Equipment Type	Hourly Emissions (lb/hr)							Daily Emissions (lb/day)						Annual Emissions (lb/yr)							
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>
Scraper	17.093	29.568	3.773	0.062	0.370	0.340	6,037.108	170.934	295.683	37.733	0.618	3.696	3.400	60,371.081	12,307.216	21,289.175	2,716.775	44.497	266.115	244.826	4,346,717.856
Scraper	1.486	2.571	0.328	0.005	0.032	0.030	524.966	14.864	25.712	3.281	0.054	0.321	0.296	5,249.659	148.638	257.116	32.811	0.537	3.214	2.957	52,496.592
Bulldozer	1.416	2.586	0.366	0.005	0.032	0.030	478.161	11.324	20.685	2.929	0.039	0.259	0.238	3,825.284	679.465	1,241.089	175.712	2.353	15.514	14.273	229,517.066
Bulldozer	1.416	2.586	0.366	0.005	0.032	0.030	478.161	11.324	20.685	2.929	0.039	0.259	0.238	3,825.284	679.465	1,241.089	175.712	2.353	15.514	14.273	229,517.066
Bulldozer	0.708	1.293	0.183	0.002	0.016	0.015	239.080	5.662	10.342	1.464	0.020	0.129	0.119	1,912.642	169.866	310.272	43.928	0.588	3.878	3.568	57,379.266
Compactor	0.026	0.059	0.005	0.000	0.002	0.001	4.314	0.263	0.593	0.050	0.001	0.015	0.014	43.138	18.965	42.667	3.615	0.048	1.086	0.999	3,105.938
Graders	1.144	1.170	0.152	0.003	0.021	0.020	265.486	9.149	9.360	1.212	0.024	0.171	0.157	2,123.888	365.952	374.407	48.490	0.957	6.840	6.293	84,955.514
Backhoe/Loader	0.719	0.631	0.073	0.002	0.013	0.012	133.595	2.875	2.524	0.292	0.006	0.054	0.050	534.381	172.479	151.431	17.505	0.372	3.232	2.974	32,062.859
Water Truck	1.627	4.128	0.373	0.008	0.052	0.047	780.222	16.266	41.276	3.729	0.080	0.516	0.475	7,802.221	1,171.136	2,971.852	268.511	5.742	37.148	34.176	561,759.902
Water Wagon	0.542	1.376	0.124	0.003	0.017	0.016	260.074	5.422	13.759	1.243	0.027	0.172	0.158	2,600.740	325.316	825.515	74.586	1.595	10.319	9.493	156,044.417
Trailer Mounted Light Plant	0.268	0.353	0.032	0.001	0.008	0.007	60.993	0.537	0.707	0.064	0.001	0.015	0.014	121.985	32.201	42.401	3.847	0.084	0.905	0.833	7,319.123
Tractor	0.359	0.315	0.036	0.001	0.007	0.006	66.798	2.875	2.524	0.292	0.006	0.054	0.050	534.381	28.746	25.239	2.918	0.062	0.539	0.496	5,343.810
Backhoe/Loader	0.359	0.315	0.036	0.001	0.007	0.006	66.798	2.875	2.524	0.292	0.006	0.054	0.050	534.381	57.493	50.477	5.835	0.124	1.077	0.991	10,687.620
Loader	0.359	0.315	0.036	0.001	0.007	0.006	66.798	2.875	2.524	0.292	0.006	0.054	0.050	534.381	57.493	50.477	5.835	0.124	1.077	0.991	10,687.620
Forklift	0.215	0.538	0.026	0.001	0.010	0.009	54.396	1.717	4.305	0.207	0.005	0.079	0.072	435.166	17.165	43.045	2.069	0.048	0.786	0.723	4,351.661
<b>Total <sup>12</sup></b>	<b>27.737</b>	<b>47.805</b>	<b>5.911</b>	<b>0.098</b>	<b>0.625</b>	<b>0.575</b>	<b>9,516.948</b>	<b>258.960</b>	<b>453.200</b>	<b>56.008</b>	<b>0.932</b>	<b>5.847</b>	<b>5.379</b>	<b>90,448.614</b>	<b>16,231.596</b>	<b>28,916.251</b>	<b>3,578.150</b>	<b>59.487</b>	<b>367.244</b>	<b>337.865</b>	<b>5,791,946.308</b>

**Module 9: Excavation and Construction**

Equipment Type	Hourly Emissions (lb/hr)							Daily Emissions (lb/day)						Annual Emissions (lb/yr)							
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>
Scraper	16.794	29.568	3.598	0.062	0.370	0.340	6,037.101	167.944	295.683	35.985	0.618	3.696	3.400	60,371.014	12,091.993	21,289.175	2,590.886	44.497	266.115	244.826	4,346,713.033
Scraper	1.460	2.571	0.313	0.005	0.032	0.030	524.965	14.604	25.712	3.129	0.054	0.321	0.296	5,249.653	146.039	257.116	31.291	0.537	3.214	2.957	52,496.534
Bulldozer	1.367	2.586	0.350	0.005	0.032	0.030	478.158	10.935	20.685	2.797	0.039	0.259	0.238	3,825.265	656.125	1,241.089	167.791	2.353	15.514	14.273	229,515.921
Bulldozer	1.367	2.586	0.350	0.005	0.032	0.030	478.158	10.935	20.685	2.797	0.039	0.259	0.238	3,825.265	656.125	1,241.089	167.791	2.353	15.514	14.273	229,515.921
Bulldozer	0.683	1.293	0.175	0.002	0.016	0.015	239.079	5.468	10.342	1.398	0.020	0.129	0.119	1,912.633	164.031	310.272	41.948	0.588	3.878	3.568	57,378.980
Compactor	0.026	0.059	0.005	0.000	0.002	0.001	4.314	0.263	0.593	0.050	0.001	0.015	0.014	43.138	18.965	42.667	3.615	0.048	1.086	0.999	3,105.938
Graders	1.141	1.170	0.143	0.003	0.021	0.020	265.486	9.130	9.360	1.143	0.024	0.171	0.157	2,123.889	365.197	374.407	45.712	0.957	6.840	6.293	84,955.544
Backhoe/Loader	0.718	0.631	0.070	0.002	0.013	0.012	133.594	2.871	2.524	0.279	0.006	0.054	0.050	534.376	172.287	151.431	16.749	0.372	3.232	2.974	32,062.563
Water Truck	1.620	4.128	0.357	0.008	0.052	0.047	780.210	16.202	41.276	3.566	0.080	0.516	0.475	7,802.097	1,166.540	2,971.852	256.737	5.742	37.148	34.176	561,750.995
Water Wagon	0.540	1.376	0.119	0.003	0.017	0.016	260.070	5.401	13.759	1.189	0.027	0.172	0.158	2,600.699	324.039	825.515	71.316	1.595	10.319	9.493	156,041.943
Trailer Mounted Light Plant	0.267	0.353	0.030	0.001	0.008	0.007	60.993	0.535	0.707	0.061	0.001	0.015	0.014	121.985	32.093	42.401	3.639	0.084	0.905	0.833	7,319.122
Tractor	0.359	0.315	0.035	0.001	0.007	0.006	66.797	2.871	2.524	0.279	0.006	0.054	0.050	534.376	28.715	25.239	2.792	0.062	0.539	0.496	5,343.760
Backhoe/Loader	0.359	0.315	0.035	0.001	0.007	0.006	66.797	2.871	2.524	0.279	0.006	0.054	0.050	534.376	57.429	50.477	5.583	0.124	1.077	0.991	10,687.521
Loader	0.359	0.315	0.035	0.001	0.007	0.006	66.797	2.871	2.524	0.279	0.006	0.054	0.050	534.376	57.429	50.477	5.583	0.124	1.077	0.991	10,687.521
Forklift	0.215	0.538	0.025	0.001	0.010	0.009	54.396	1.717	4.305	0.197	0.005	0.079	0.072	435.166	17.170	43.045	1.970	0.048	0.786	0.723	4,351.660
<b>Total <sup>12</sup></b>	<b>27.277</b>	<b>47.805</b>	<b>5.638</b>	<b>0.098</b>	<b>0.625</b>	<b>0.575</b>	<b>9,516.915</b>	<b>254.620</b>	<b>453.200</b>	<b>53.427</b>	<b>0.932</b>	<b>5.847</b>	<b>5.379</b>	<b>90,448.310</b>	<b>15,954.177</b>	<b>28,916.251</b>	<b>3,413.403</b>	<b>59.487</b>	<b>367.244</b>	<b>337.865</b>	<b>5,791,926.957</b>

**Chiquita Canyon Landfill EIR**  
**Construction Emissions - Proposed Project Exhaust Emissions**

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**Chiquita Canyon Landfill EIR**  
**Construction Emissions - Proposed Project Exhaust Emissions**

**Module 10: Excavation and Construction**

Construction Period: 4/1/2025 to 10/1/2025

**Emission Factors**

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>
Scraper	Scrapers	1	2025	lb/hr	7.19E-01	1.29E+00	1.50E-01	2.69E-03	1.61E-02	1.48E-02	2.62E+02
Scraper	Scrapers	1	2025	lb/hr	7.19E-01	1.29E+00	1.50E-01	2.69E-03	1.61E-02	1.48E-02	2.62E+02
Bulldozer	Rubber Tired Dozers	1	2025	lb/hr	6.62E-01	1.29E+00	1.67E-01	2.45E-03	1.62E-02	1.49E-02	2.39E+02
Bulldozer	Rubber Tired Dozers	1	2025	lb/hr	6.62E-01	1.29E+00	1.67E-01	2.45E-03	1.62E-02	1.49E-02	2.39E+02
Bulldozer	Rubber Tired Dozers	1	2025	lb/hr	6.62E-01	1.29E+00	1.67E-01	2.45E-03	1.62E-02	1.49E-02	2.39E+02
Compactor	Plate Compactors	1	2025	lb/hr	2.63E-02	5.93E-02	5.02E-03	6.71E-05	1.51E-03	1.39E-03	4.31E+00
Graders	Graders	1	2025	lb/hr	5.70E-01	5.85E-01	6.76E-02	1.50E-03	1.07E-02	9.83E-03	1.33E+02
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2025	lb/hr	3.59E-01	3.15E-01	3.36E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Water Truck	Off-Highway Trucks	1	2025	lb/hr	5.38E-01	1.38E+00	1.14E-01	2.66E-03	1.72E-02	1.58E-02	2.60E+02
Water Truck	Off-Highway Trucks	1	2025	lb/hr	5.38E-01	1.38E+00	1.14E-01	2.66E-03	1.72E-02	1.58E-02	2.60E+02
Trailer Mounted Light Plant	Generator Sets	1	2025	lb/hr	2.67E-01	3.53E-01	2.88E-02	6.98E-04	7.54E-03	6.94E-03	6.10E+01
Tractor	Tractors/Loaders/Backhoes	1	2025	lb/hr	3.59E-01	3.15E-01	3.36E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2025	lb/hr	3.59E-01	3.15E-01	3.36E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Loader	Tractors/Loaders/Backhoes	1	2025	lb/hr	3.59E-01	3.15E-01	3.36E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Forklift	Forklifts	1	2025	lb/hr	2.15E-01	5.38E-01	2.36E-02	6.03E-04	9.83E-03	9.04E-03	5.44E+01

**Module 11: Excavation and Construction**

Construction Period: 4/1/2026 to 10/1/2026

**Emission Factors**

Equipment Type	SCAQMD Equipment Type	Equipment Code	Construction Year	Emission Factor Unit	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>
Scraper	Scrapers	1	2026	lb/hr	7.19E-01	1.29E+00	1.50E-01	2.69E-03	1.61E-02	1.48E-02	2.62E+02
Scraper	Scrapers	1	2026	lb/hr	7.19E-01	1.29E+00	1.50E-01	2.69E-03	1.61E-02	1.48E-02	2.62E+02
Bulldozer	Rubber Tired Dozers	1	2026	lb/hr	6.62E-01	1.29E+00	1.67E-01	2.45E-03	1.62E-02	1.49E-02	2.39E+02
Bulldozer	Rubber Tired Dozers	1	2026	lb/hr	6.62E-01	1.29E+00	1.67E-01	2.45E-03	1.62E-02	1.49E-02	2.39E+02
Bulldozer	Rubber Tired Dozers	1	2026	lb/hr	6.62E-01	1.29E+00	1.67E-01	2.45E-03	1.62E-02	1.49E-02	2.39E+02
Compactor	Plate Compactors	1	2026	lb/hr	2.63E-02	5.93E-02	5.02E-03	6.71E-05	1.51E-03	1.39E-03	4.31E+00
Graders	Graders	1	2026	lb/hr	5.70E-01	5.85E-01	6.76E-02	1.50E-03	1.07E-02	9.83E-03	1.33E+02
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2026	lb/hr	3.59E-01	3.15E-01	3.36E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Water Truck	Off-Highway Trucks	1	2026	lb/hr	5.38E-01	1.38E+00	1.14E-01	2.66E-03	1.72E-02	1.58E-02	2.60E+02
Water Truck	Off-Highway Trucks	1	2026	lb/hr	5.38E-01	1.38E+00	1.14E-01	2.66E-03	1.72E-02	1.58E-02	2.60E+02
Trailer Mounted Light Plant	Generator Sets	1	2026	lb/hr	2.67E-01	3.53E-01	2.88E-02	6.98E-04	7.54E-03	6.94E-03	6.10E+01
Tractor	Tractors/Loaders/Backhoes	1	2026	lb/hr	3.59E-01	3.15E-01	3.36E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Backhoe/Loader	Tractors/Loaders/Backhoes	1	2026	lb/hr	3.59E-01	3.15E-01	3.36E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Loader	Tractors/Loaders/Backhoes	1	2026	lb/hr	3.59E-01	3.15E-01	3.36E-02	7.75E-04	6.73E-03	6.20E-03	6.68E+01
Forklift	Forklifts	1	2026	lb/hr	2.15E-01	5.38E-01	2.36E-02	6.03E-04	9.83E-03	9.04E-03	5.44E+01

Chiquita Canyon Landfill EIR  
Construction Emissions - Proposed Project

Module 10: Excavation and Construction

Equipment Type	Hourly Emissions (lb/hr)							Daily Emissions (lb/day)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>
Scraper	16.530	29.568	3.439	0.062	0.370	0.340	6,037.101	165.300	295.683	34.389	0.618	3.696	3.400	60,371.014	11,901.597	21,289.175	2,475.990	44.497	266.115	244.826	4,346,712.982
Scraper	1.437	2.571	0.299	0.005	0.032	0.030	524.965	14.374	25.712	2.990	0.054	0.321	0.296	5,249.653	143.739	257.116	29.903	0.537	3.214	2.957	52,496.534
Bulldozer	1.324	2.586	0.334	0.005	0.032	0.030	478.156	10.593	20.685	2.675	0.039	0.259	0.238	3,825.249	635.558	1,241.089	160.484	2.353	15.514	14.273	229,514.920
Bulldozer	1.324	2.586	0.334	0.005	0.032	0.030	478.156	10.593	20.685	2.675	0.039	0.259	0.238	3,825.249	635.558	1,241.089	160.484	2.353	15.514	14.273	229,514.920
Bulldozer	0.662	1.293	0.167	0.002	0.016	0.015	239.078	5.296	10.342	1.337	0.020	0.129	0.119	1,912.624	158.889	310.272	40.121	0.588	3.878	3.568	57,378.730
Compactor	0.026	0.059	0.005	0.000	0.002	0.001	4.314	0.263	0.593	0.050	0.001	0.015	0.014	43.138	18.965	42.667	3.615	0.048	1.086	0.999	3,105.938
Graders	1.139	1.170	0.135	0.003	0.021	0.020	265.486	9.114	9.360	1.082	0.024	0.171	0.157	2,123.889	364.541	374.407	43.292	0.957	6.840	6.293	84,955.555
Backhoe/Loader	0.717	0.631	0.067	0.002	0.013	0.012	133.593	2.869	2.524	0.269	0.006	0.054	0.050	534.372	172.130	151.431	16.113	0.372	3.232	2.974	32,062.333
Water Truck	1.615	4.128	0.342	0.008	0.052	0.047	780.196	16.154	41.276	3.421	0.080	0.516	0.475	7,801.956	1,163.069	2,971.852	246.339	5.742	37.148	34.176	561,740.838
Water Wagon	0.538	1.376	0.114	0.003	0.017	0.016	260.065	5.385	13.759	1.140	0.027	0.172	0.158	2,600.652	323.075	825.515	68.428	1.595	10.319	9.493	156,039.122
Trailer Mounted Light Plant	0.267	0.353	0.029	0.001	0.008	0.007	60.993	0.533	0.707	0.058	0.001	0.015	0.014	121.985	31.999	42.401	3.450	0.084	0.905	0.833	7,319.123
Tractor	0.359	0.315	0.034	0.001	0.007	0.006	66.797	2.869	2.524	0.269	0.006	0.054	0.050	534.372	28.688	25.239	2.686	0.062	0.539	0.496	5,343.722
Backhoe/Loader	0.359	0.315	0.034	0.001	0.007	0.006	66.797	2.869	2.524	0.269	0.006	0.054	0.050	534.372	57.377	50.477	5.371	0.124	1.077	0.991	10,687.444
Loader	0.359	0.315	0.034	0.001	0.007	0.006	66.797	2.869	2.524	0.269	0.006	0.054	0.050	534.372	57.377	50.477	5.371	0.124	1.077	0.991	10,687.444
Forklift	0.215	0.538	0.024	0.001	0.010	0.009	54.396	1.718	4.305	0.189	0.005	0.079	0.072	435.166	17.183	43.045	1.888	0.048	0.786	0.723	4,351.661
<b>Total <sup>12</sup></b>	<b>26.871</b>	<b>47.805</b>	<b>5.390</b>	<b>0.098</b>	<b>0.625</b>	<b>0.575</b>	<b>9,516.889</b>	<b>250.798</b>	<b>453.200</b>	<b>51.081</b>	<b>0.932</b>	<b>5.847</b>	<b>5.379</b>	<b>90,448.064</b>	<b>15,709.744</b>	<b>28,916.251</b>	<b>3,263.537</b>	<b>59.487</b>	<b>367.244</b>	<b>337.865</b>	<b>5,791,911.268</b>

Module 11: Excavation and Construction

Equipment Type	Hourly Emissions (lb/hr)							Daily Emissions (lb/day)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>
Scraper	16.530	29.568	3.439	0.062	0.370	0.340	6,037.101	165.300	295.683	34.389	0.618	3.696	3.400	60,371.014	11,901.597	21,289.175	2,475.990	44.497	266.115	244.826	4,346,712.982
Scraper	1.437	2.571	0.299	0.005	0.032	0.030	524.965	14.374	25.712	2.990	0.054	0.321	0.296	5,249.653	143.739	257.116	29.903	0.537	3.214	2.957	52,496.534
Bulldozer	1.324	2.586	0.334	0.005	0.032	0.030	478.156	10.593	20.685	2.675	0.039	0.259	0.238	3,825.249	635.558	1,241.089	160.484	2.353	15.514	14.273	229,514.920
Bulldozer	1.324	2.586	0.334	0.005	0.032	0.030	478.156	10.593	20.685	2.675	0.039	0.259	0.238	3,825.249	635.558	1,241.089	160.484	2.353	15.514	14.273	229,514.920
Bulldozer	0.662	1.293	0.167	0.002	0.016	0.015	239.078	5.296	10.342	1.337	0.020	0.129	0.119	1,912.624	158.889	310.272	40.121	0.588	3.878	3.568	57,378.730
Compactor	0.026	0.059	0.005	0.000	0.002	0.001	4.314	0.263	0.593	0.050	0.001	0.015	0.014	43.138	18.965	42.667	3.615	0.048	1.086	0.999	3,105.938
Graders	1.139	1.170	0.135	0.003	0.021	0.020	265.486	9.114	9.360	1.082	0.024	0.171	0.157	2,123.889	364.541	374.407	43.292	0.957	6.840	6.293	84,955.555
Backhoe/Loader	0.717	0.631	0.067	0.002	0.013	0.012	133.593	2.869	2.524	0.269	0.006	0.054	0.050	534.372	172.130	151.431	16.113	0.372	3.232	2.974	32,062.333
Water Truck	1.615	4.128	0.342	0.008	0.052	0.047	780.196	16.154	41.276	3.421	0.080	0.516	0.475	7,801.956	1,163.069	2,971.852	246.339	5.742	37.148	34.176	561,740.838
Water Wagon	0.538	1.376	0.114	0.003	0.017	0.016	260.065	5.385	13.759	1.140	0.027	0.172	0.158	2,600.652	323.075	825.515	68.428	1.595	10.319	9.493	156,039.122
Trailer Mounted Light Plant	0.267	0.353	0.029	0.001	0.008	0.007	60.993	0.533	0.707	0.058	0.001	0.015	0.014	121.985	31.999	42.401	3.450	0.084	0.905	0.833	7,319.123
Tractor	0.359	0.315	0.034	0.001	0.007	0.006	66.797	2.869	2.524	0.269	0.006	0.054	0.050	534.372	28.688	25.239	2.686	0.062	0.539	0.496	5,343.722
Backhoe/Loader	0.359	0.315	0.034	0.001	0.007	0.006	66.797	2.869	2.524	0.269	0.006	0.054	0.050	534.372	57.377	50.477	5.371	0.124	1.077	0.991	10,687.444
Loader	0.359	0.315	0.034	0.001	0.007	0.006	66.797	2.869	2.524	0.269	0.006	0.054	0.050	534.372	57.377	50.477	5.371	0.124	1.077	0.991	10,687.444
Forklift	0.215	0.538	0.024	0.001	0.010	0.009	54.396	1.718	4.305	0.189	0.005	0.079	0.072	435.166	17.183	43.045	1.888	0.048	0.786	0.723	4,351.661
<b>Total <sup>12</sup></b>	<b>26.871</b>	<b>47.805</b>	<b>5.390</b>	<b>0.098</b>	<b>0.625</b>	<b>0.575</b>	<b>9,516.889</b>	<b>250.798</b>	<b>453.200</b>	<b>51.081</b>	<b>0.932</b>	<b>5.847</b>	<b>5.379</b>	<b>90,448.064</b>	<b>15,709.744</b>	<b>28,916.251</b>	<b>3,263.537</b>	<b>59.487</b>	<b>367.244</b>	<b>337.865</b>	<b>5,791,911.268</b>

## Chiquita Canyon Landfill EIR

### Construction Emissions - Proposed Project Exhaust Emissions

*Reference: Data (Equipment Type, Number, Hours of Operation, Daily Hours/Annual Days Used, Number of Workers) Provided by Mike Dean on 7-20-2011 to Brenda Eells via e-mail*

<sup>1</sup> Unless otherwise noted, the total number of annual days equipment are used is based on data provided by CCL on 7/2011.

<sup>2</sup> 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.

<sup>3</sup> It is assumed that a water truck is used every day of construction except for during paving activities.

<sup>4</sup> 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).

<sup>5</sup> 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).

<sup>6</sup> 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.

<sup>7</sup> 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.

<sup>8</sup> 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.

<sup>9</sup> 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.

<sup>10</sup> Typical cell construction based on Module 8; 2,965,000 cy total excavation per module.

<sup>11</sup> 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.

<sup>12</sup> 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.

<sup>13</sup> 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: 2015 - 2032  
 Operation Schedule: 52 weeks/yr  
 6 days/week  
 10 hrs/day

Since CCL and the construction contractor are large operators of diesel off-road equipment, all off-road diesel equipment used for operation will be model year 2014 or meet model year 2014 emission control requirements (Tier 4) unless otherwise indicated.

Off-Road Equipment	2021 - 2030		2016 <sup>1</sup>	
	Number (ea)	Hrs of Operation (day)	Number (ea)	Hrs of Operation (day)
Scraper -CAT 636G	2	5.5	1	5.5
Bulldozer - CAT D8 [5], D6 [1]	3	9.5	1	9.5
Compactor - CAT 836G	3	10	1	10
Water Truck - 4,000 gal, 3 axle, 58,000 gvw <sup>2</sup>	1	8	1	3.4
Water Wagon - CAT 631G 10,000 gal <sup>2</sup>	1	7	1	3
Trailer Mounted Light Plant	3	5	1	5
Tipper	2	12	1	12

Emission Calculations  
 Operation Year:

2016

**Emission Factors**

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO2
Scraper	Scrapers	1	2016	lb/hr	9.05E-01	1.41E-01	2.38E-01	2.69E-03	1.77E-03	1.62E-03	2.62E+02
Bulldozer	Rubber Tired Dozers	1	2016	lb/hr	9.83E-01	1.42E-01	2.59E-01	2.45E-03	1.78E-03	1.63E-03	2.39E+02
Compactor	Plate Compactors	1	2016	lb/hr	2.63E-02	5.93E-02	5.02E-03	6.71E-05	7.94E-04	7.30E-04	4.31E+00
Water Truck	Off-Highway Trucks	1	2016	lb/hr	5.83E-01	1.51E-01	1.82E-01	2.66E-03	1.89E-03	1.74E-03	2.60E+02
Water Truck	Off-Highway Trucks	1	2016	lb/hr	5.83E-01	1.51E-01	1.82E-01	2.66E-03	1.89E-03	1.74E-03	2.60E+02
Trailer Mounted Light Plant	Generator Sets	1	2016	lb/hr	2.86E-01	3.33E-02	5.81E-02	6.98E-04	4.17E-04	3.83E-04	6.10E+01
Tipper	Dumpers/Tenders	1	2016	lb/hr	3.14E-02	1.19E-01	9.26E-03	9.67E-05	1.59E-03	1.46E-03	7.62E+00



**Chiquita Canyon Landfill EIR**  
**Operation Emissions - Proposed Project**

**Onsite Emissions**

	Daily Emissions (lb/day)							Hourly Emissions (lb/hr)						Annual Emissions (lb/yr)							
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO <sub>2</sub>
Scraper	4.979	0.777	1.311	0.015	0.010	0.009	1443.695	0.905	0.141	0.238	0.003	0.002	0.002	262.490	1553.511	242.423	408.887	4.611	3.030	2.788	450432.787
Bulldozer	9.342	1.350	2.462	0.023	0.017	0.016	2271.359	0.983	0.142	0.259	0.002	0.002	0.002	239.090	2914.761	421.084	767.990	7.266	5.264	4.842	708664.159
Compactor	0.263	0.593	0.050	0.001	0.008	0.007	43.138	0.026	0.059	0.005	0.000	0.001	0.001	4.314	82.180	184.892	15.667	0.209	2.476	2.278	13459.063
Water Truck	1.999	0.518	0.623	0.009	0.006	0.006	891.605	0.583	0.151	0.182	0.003	0.002	0.002	260.052	623.739	161.733	194.303	2.844	2.022	1.860	278180.874
Water Truck	1.749	0.454	0.545	0.008	0.006	0.005	780.155	0.583	0.151	0.182	0.003	0.002	0.002	260.052	545.772	141.517	170.015	2.488	1.769	1.627	243408.265
Trailer Mounted Light Plant	1.431	0.167	0.290	0.003	0.002	0.002	304.963	0.286	0.033	0.058	0.001	0.000	0.000	60.993	446.505	52.001	90.613	1.089	0.650	0.598	95148.587
Tipper	0.377	1.422	0.111	0.001	0.019	0.018	91.493	0.031	0.119	0.009	0.000	0.002	0.001	7.624	117.668	443.741	34.674	0.362	5.943	5.468	28545.736
<b>Total</b>	<b>20.141</b>	<b>5.280</b>	<b>5.392</b>	<b>0.060</b>	<b>0.068</b>	<b>0.062</b>	<b>5826.409</b>	<b>3.399</b>	<b>0.797</b>	<b>0.933</b>	<b>0.011</b>	<b>0.010</b>	<b>0.009</b>	<b>1094.614</b>	<b>6284.138</b>	<b>1647.391</b>	<b>1682.149</b>	<b>18.870</b>	<b>21.154</b>	<b>19.461</b>	<b>1817839.471</b>

**Chiquita Canyon Landfill EIR**

**Operation Emissions - Proposed Project Exhaust Emissions**

Emission Calculations

Operation Year: 2021

**Emission Factors**

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO2
Scraper	Scrapers	1	2021	lb/hr	7.75E-01	1.41E-01	1.81E-01	2.69E-03	1.77E-03	1.62E-03	2.62E+02
Bulldozer	Rubber Tired Dozers	1	2021	lb/hr	7.66E-01	1.42E-01	2.02E-01	2.45E-03	1.78E-03	1.63E-03	2.39E+02
Compactor	Plate Compactors	1	2021	lb/hr	2.63E-02	5.93E-02	5.02E-03	6.71E-05	7.94E-04	7.30E-04	4.31E+00
Water Truck	Off-Highway Trucks	1	2021	lb/hr	5.48E-01	1.51E-01	1.37E-01	2.66E-03	1.89E-03	1.74E-03	2.60E+02
Water Truck	Off-Highway Trucks	1	2021	lb/hr	5.48E-01	1.51E-01	1.37E-01	2.66E-03	1.89E-03	1.74E-03	2.60E+02
Trailer Mounted Light Plant	Generator Sets	1	2021	lb/hr	2.71E-01	3.33E-02	3.63E-02	6.98E-04	4.17E-04	3.83E-04	6.10E+01
Tipper	Dumpers/Tenders	1	2021	lb/hr	3.14E-02	1.19E-01	9.20E-03	9.67E-05	1.59E-03	1.46E-03	7.62E+00

Emission Calculations

Operation Year: 2030

**Emission Factors**

Equipment Type	SCAQMD Equipment Type	Equipment Code	Operation year	Emission factor unit	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO2
Scraper	Scrapers	1	2030	lb/hr	7.19E-01	1.41E-01	1.50E-01	2.69E-03	1.77E-03	1.62E-03	2.62E+02
Bulldozer	Rubber Tired Dozers	1	2030	lb/hr	6.62E-01	1.42E-01	1.67E-01	2.45E-03	1.78E-03	1.63E-03	2.39E+02
Compactor	Plate Compactors	1	2030	lb/hr	2.63E-02	5.93E-02	5.02E-03	6.71E-05	7.94E-04	7.30E-04	4.31E+00
Water Truck	Off-Highway Trucks	1	2030	lb/hr	5.38E-01	1.51E-01	1.14E-01	2.66E-03	1.89E-03	1.74E-03	2.60E+02
Water Truck	Off-Highway Trucks	1	2030	lb/hr	5.38E-01	1.51E-01	1.14E-01	2.66E-03	1.89E-03	1.74E-03	2.60E+02
Trailer Mounted Light Plant	Generator Sets	1	2030	lb/hr	2.67E-01	3.33E-02	2.88E-02	6.98E-04	4.17E-04	3.83E-04	6.10E+01
Tipper	Dumpers/Tenders	1	2030	lb/hr	3.14E-02	1.19E-01	9.20E-03	9.67E-05	1.59E-03	1.46E-03	7.62E+00

**Chiquita Canyon Landfill EIR**  
**Operation Emissions - Proposed Project**

**Onsite Emissions**

	Daily Emissions (lb/day)							Hourly Emissions (lb/hr)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO2	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO2	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO2
Scraper	8.520	1.554	1.996	0.030	0.019	0.018	2887.327	1.549	0.283	0.363	0.005	0.004	0.003	524.969	2658.221	484.847	622.758	9.222	6.061	5.576	900845.951
Bulldozer	21.835	4.049	5.743	0.070	0.051	0.047	6813.862	2.298	0.426	0.605	0.007	0.005	0.005	717.249	6812.452	1263.251	1791.831	21.799	15.791	14.527	2125924.811
Compactor	0.790	1.778	0.151	0.002	0.024	0.022	129.414	0.079	0.178	0.015	0.000	0.002	0.002	12.941	246.540	554.676	47.001	0.628	7.429	6.834	40377.203
Water Truck	4.381	1.210	1.096	0.021	0.015	0.014	2080.665	0.548	0.151	0.137	0.003	0.002	0.002	260.083	1366.719	377.378	341.898	6.636	4.717	4.340	649167.545
Water Truck	3.833	1.058	0.959	0.019	0.013	0.012	1820.582	0.548	0.151	0.137	0.003	0.002	0.002	260.083	1195.879	330.206	299.161	5.806	4.128	3.797	568021.602
Trailer Mounted Light Plant	4.062	0.500	0.544	0.010	0.006	0.006	914.890	0.812	0.100	0.109	0.002	0.001	0.001	182.978	1267.269	156.003	169.792	3.267	1.950	1.794	285445.770
Tipper	0.753	2.844	0.221	0.002	0.038	0.035	182.985	0.063	0.237	0.018	0.000	0.003	0.003	15.249	235.077	887.482	68.882	0.724	11.886	10.935	57091.463
<b>Total</b>	<b>44.174</b>	<b>12.993</b>	<b>10.709</b>	<b>0.154</b>	<b>0.167</b>	<b>0.153</b>	<b>14829.725</b>	<b>5.897</b>	<b>1.526</b>	<b>1.384</b>	<b>0.021</b>	<b>0.019</b>	<b>0.018</b>	<b>1973.552</b>	<b>13782.158</b>	<b>4053.843</b>	<b>3341.324</b>	<b>48.082</b>	<b>51.961</b>	<b>47.804</b>	<b>4626874.345</b>

**Onsite Emissions**

	Daily Emissions (lb/day)							Hourly Emissions (lb/hr)							Annual Emissions (lb/yr)						
	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO2	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO2	CO	NOx	ROG	SOx	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust	CO2
Scraper	7.906	1.554	1.645	0.030	0.019	0.018	2887.309	1.437	0.283	0.299	0.005	0.004	0.003	524.965	2466.563	484.847	513.140	9.222	6.061	5.576	900840.517
Bulldozer	18.868	4.049	4.764	0.070	0.051	0.047	6813.724	1.986	0.426	0.502	0.007	0.005	0.005	717.234	5886.853	1263.251	1486.487	21.798	15.791	14.527	2125881.950
Compactor	0.790	1.778	0.151	0.002	0.024	0.022	129.414	0.079	0.178	0.015	0.000	0.002	0.002	12.941	246.540	554.676	47.001	0.628	7.429	6.834	40377.193
Water Truck	4.308	1.210	0.912	0.021	0.015	0.014	2080.522	0.538	0.151	0.114	0.003	0.002	0.002	260.065	1343.991	377.378	284.659	6.635	4.717	4.340	649122.747
Water Truck	3.769	1.058	0.798	0.019	0.013	0.012	1820.456	0.538	0.151	0.114	0.003	0.002	0.002	260.065	1175.992	330.206	249.076	5.806	4.128	3.797	567982.403
Trailer Mounted Light Plant	4.000	0.500	0.431	0.010	0.006	0.006	914.890	0.800	0.100	0.086	0.002	0.001	0.001	182.978	1247.946	156.003	134.550	3.267	1.950	1.794	285445.806
Tipper	0.753	2.844	0.221	0.002	0.038	0.035	182.986	0.063	0.237	0.018	0.000	0.003	0.003	15.249	235.077	887.482	68.874	0.724	11.886	10.935	57091.480
<b>Total</b>	<b>40.394</b>	<b>12.993</b>	<b>8.922</b>	<b>0.154</b>	<b>0.167</b>	<b>0.153</b>	<b>14829.302</b>	<b>5.442</b>	<b>1.526</b>	<b>1.148</b>	<b>0.021</b>	<b>0.019</b>	<b>0.018</b>	<b>1973.498</b>	<b>12602.962</b>	<b>4053.843</b>	<b>2783.788</b>	<b>48.081</b>	<b>51.961</b>	<b>47.804</b>	<b>4626742.096</b>

*Reference: Data (Equipment Type, Number, Hours of Operation) Provided by Mike Dean on 7-20-2011 to Brenda Eells via e-mail*

<sup>1</sup> Operation of the Proposed Project would ramp up evenly over a seven year period starting January 1, 2014, with full operation beginning in 2021. Number of vehicles for 2016 has been calculated as 3/7 of total for Proposed Project,

<sup>2</sup> Only one piece of equipment indicated. Hours of operation adjusted by a factor

**Chiquita Canyon Landfill EIR**  
**Operation Emissions - Proposed Project Flare Emissions**

**Assumptions:**

The operating schedule is based Golder Associates 4/11 LFG report. 2021: 1 New (3rd) flare will be added. 2030: 4th flare added (2030 emissions = 2032 emissions)

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) <sup>1</sup>

Year 2032 LFG generation is used to represent 2030 LFG generation. Although the second flare would be in operation in 2030, the maximum LFG flow rate during operation of the landfill would occur in 2032.

Operating scenario: 24 hrs/ day  
 365 days / yr

LFG Recovery <sup>2</sup>: 85%

Existing Flare Capacity (SCFM):  
 8000

Parameter	Operations Year		
	2021	2030	2032
Landfill Generation Gas(scfm):	9,353	14,097	15,040
New Flare	1,353	6,097	7,040
Number of New Flares	1	2	2

Pollutant	Emission Rates (lb/hr)						Source Test Inlet Gas Flow Rate (dscfm) <sup>5</sup>
	CO <sup>3</sup>	NO <sub>x</sub>	ROG (as CH4)	SO <sub>2</sub>	PM <sub>10</sub>	CO2 (kg/scf) <sup>4</sup>	
Source Test of Flare 2 <sup>1</sup>	1.38	1.38	0.278	1.81	0.14	0.0262	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

Pollutant	2021: 1 New Flare Operation							2030 or 2032: 2 New Flares Operation						
	CO	NO <sub>x</sub>	ROG (as CH4) <sup>6</sup>	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub> <sup>7</sup>	CO2	CO	NO <sub>x</sub>	ROG (as CH4) <sup>6</sup>	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub> <sup>7</sup>	CO2
Hourly Emissions (lb/hr)	1.38	1.38	0.278	1.81	0.14	0.14	-	2.76	2.76	0.556	3.62	0.28	0.28	-
Daily Emissions (lb/day)	33	33	7	43	3	3	-	66.24	66.24	13.344	86.88	6.72	6.72	-
Annual Emissions (lb/year)	12,089	12,089	2,435	15,856	1,226	1,226	34,914,762	24,178	24,178	4,871	31,711	2,453	2,453	181,670,305

Conversion:  
 lb/kg conversion: 2.20  
 min/yr: 525600

<sup>1</sup> 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.

<sup>2</sup> LFG recovery is 85% based on data provided by Golder Associates (04/2011) using EPA's LandGEM Model version 3.02

<sup>3</sup> 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.

<sup>4</sup> CO2 Flare emissions based on 2011 GHG Inventory by Cameron-Cole, LLC (EF=0.0262 kg/scf) and Golder Associates 4/11 LFG report (2021&2030 LFG flow rate)

<sup>5</sup> 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.

<sup>6</sup> 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.

<sup>7</sup> PM2.5 equals 100% of PM10 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

### Operation Emissions - Proposed Project Flare Emissions

#### Assumptions:

Landfill Gas	CO2 (%)	CH4 (%)
Emission Rates <sup>1</sup>	0.5	0.5

LFG Recovery <sup>2</sup>: 85%  
 Operating scenario: 24 hrs/ day  
 365 days / yr

Year	Landfill Gas Generation (scfm) <sup>2</sup>
2016	6772
2021	9353
2030	14097
2032	15040

#### Calculated Landfill Gas Emissions

Year	lb/hr		lb/day		lb/yr	
	CO2	CH4	CO2	CH4	CO2	CH4
2016	3,535	1,288	84,839	30,920	30,966,082	11,285,980
2021	4,882	1,779	117,173	42,705	42,768,129	15,587,384
2030	7,359	2,682	176,605	64,366	64,460,848	23,493,570
2032	7,851	2,861	188,419	68,672	68,772,870	25,065,141

#### Constants:

min/hr	60
scf / lb-mol	379.40
lbs CO2/lb-mol	44.01
lbs CH4/lb-mol	16.04

<sup>1</sup> CH4 content is 50% by volume per Golder Associate (04/2011); assume CO2 is also 50% (conservative). Note that CO2 is 36.75% per volume from source test report Horizon Air Measurement Services1/2012.

<sup>2</sup> LFG recovery is 85% based on data provided by Golder Associates (04/2011) using EPA's LandGEM Model version 3.02.

**Chiquita Canyon Landfill EIR**  
**Operation Emissions - Proposed Project Indirect Emissions**

**Electricity Emission Factors**

	Emission Factor (lb/MWh) <sup>1, 2</sup>		
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
Purchased Electricity	658.68	0.0289	0.00617

<sup>1</sup> Emission factors taken from U.S. EPA eGRID2012 Version 1.0 (2009 data) for the WECC California subregion.

<sup>2</sup> Future emission factors are not available, therefore the latest available emission factors will be used to calculate emissions from all years of operation.

**Indirect Electricity Emissions from Operation of Support Buildings**

Emissions would be the same for all years of operation: 2015 - 2032

Emission Source	Building Size (sqft) <sup>1</sup>	Electricity Usage Rate (kWh/sqft/year) <sup>2</sup>	Emissions (lbs/yr)			Emissions (lbs/day) <sup>3</sup>			Emissions (lbs/hr) <sup>3</sup>		
			CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
Support Buildings (Administration Building, Scale House)	22,925	12.95	195,548.095	8.592	1.832	535.748	0.024	0.005	22.323	0.001	0.000
<b>Total</b>	--	--	<b>195,548.095</b>	<b>8.592</b>	<b>1.832</b>	<b>535.748</b>	<b>0.024</b>	<b>0.005</b>	<b>22.323</b>	<b>0.001</b>	<b>0.000</b>

<sup>1</sup> Approximate size of buildings estimated from site plans.

<sup>2</sup> Electricity Usage Rate from Table A9-11-A of the CEQA Handbook (1993) for Office Buildings.

<sup>3</sup> Daily and hourly emissions conservatively assume that electricity may be consumed outside of standard working hours (i.e., for emergency lighting, indoor lighting left on, etc.).

**Chiquita Canyon Landfill EIR**

**Construction Emissions - Proposed Project Fugitive Emissions From Activities**

**Project Data <sup>1</sup>**

Expansion Landfill Footprint	142.7	acres
Average Module Footprint	24	acres
New Entrance and Road	30	acres
<b>Construction Activity</b>		
	<i>Per Module</i>	<i>For Entrance</i>
Total Excavation <sup>2</sup> (cy)	2,965,000	360,000
Excavation Schedule (days)	60	30
Grading Schedule (days)	40	12
Paving <sup>3</sup> (acres)	0	11
Paving Schedule (days)	NA	10
Berm - Onsite Cut / Fill (ft <sup>3</sup> ) <sup>12</sup>	NA	1,317,911
Berm Schedule <sup>4</sup> (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 <sub>10</sub> EF	Fugitive PM <sub>2.5</sub> EF <sup>5</sup>	Unit
Excavation <sup>6</sup>	0.00042	0.00009	lb/ft <sup>3</sup> /day
Grading <sup>6</sup>	26.4	5.5	lb/acre/day
Onsite Cut / Fill <sup>7</sup>	0.059	0.012	ton/1,000 cy
	ROG EF	Unit	
Paving <sup>8</sup>	2.62	lb ROG / acre	

Conversion: ft<sup>3</sup>/cy 27

**Control Measures**

Measure	Control Efficiency	Applicable Source	Reference
Water Hourly and apply dust suppressant	90.00%	Excavation / Grading	Western Regional Air Partnership Fugitive Dust Handbook, Table 3-7.
Total Control Efficiency	90.00%	Excavation / Grading	

Entrance Construction	Construction Period			Controlled Emissions																	
	(months)	Duration (days)	YR	Fugitive Particulate Emissions				ROG Emissions			Fugitive Particulate Emissions				ROG Emissions						
				(lb/day)		(lb/hr)		(lb/yr)		(lb/day)	(lb/hr)	(lb/yr)	(lb/day)		(lb/hr)		(lb/yr)				
Activity	Max. Activity per day	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	ROG	ROG	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	ROG	ROG	ROG
Grading (acres/day)	2.5	66.00	13.73	6.60	1.37	792.00	164.74	NA	NA	NA	6.60	1.37	0.66	0.14	79.20	16.47	NA	NA	NA	NA	NA
Excavation (cy/day)	12,000	136.08	28.30	13.61	2.83	4,082.40	849.14	NA	NA	NA	13.61	2.83	1.36	0.28	408.24	84.91	NA	NA	NA	NA	NA
Paving <sup>6</sup> (acres/day)	1.1	NA	NA	NA	NA	NA	NA	2.88	0.29	28.82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Berm - Onsite Cut / Fill (ft <sup>3</sup> /day)	21,257	92.90	19.32	9.29	1.93	5,759.76	1,198.03	NA	NA	NA	9.29	1.93	0.93	0.19	575.98	119.80	NA	NA	NA	NA	NA
<b>Total <sup>9</sup></b>		<b>228.98</b>	<b>47.63</b>	<b>22.90</b>	<b>4.76</b>	<b>10,634.16</b>	<b>2,211.91</b>	<b>2.88</b>	<b>0.29</b>	<b>28.82</b>	<b>22.90</b>	<b>4.76</b>	<b>2.29</b>	<b>0.48</b>	<b>984.22</b>	<b>204.72</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

**Chiquita Canyon Landfill EIR**

**Construction Emissions - Proposed Project Fugitive Emissions From Activities**

<b>Module Construction</b>		Construction Period (months)	Duration (days)	YR	Emissions are the same for each yr of module construction								
		6	120	2016 - 2026	<b>Controlled Emissions</b>								
		<b>Fugitive Particulate Emissions</b>						<b>Fugitive Particulate Emissions</b>					
		(lb/day)		(lb/hr)		(lb/yr)		(lb/day)		(lb/hr)		(lb/yr)	
Activity	Max. Activity per day	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Grading (acres/day)	0.6	15.84	3.29	1.58	0.33	633.60	131.79	1.58	0.33	0.16	0.03	63.36	13.18
Excavation (cy/day)	50,000	567.00	117.94	56.70	11.79	34,020.00	7,076.16	56.70	11.79	5.67	1.18	3,402.00	707.62
<b>Total</b> <sup>10, 11</sup>		<b>582.84</b>	<b>121.23</b>	<b>58.28</b>	<b>12.12</b>	<b>34,653.60</b>	<b>7,207.95</b>	<b>58.28</b>	<b>12.12</b>	<b>5.83</b>	<b>1.21</b>	<b>3,465.36</b>	<b>720.79</b>

<b>Module Operation</b>		YR	Annual Duration (days)	Emissions are the same for each yr of operation and are for all modules									
		2015 - 2032	312	<b>Controlled Emissions</b>									
		<b>Fugitive Particulate Emissions</b>						<b>Fugitive Particulate Emissions</b>					
		(lb/day)		(lb/hr)		(lb/yr)		(lb/day)		(lb/hr)		(lb/yr)	
Activity	Assumed Max. Activity	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Grading (acres/day)	2.3	60.72	12.63	6.07	1.26	18,944.64	3,940.49	6.07	1.26	0.61	0.13	1,894.46	394.05
Excavation (cy/day)	730	8.28	1.72	0.83	0.17	2,582.80	537.22	0.83	0.17	0.08	0.02	258.28	53.72
<b>Total</b>		<b>69.00</b>	<b>14.35</b>	<b>6.90</b>	<b>1.44</b>	<b>21,527.44</b>	<b>4,477.71</b>	<b>6.07</b>	<b>1.26</b>	<b>0.61</b>	<b>0.13</b>	<b>2,152.74</b>	<b>447.77</b>

<sup>1</sup> Unless otherwise noted data provided in the Assumptions tab and are based on project specific inputs.

<sup>6</sup> Source: SCAQMD CEQA Air Quality Handbook, November 1993. Table 9-9, assumed soil density of 1.8 ton/yard<sup>3</sup>.

<sup>7</sup> 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.

<sup>8</sup> Source: Section 4.8 of Appendix A of the CalEEMod User's Guide, 2011.

<sup>5</sup> 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<sub>10</sub> would be PM<sub>2.5</sub>. For paved and unpaved road fugitive dust sources, it is assumed that 16.9% and 21.2% of the PM<sub>10</sub> would be PM<sub>2.5</sub>, respectively.

<sup>7</sup> 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 .

<sup>2</sup> Typical module size based on Module 8 as per data provided by CCL July 2011. Data provided for entrance construction is 12,000 cy/day.

<sup>3</sup> Total area to be paved includes approximately 8 acres for road and 3 acres for new parking area as per assumptions sheet.

<sup>4</sup> The Berm schedule was taken as described on the Construction PP - Exhaust tab.

<sup>9</sup> 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.

<sup>10</sup> It is assumed that the construction phases excavation and grading could occur simultaneously for the module construction as consistent with the exhaust construction tab.

<sup>11</sup> Totals for Module Construction represent total emissions from construction of one Module since one module is constructed per year.

<sup>12</sup> Volume of cut / fill for the Berm Construction taken from design drawings (ccl\_berm-calcs-r01.pdf).



**Chiquita Canyon Landfill EIR**

**Operation Emissions - Proposed Project Flare Emissions**

**Assumptions:**

The operating schedule is based Golder Associates 4/11 LFG report. 2021: 1 New (3rd) flare will be added. 2030: 4th flare added (2030 emissions = 2032 emissions)

Flare and LFG emissions are based on existing source test data from 1/5/12 (CCL meeting, 3/29/12) <sup>1</sup>

Gas flow rate data provided by Golder Associates (04/2011) using EPA's LandGEM Model version 3.02 (Table 2 and Attachment A Results table).

Annual LFG recovery rate is 85% based on data provided by Golder Associates (04/2011) using EPA's LandGEM Model version 3.02..

Emissions for the new flares would be the same as the existing flares.

Year 2032 LFG generation is used to represent 2030 LFG generation. Although the second flare would be in operation in 2030, the maximum LFG flow rate during operation of the landfill would occur in 2032.

Year	Landfill Gas Generation (scfm)	Fugitive Emissions New Flare (scfm)	Existing Flare Capacity (SCFM):
2021	9353	1353	8000
2030	14097	6097	
2032	15040	7040	
	14945		
	424		
Control Efficiency of Flares	85%	Fugitive LFG Emission Rate	15%

	Source Test Data <sup>1</sup>						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	g/g-mole	
Hydrogen sulfide	64400	200	64400	200	64400	200	200	34.08	
Benzene	3250	0.8	3250	0.8	3250	0.8	0.8	78.11	
Benzylchloride	380	1.5	380	1.5	380	1.5	1.5	126.58	
Chlorobenzene	320	1	320	1	320	1	1	112.56	
Dichlorobenzene	604	2	604	2	604	2	2	147	
1,1-Dichloroethane	320	1	320	1	320	1	1	98.97	
1,2-Dichloroethane	402	1	402	1	402	1	1	98.96	
1,1-Dichloroethylene	320	1	320	1	320	1	1	96.94	
Dichloromethane	648	1	648	1.2	648	1.5	1.2	84.94	
1,2-dibromoethane	320	1	320	1	320	1	1	187.86	
Perchloroethene	553	0.8	553	0.8	553	0.8	0.8	165.83	
Carbon tetrachloride	280	0.8	280	0.8	280	0.8	0.8	153.82	
Toluene	26200	1	26200	2.48	26200	2.83	2.1	92.13	
1,1,1-trichloroethane	280	0.8	280	0.8	280	0.8	0.8	133.4	
Trichloroethene	280	0.8	280	0.8	280	0.8	0.8	131.4	
Chloroform	280	0.8	280	0.8	280	0.8	0.8	119.38	
Vinyl chloride	280	1	280	1	280	1	1	62.5	
m-Xylene	12600	1	12600	1	12600	1	1	106.16	
o+p-Xylene	3630	1	3630	1	3630	1	1	106.16	
Total Non-methane HC <sup>2</sup>	7926000	3524	7926000	3524	7926000	3524	3524	16.04	

Calculated Emissions			
2021 Emissions (g/s)		2032 Emissions (g/s)	
Flare	Fugitive LFG	Flare	Fugitive LFG
3.48E-05	8.60E-03	1.81E-04	4.56E-02
3.19E-07	9.94E-04	1.66E-06	5.27E-03
9.68E-07	1.88E-04	5.04E-06	9.99E-04
5.74E-07	1.41E-04	2.99E-06	7.48E-04
1.50E-06	3.48E-04	7.80E-06	1.84E-03
5.05E-07	1.24E-04	2.63E-06	6.58E-04
5.05E-07	1.56E-04	2.63E-06	8.26E-04
4.94E-07	1.22E-04	2.57E-06	6.44E-04
5.34E-07	2.16E-04	2.78E-06	1.14E-03
9.58E-07	2.35E-04	4.99E-06	1.25E-03
6.77E-07	3.59E-04	3.52E-06	1.90E-03
6.28E-07	1.69E-04	3.27E-06	8.94E-04
9.88E-07	9.45E-03	5.14E-06	5.01E-02
5.44E-07	1.46E-04	2.83E-06	7.76E-04
5.36E-07	1.44E-04	2.79E-06	7.64E-04
4.87E-07	1.31E-04	2.53E-06	6.94E-04
3.19E-07	6.85E-05	1.66E-06	3.63E-04
5.41E-07	5.24E-03	2.82E-06	2.78E-02
5.41E-07	1.51E-03	2.82E-06	8.00E-03
2.88E-04	4.98E-01	1.50E-03	2.64E+00

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

**Chiquita Canyon Landfill EIR**  
**Operation Emissions - Proposed Project Flare Emissions**

D (feet)	12
H (feet)	50

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

<sup>1</sup> 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.

<sup>2</sup> Total Non-Methane Hydrocarbons (ROG) measured as methane equivalent per source test report, so MW of methane used to represent MW of TNMHC.

Calculation:  $\text{ppm\_act} / 24 \text{ (L/mol)} * \text{MW (g/mol)} * \text{Tstp/Tact} * \text{Qact (ft}^3/\text{m)}$

Calculation:  $\text{ppmv} = \text{ul/L}$

$\text{MV}/24.45 \text{ (L/mol)} * \text{ppb}/1000 = \text{ug}$

$V2 = V1P1/P2 * T2/T1$

$1 \text{ uL} = 35.32 \text{ ft}^3$

$\text{g/s} = \text{ppb}/24.45 * \text{Ts}/\text{T1} * \text{MW} * \text{Q}/60/35.32/1000000$

**Chiquita Canyon Landfill EIR**  
**Operation Emissions - Proposed Project Flare Emissions**

**Assumptions:**

The operating schedule is based Golder Associates 4/11 LFG report. 2021: 1 New (3rd) flare will be added. 2030: 4th flare added (2030 emissions = 2032 emissions)

Flare and LFG emissions are based on existing source test data from 1/5/12 (CCL meeting, 3/29/12) <sup>1</sup>

Gas flow rate data provided by Golder Associates (04/2011) using EPA's LandGEM Model version 3.02 (Table 2 and Attachment A Results table).

Annual LFG recovery rate is 85% based on data provided by Golder Associates (04/2011) using EPA's LandGEM Model version 3.02..

Emissions for the new flares would be the same as the existing flares.

Year 2032 LFG generation is used to represent 2030 LFG generation. Although the second flare would be in operation in 2030, the maximum LFG flow rate during operation of the landfill would occur in 2032.

Year	Landfill Gas Generation (scfm)	Fugitive Emissions New Flare (scfm)	Existing Flare Capacity (SCFM):
2021	9353	1353	8000
2030	14097	6097	
2032	15040	7040	
	14945		
	424		
Control Efficiency of Flares	85%	Fugitive LFG Emission Rate	15%

	Source Test Data <sup>1</sup>						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	64400	200	64400	200	64400	200	200	64400	34.08
Benzene	3250	0.8	3250	0.8	3250	0.8	0.8	3250	78.11
Benzylchloride	380	1.5	380	1.5	380	1.5	1.5	380	126.58
Chlorobenzene	320	1	320	1	320	1	1	320	112.56
Dichlorobenzene	604	2	604	2	604	2	2	604	147
1,1-Dichloroethane	320	1	320	1	320	1	1	320	98.97
1,2-Dichloroethane	402	1	402	1	402	1	1	402	98.96
1,1-Dichloroethylene	320	1	320	1	320	1	1	320	96.94
Dichloromethane	648	1	648	1.2	648	1.5	1.2	648	84.94
1,2-dibromoethane	320	1	320	1	320	1	1	320	187.86
Perchloroethene	553	0.8	553	0.8	553	0.8	0.8	553	165.83
Carbon tetrachloride	280	0.8	280	0.8	280	0.8	0.8	280	153.82
Toluene	26200	1	26200	2.48	26200	2.83	2.1	26200	92.13
1,1,1-trichloroethane	280	0.8	280	0.8	280	0.8	0.8	280	133.4
Trichloroethene	280	0.8	280	0.8	280	0.8	0.8	280	131.4
Chloroform	280	0.8	280	0.8	280	0.8	0.8	280	119.38
Vinyl chloride	280	1	280	1	280	1	1	280	62.5
m-Xylene	12600	1	12600	1	12600	1	1	12600	106.16
o+p-Xylene	3630	1	3630	1	3630	1	1	3630	106.16
Total Non-methane HC <sup>2</sup>	7926000	3524	7926000	3524	7926000	3524	3524	7926000	16.04

Calculated Emissions			
2021 Emissions (g/s)		2032 Emissions (g/s)	
Flare	Fugitive LFG	Flare	Fugitive LFG
3.48E-05	8.60E-03	1.81E-04	4.56E-02
3.19E-07	9.94E-04	1.66E-06	5.27E-03
9.68E-07	1.88E-04	5.04E-06	9.99E-04
5.74E-07	1.41E-04	2.99E-06	7.48E-04
1.50E-06	3.48E-04	7.80E-06	1.84E-03
5.05E-07	1.24E-04	2.63E-06	6.58E-04
5.05E-07	1.56E-04	2.63E-06	8.26E-04
4.94E-07	1.22E-04	2.57E-06	6.44E-04
5.34E-07	2.16E-04	2.78E-06	1.14E-03
9.58E-07	2.35E-04	4.99E-06	1.25E-03
6.77E-07	3.59E-04	3.52E-06	1.90E-03
6.28E-07	1.69E-04	3.27E-06	8.94E-04
9.88E-07	9.45E-03	5.14E-06	5.01E-02
5.44E-07	1.46E-04	2.83E-06	7.76E-04
5.36E-07	1.44E-04	2.79E-06	7.64E-04
4.87E-07	1.31E-04	2.53E-06	6.94E-04
3.19E-07	6.85E-05	1.66E-06	3.63E-04
5.41E-07	5.24E-03	2.82E-06	2.78E-02
5.41E-07	1.51E-03	2.82E-06	8.00E-03
2.88E-04	4.98E-01	1.50E-03	2.64E+00

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

**Chiquita Canyon Landfill EIR**  
**Operation Emissions - Proposed Project Flare Emissions**

D (feet)	12
H (feet)	50

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

<sup>1</sup> 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.

<sup>2</sup> Total Non-Methane Hydrocarbons (ROG) measured as methane equivalent per source test report, so MW of methane used to represent MW of TNMHC.

Calculation:  $\text{ppm}_{\text{act}} / 24 \text{ (L/mol)} * \text{MW (g/mol)} * \text{Tstp/Tact} * \text{Qact (ft}^3\text{/m)}$

Calculation:  $\text{ppmv} = \mu\text{/L}$

$\text{MV}/24.45 \text{ (L/mol)} * \text{ppb}/1000 = \mu\text{g}$

$V2 = V1P1/P2 * T2/T1$

$\mu$

$1 \mu\text{L} = 35.32 \text{ ft}^3$

$\text{g/s} = \text{ppb}/24.45 * \text{Ts}/\text{T1} * \text{MW} * \text{Q}/60/35.32/1000000$

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2014	2014	Arial Lifts	34	0.1877	0.2473	0.0483	0.0004	0.0048	0.0044	34.7	2
2014	2014	Air Compressors	78	0.3313	0.3453	0.0842	0.0007	0.0074	0.0068	63.6	4
2014	2014	Bore/Drill Rigs	82	0.5030	0.3630	0.0729	0.0017	0.0078	0.0071	165	4
2014	2014	Cement and Mortar Mixers	9	0.0420	0.0667	0.0089	0.0001	0.0017	0.0016	7.2	1
2014	2014	Concrete/Industrial Saws	81	0.4031	0.3585	0.0917	0.0007	0.0077	0.0071	58.5	4
2014	2014	Cranes	208	0.4553	0.7898	0.1276	0.0014	0.0099	0.0091	129	6
2014	2014	Crawler Tractors	82	0.5767	0.3630	0.1499	0.0013	0.0078	0.0071	114	4
2014	2014	Crushing/Proc. Equipment	85	0.6651	0.3763	0.1597	0.0015	0.0080	0.0074	132	4
2014	2014	Dumpers/Tenders	16	0.0317	0.1185	0.0095	0.0001	0.0031	0.0029	7.6	1
2014	2014	Excavators	157	0.5289	0.5961	0.1143	0.0013	0.0109	0.0100	120.0	5
2014	2014	Forklifts	149	0.2215	0.5657	0.0497	0.0006	0.0104	0.0095	54.4	5
2014	2014	Generator Sets	84	0.2974	0.3718	0.0702	0.0007	0.0080	0.0073	61.0	4
2014	2014	Graders	162	0.5987	0.6151	0.1362	0.0015	0.0113	0.0104	133	5
2014	2014	Off-Highway Tractors	160	0.7438	0.6075	0.1986	0.0017	0.0111	0.0102	151	5
2014	2014	Off-Highway Trucks	381	0.6148	1.4466	0.2034	0.0027	0.0181	0.0166	260	6
2014	2014	Other Construction Equipment	327	0.3697	1.2416	0.0820	0.0013	0.0155	0.0143	123	6
2014	2014	Other General Industrial Equipment	150	0.4985	0.5695	0.1448	0.0016	0.0104	0.0096	152	5
2014	2014	Other Material Handling Equipment	196	0.4814	0.7442	0.1381	0.0015	0.0093	0.0086	141	6
2014	2014	Pavers	89	0.5277	0.3940	0.1429	0.0009	0.0084	0.0078	77.9	4
2014	2014	Paving Equipment	82	0.4273	0.3630	0.1082	0.0008	0.0078	0.0071	68.9	4
2014	2014	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014	4.3	1
2014	2014	Pressure Washers	13	0.0603	0.0963	0.0145	0.0001	0.0025	0.0023	9.4	1
2014	2014	Pumps	84	0.2873	0.3718	0.0683	0.0006	0.0080	0.0073	49.6	4
2014	2014	Rollers	84	0.4018	0.3718	0.0912	0.0008	0.0080	0.0073	67.1	4
2014	2014	Rough Terrain Forklifts	83	0.4608	0.3674	0.0929	0.0008	0.0079	0.0072	70.3	4
2014	2014	Rubber Tired Dozers	358	1.1058	1.3593	0.2854	0.0025	0.0170	0.0156	239	6
2014	2014	Rubber Tired Loaders	87	0.4683	0.3851	0.1122	0.0012	0.0082	0.0076	109	4
2014	2014	Scrapers	356	0.9890	1.3517	0.2648	0.0027	0.0169	0.0155	262	6
2014	2014	Signal Boards	6	0.0929	0.0444	0.0181	0.0002	0.0012	0.0011	16.7	1
2014	2014	Skid Steer Loaders	37	0.2262	0.2691	0.0406	0.0004	0.0053	0.0048	30.3	2
2014	2014	Surfacing Equipment	392	0.4930	1.4884	0.1194	0.0017	0.0186	0.0171	166	6
2014	2014	Sweepers/Scrubbers	88	0.5086	0.3895	0.1029	0.0009	0.0083	0.0077	78.5	4
2014	2014	Tractors/Loaders/Backhoes	75	0.3747	0.3320	0.0728	0.0008	0.0071	0.0065	66.8	4
2014	2014	Trenchers	69	0.4606	0.5019	0.1350	0.0007	0.0065	0.0060	58.7	3
2014	2014	Welders	46	0.2041	0.3346	0.0589	0.0003	0.0065	0.0060	25.6	2
2015	2015	Arial Lifts	34	0.1837	0.2443	0.0439	0.0004	0.0047	0.0043	34.7	2
2015	2015	Air Compressors	78	0.3257	0.3347	0.0773	0.0007	0.0072	0.0066	63.6	4
2015	2015	Bore/Drill Rigs	82	0.5022	0.3519	0.0673	0.0017	0.0075	0.0069	165	4
2015	2015	Cement and Mortar Mixers	9	0.0419	0.0667	0.0088	0.0001	0.0017	0.0016	7.2	1
2015	2015	Concrete/Industrial Saws	81	0.3982	0.3476	0.0835	0.0007	0.0074	0.0068	58.5	4
2015	2015	Cranes	208	0.4395	0.7660	0.1204	0.0014	0.0096	0.0088	129	6
2015	2015	Crawler Tractors	82	0.5650	0.3519	0.1415	0.0013	0.0075	0.0069	114	4
2015	2015	Crushing/Proc. Equipment	85	0.6549	0.3647	0.1465	0.0015	0.0078	0.0072	132	4
2015	2015	Dumpers/Tenders	16	0.0315	0.1185	0.0093	0.0001	0.0030	0.0028	7.6	1
2015	2015	Excavators	157	0.5248	0.5782	0.1064	0.0013	0.0106	0.0097	120	5
2015	2015	Forklifts	149	0.2200	0.5487	0.0459	0.0006	0.0100	0.0092	54.4	5
2015	2015	Generator Sets	84	0.2913	0.3605	0.0640	0.0007	0.0077	0.0071	61.0	4
2015	2015	Graders	162	0.5931	0.5966	0.1277	0.0015	0.0109	0.0100	133	5
2015	2015	Off-Highway Tractors	160	0.7244	0.5892	0.1893	0.0017	0.0108	0.0099	151	5

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2015	2015Off-Highway Trucks	Off-Highway Trucks	381	0.5974	1.4031	0.1924	0.0027	0.0175	0.0161	260	6
2015	2015Other Construction Equipment	Other Construction Equipment	327	0.3645	1.2042	0.0768	0.0013	0.0151	0.0138	123	6
2015	2015Other General Industrial Equipm	Other General Industrial Equipment	150	0.4843	0.5524	0.1355	0.0016	0.0101	0.0093	152	5
2015	2015Other Material Handling Equipm	Other Material Handling Equipment	196	0.4698	0.7218	0.1289	0.0015	0.0090	0.0083	141	6
2015	2015Pavers	Pavers	89	0.5203	0.3819	0.1347	0.0009	0.0082	0.0075	77.9	4
2015	2015Paving Equipment	Paving Equipment	82	0.4234	0.3519	0.1023	0.0008	0.0075	0.0069	68.9	4
2015	2015Plate Compactors	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014	4.3	1
2015	2015Pressure Washers	Pressure Washers	13	0.0590	0.0963	0.0133	0.0001	0.0025	0.0023	9.4	1
2015	2015Pumps	Pumps	84	0.2825	0.3605	0.0621	0.0006	0.0077	0.0071	49.6	4
2015	2015Rollers	Rollers	84	0.3979	0.3605	0.0851	0.0008	0.0077	0.0071	67.0	4
2015	2015Rough Terrain Forklifts	Rough Terrain Forklifts	83	0.4577	0.3562	0.0850	0.0008	0.0076	0.0070	70.3	4
2015	2015Rubber Tired Dozers	Rubber Tired Dozers	358	1.0420	1.3184	0.2721	0.0025	0.0165	0.0152	239	6
2015	2015Rubber Tired Loaders	Rubber Tired Loaders	87	0.4615	0.3733	0.1050	0.0012	0.0080	0.0073	109	4
2015	2015Scrapers	Scrapers	356	0.9443	1.3110	0.2513	0.0027	0.0164	0.0151	262	6
2015	2015Signal Boards	Signal Boards	6	0.0925	0.0444	0.0171	0.0002	0.0011	0.0011	16.7	1
2015	2015Skid Steer Loaders	Skid Steer Loaders	37	0.2220	0.2659	0.0352	0.0004	0.0051	0.0047	30.3	2
2015	2015Surfacing Equipment	Surfacing Equipment	392	0.4705	1.4436	0.1116	0.0017	0.0180	0.0166	166	6
2015	2015Sweepers/Scrubbers	Sweepers/Scrubbers	88	0.5034	0.3776	0.0913	0.0009	0.0081	0.0074	78.5	4
2015	2015Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	75	0.3716	0.3218	0.0666	0.0008	0.0069	0.0063	66.8	4
2015	2015Trenchers	Trenchers	69	0.4541	0.4958	0.1274	0.0007	0.0063	0.0058	58.7	3
2015	2015Welders	Welders	46	0.1994	0.3305	0.0534	0.0003	0.0063	0.0058	25.6	2
2016	2016Aerial Lifts	Aerial Lifts	34	0.1800	0.2443	0.0397	0.0004	0.0047	0.0043	34.7	2
2016	2016Air Compressors	Air Compressors	78	0.3207	0.3347	0.0704	0.0007	0.0072	0.0066	63.6	4
2016	2016Bore/Drill Rigs	Bore/Drill Rigs	82	0.5016	0.3519	0.0623	0.0017	0.0075	0.0069	165	4
2016	2016Cement and Mortar Mixers	Cement and Mortar Mixers	9	0.0418	0.0667	0.0088	0.0001	0.0017	0.0016	7.2	1
2016	2016Concrete/Industrial Saws	Concrete/Industrial Saws	81	0.3936	0.3476	0.0756	0.0007	0.0074	0.0068	58.5	4
2016	2016Cranes	Cranes	208	0.4263	0.7660	0.1137	0.0014	0.0096	0.0088	129	6
2016	2016Crawler Tractors	Crawler Tractors	82	0.5549	0.3519	0.1335	0.0013	0.0075	0.0069	114	4
2016	2016Crushing/Proc. Equipment	Crushing/Proc. Equipment	85	0.6461	0.3647	0.1337	0.0015	0.0078	0.0072	132	4
2016	2016Dumpers/Tenders	Dumpers/Tenders	16	0.0314	0.1185	0.0093	0.0001	0.0030	0.0028	7.6	1
2016	2016Excavators	Excavators	157	0.5213	0.5782	0.0988	0.0013	0.0106	0.0097	120	5
2016	2016Forklifts	Forklifts	149	0.2190	0.5487	0.0427	0.0006	0.0100	0.0092	54.4	5
2016	2016Generator Sets	Generator Sets	84	0.2862	0.3605	0.0581	0.0007	0.0077	0.0071	61.0	4
2016	2016Graders	Graders	162	0.5883	0.5966	0.1197	0.0015	0.0109	0.0100	133	5
2016	2016Off-Highway Tractors	Off-Highway Tractors	160	0.7067	0.5892	0.1803	0.0017	0.0108	0.0099	151	5
2016	2016Off-Highway Trucks	Off-Highway Trucks	381	0.5831	1.4031	0.1816	0.0027	0.0175	0.0161	260	6
2016	2016Other Construction Equipment	Other Construction Equipment	327	0.3602	1.2042	0.0720	0.0013	0.0151	0.0138	123	6
2016	2016Other General Industrial Equipm	Other General Industrial Equipment	150	0.4731	0.5524	0.1267	0.0016	0.0101	0.0093	152	5
2016	2016Other Material Handling Equipm	Other Material Handling Equipment	196	0.4608	0.7218	0.1202	0.0015	0.0090	0.0083	141	6
2016	2016Pavers	Pavers	89	0.5135	0.3819	0.1269	0.0009	0.0082	0.0075	77.9	4
2016	2016Paving Equipment	Paving Equipment	82	0.4198	0.3519	0.0965	0.0008	0.0075	0.0069	68.9	4
2016	2016Plate Compactors	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014	4.3	1
2016	2016Pressure Washers	Pressure Washers	13	0.0579	0.0963	0.0121	0.0001	0.0025	0.0023	9.4	1
2016	2016Pumps	Pumps	84	0.2785	0.3605	0.0562	0.0006	0.0077	0.0071	49.6	4
2016	2016Rollers	Rollers	84	0.3944	0.3605	0.0792	0.0008	0.0077	0.0071	67.0	4
2016	2016Rough Terrain Forklifts	Rough Terrain Forklifts	83	0.4549	0.3562	0.0775	0.0008	0.0076	0.0070	70.3	4
2016	2016Rubber Tired Dozers	Rubber Tired Dozers	358	0.9834	1.3184	0.2591	0.0025	0.0165	0.0152	239	6
2016	2016Rubber Tired Loaders	Rubber Tired Loaders	87	0.4557	0.3733	0.0983	0.0012	0.0080	0.0073	109	4
2016	2016Scrapers	Scrapers	356	0.9053	1.3110	0.2383	0.0027	0.0164	0.0151	262	6

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2016	2016	Signal Boards	6	0.0921	0.0444	0.0161	0.0002	0.0011	0.0011	16.7	1
2016	2016	Skid Steer Loaders	37	0.2184	0.2659	0.0305	0.0004	0.0051	0.0047	30.3	2
2016	2016	Surfacing Equipment	392	0.4506	1.4436	0.1045	0.0017	0.0180	0.0166	166	6
2016	2016	Sweepers/Scrubbers	88	0.4988	0.3776	0.0810	0.0009	0.0081	0.0074	78.5	4
2016	2016	Tractors/Loaders/Backhoes	75	0.3689	0.3218	0.0610	0.0008	0.0069	0.0063	66.8	4
2016	2016	Trenchers	69	0.4479	0.4958	0.1200	0.0007	0.0063	0.0058	58.7	3
2016	2016	Welders	46	0.1951	0.3305	0.0482	0.0003	0.0063	0.0058	25.6	2
2017	2017	Arial Lifts	34	0.1768	0.2443	0.0358	0.0004	0.0047	0.0043		2
2017	2017	Air Compressors	78	0.3165	0.3347	0.0641	0.0007	0.0072	0.0066		4
2017	2017	Bore/Drill Rigs	82	0.5013	0.3519	0.0578	0.0017	0.0075	0.0069		4
2017	2017	Cement and Mortar Mixers	9	0.0417	0.0667	0.0087	0.0001	0.0017	0.0016		1
2017	2017	Concrete/Industrial Saws	81	0.3892	0.3476	0.0679	0.0007	0.0074	0.0068		4
2017	2017	Cranes	208	0.4152	0.7660	0.1073	0.0014	0.0096	0.0088		6
2017	2017	Crawler Tractors	82	0.5464	0.3519	0.1258	0.0013	0.0075	0.0069		4
2017	2017	Crushing/Proc. Equipment	85	0.6388	0.3647	0.1219	0.0015	0.0078	0.0072		4
2017	2017	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0030	0.0028		1
2017	2017	Excavators	157	0.5184	0.5782	0.0916	0.0013	0.0106	0.0097		5
2017	2017	Forklifts	149	0.2181	0.5487	0.0399	0.0006	0.0100	0.0092		5
2017	2017	Generator Sets	84	0.2821	0.3605	0.0527	0.0007	0.0077	0.0071		4
2017	2017	Graders	162	0.5844	0.5966	0.1121	0.0015	0.0109	0.0100		5
2017	2017	Off-Highway Tractors	160	0.6906	0.5892	0.1716	0.0017	0.0108	0.0099		5
2017	2017	Off-Highway Trucks	381	0.5722	1.4031	0.1712	0.0027	0.0175	0.0161		6
2017	2017	Other Construction Equipment	327	0.3568	1.2042	0.0675	0.0013	0.0151	0.0138		6
2017	2017	Other General Industrial Equipment	150	0.4650	0.5524	0.1187	0.0016	0.0101	0.0093		5
2017	2017	Other Material Handling Equipment	196	0.4544	0.7218	0.1123	0.0015	0.0090	0.0083		6
2017	2017	Pavers	89	0.5073	0.3819	0.1193	0.0009	0.0082	0.0075		4
2017	2017	Paving Equipment	82	0.4165	0.3519	0.0910	0.0008	0.0075	0.0069		4
2017	2017	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014		1
2017	2017	Pressure Washers	13	0.0570	0.0963	0.0111	0.0001	0.0025	0.0023		1
2017	2017	Pumps	84	0.2751	0.3605	0.0508	0.0006	0.0077	0.0071		4
2017	2017	Rollers	84	0.3913	0.3605	0.0736	0.0008	0.0077	0.0071		4
2017	2017	Rough Terrain Forklifts	83	0.4522	0.3562	0.0704	0.0008	0.0076	0.0070		4
2017	2017	Rubber Tired Dozers	358	0.9300	1.3184	0.2465	0.0025	0.0165	0.0152		6
2017	2017	Rubber Tired Loaders	87	0.4510	0.3733	0.0920	0.0012	0.0080	0.0073		4
2017	2017	Scrapers	356	0.8713	1.3110	0.2257	0.0027	0.0164	0.0151		6
2017	2017	Signal Boards	6	0.0918	0.0444	0.0151	0.0002	0.0011	0.0011		1
2017	2017	Skid Steer Loaders	37	0.2161	0.2659	0.0274	0.0004	0.0051	0.0047		2
2017	2017	Surfacing Equipment	392	0.4333	1.4436	0.0981	0.0017	0.0180	0.0166		6
2017	2017	Sweepers/Scrubbers	88	0.4962	0.3776	0.0737	0.0009	0.0081	0.0074		4
2017	2017	Tractors/Loaders/Backhoes	75	0.3666	0.3218	0.0559	0.0008	0.0069	0.0063		4
2017	2017	Trenchers	69	0.4422	0.4958	0.1129	0.0007	0.0063	0.0058		3
2017	2017	Welders	46	0.1912	0.3305	0.0434	0.0003	0.0063	0.0058		2
2018	2018	Arial Lifts	34	0.1740	0.2424	0.0322	0.0004	0.0046	0.0042		2
2018	2018	Air Compressors	78	0.3130	0.3281	0.0582	0.0007	0.0070	0.0064		4
2018	2018	Bore/Drill Rigs	82	0.5011	0.3449	0.0539	0.0017	0.0074	0.0068		4
2018	2018	Cement and Mortar Mixers	9	0.0416	0.0667	0.0087	0.0001	0.0017	0.0016		1
2018	2018	Concrete/Industrial Saws	81	0.3850	0.3407	0.0605	0.0007	0.0073	0.0067		4
2018	2018	Cranes	208	0.4060	0.7511	0.1012	0.0014	0.0094	0.0086		6
2018	2018	Crawler Tractors	82	0.5387	0.3449	0.1185	0.0013	0.0074	0.0068		4

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2018	2018	Crushing/Proc. Equipment	85	0.6328	0.3575	0.1109	0.0015	0.0076	0.0070		4
2018	2018	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0030	0.0028		1
2018	2018	Excavators	157	0.5160	0.5670	0.0848	0.0013	0.0104	0.0095		5
2018	2018	Forklifts	149	0.2173	0.5381	0.0372	0.0006	0.0098	0.0090		5
2018	2018	Generator Sets	84	0.2786	0.3533	0.0477	0.0007	0.0075	0.0069		4
2018	2018	Graders	162	0.5812	0.5850	0.1049	0.0015	0.0107	0.0098		5
2018	2018	Off-Highway Tractors	160	0.6762	0.5778	0.1631	0.0017	0.0106	0.0097		5
2018	2018	Off-Highway Trucks	381	0.5634	1.3759	0.1613	0.0027	0.0172	0.0158		6
2018	2018	Other Construction Equipment	327	0.3542	1.1809	0.0633	0.0013	0.0148	0.0136		6
2018	2018	Other General Industrial Equipment	150	0.4591	0.5417	0.1113	0.0016	0.0099	0.0091		5
2018	2018	Other Material Handling Equipment	196	0.4495	0.7078	0.1050	0.0015	0.0088	0.0081		6
2018	2018	Pavers	89	0.5017	0.3744	0.1121	0.0009	0.0080	0.0074		4
2018	2018	Paving Equipment	82	0.4136	0.3449	0.0857	0.0008	0.0074	0.0068		4
2018	2018	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014		1
2018	2018	Pressure Washers	13	0.0562	0.0963	0.0101	0.0001	0.0025	0.0023		1
2018	2018	Pumps	84	0.2722	0.3533	0.0458	0.0006	0.0075	0.0069		4
2018	2018	Rollers	84	0.3885	0.3533	0.0683	0.0008	0.0075	0.0069		4
2018	2018	Rough Terrain Forklifts	83	0.4499	0.3491	0.0638	0.0008	0.0075	0.0069		4
2018	2018	Rubber Tired Dozers	358	0.8819	1.2928	0.2343	0.0025	0.0162	0.0149		6
2018	2018	Rubber Tired Loaders	87	0.4470	0.3660	0.0861	0.0012	0.0078	0.0072		4
2018	2018	Scrapers	356	0.8418	1.2856	0.2135	0.0027	0.0161	0.0148		6
2018	2018	Signal Boards	6	0.0916	0.0444	0.0143	0.0002	0.0011	0.0010		1
2018	2018	Skid Steer Loaders	37	0.2146	0.2638	0.0253	0.0004	0.0050	0.0046		2
2018	2018	Surfacing Equipment	392	0.4187	1.4156	0.0923	0.0017	0.0177	0.0163		6
2018	2018	Sweepers/Scrubbers	88	0.4946	0.3702	0.0681	0.0009	0.0079	0.0073		4
2018	2018	Tractors/Loaders/Backhoes	75	0.3647	0.3155	0.0513	0.0008	0.0067	0.0062		4
2018	2018	Trenchers	69	0.4368	0.4920	0.1061	0.0007	0.0062	0.0057		3
2018	2018	Welders	46	0.1876	0.3280	0.0388	0.0003	0.0062	0.0057		2
2019	2019	Arial Lifts	34	0.1715	0.2424	0.0288	0.0004	0.0046	0.0042		2
2019	2019	Air Compressors	78	0.3100	0.3281	0.0526	0.0007	0.0070	0.0064		4
2019	2019	Bore/Drill Rigs	82	0.5009	0.3449	0.0506	0.0017	0.0074	0.0068		4
2019	2019	Cement and Mortar Mixers	9	0.0416	0.0667	0.0086	0.0001	0.0017	0.0016		1
2019	2019	Concrete/Industrial Saws	81	0.3812	0.3407	0.0536	0.0007	0.0073	0.0067		4
2019	2019	Cranes	208	0.3982	0.7511	0.0954	0.0014	0.0094	0.0086		6
2019	2019	Crawler Tractors	82	0.5319	0.3449	0.1115	0.0013	0.0074	0.0068		4
2019	2019	Crushing/Proc. Equipment	85	0.6280	0.3575	0.1011	0.0015	0.0076	0.0070		4
2019	2019	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0030	0.0028		1
2019	2019	Excavators	157	0.5140	0.5670	0.0787	0.0013	0.0104	0.0095		5
2019	2019	Forklifts	149	0.2166	0.5381	0.0345	0.0006	0.0098	0.0090		5
2019	2019	Generator Sets	84	0.2755	0.3533	0.0431	0.0007	0.0075	0.0069		4
2019	2019	Graders	162	0.5787	0.5850	0.0982	0.0015	0.0107	0.0098		5
2019	2019	Off-Highway Tractors	160	0.6634	0.5778	0.1549	0.0017	0.0106	0.0097		5
2019	2019	Off-Highway Trucks	381	0.5565	1.3759	0.1524	0.0027	0.0172	0.0158		6
2019	2019	Other Construction Equipment	327	0.3522	1.1809	0.0596	0.0013	0.0148	0.0136		6
2019	2019	Other General Industrial Equipment	150	0.4549	0.5417	0.1044	0.0016	0.0099	0.0091		5
2019	2019	Other Material Handling Equipment	196	0.4458	0.7078	0.0983	0.0015	0.0088	0.0081		6
2019	2019	Pavers	89	0.4966	0.3744	0.1053	0.0009	0.0080	0.0074		4
2019	2019	Paving Equipment	82	0.4109	0.3449	0.0806	0.0008	0.0074	0.0068		4
2019	2019	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014		1



Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2019	2019	Pressure Washers	13	0.0554	0.0963	0.0092	0.0001	0.0025	0.0023		1
2019	2019	Pumps	84	0.2695	0.3533	0.0412	0.0006	0.0075	0.0069		4
2019	2019	Rollers	84	0.3859	0.3533	0.0632	0.0008	0.0075	0.0069		4
2019	2019	Rough Terrain Forklifts	83	0.4479	0.3491	0.0579	0.0008	0.0075	0.0069		4
2019	2019	Rubber Tired Dozers	358	0.8388	1.2928	0.2227	0.0025	0.0162	0.0149		6
2019	2019	Rubber Tired Loaders	87	0.4436	0.3660	0.0805	0.0012	0.0078	0.0072		4
2019	2019	Scrapers	356	0.8161	1.2856	0.2021	0.0027	0.0161	0.0148		6
2019	2019	Signal Boards	6	0.0913	0.0444	0.0135	0.0002	0.0011	0.0010		1
2019	2019	Skid Steer Loaders	37	0.2134	0.2638	0.0236	0.0004	0.0050	0.0046		2
2019	2019	Surfacing Equipment	392	0.4061	1.4156	0.0871	0.0017	0.0177	0.0163		6
2019	2019	Sweepers/Scrubbers	88	0.4933	0.3702	0.0632	0.0009	0.0079	0.0073		4
2019	2019	Tractors/Loaders/Backhoes	75	0.3630	0.3155	0.0472	0.0008	0.0067	0.0062		4
2019	2019	Trenchers	69	0.4317	0.4920	0.0995	0.0007	0.0062	0.0057		3
2019	2019	Welders	46	0.1843	0.3280	0.0344	0.0003	0.0062	0.0057		2
2020	2020	Arial Lifts	34	0.1696	0.2424	0.0261	0.0004	0.0046	0.0042		2
2020	2020	Air Compressors	78	0.3077	0.3281	0.0483	0.0007	0.0070	0.0064		4
2020	2020	Bore/Drill Rigs	82	0.5008	0.3449	0.0480	0.0017	0.0074	0.0068		4
2020	2020	Cement and Mortar Mixers	9	0.0415	0.0667	0.0086	0.0001	0.0017	0.0016		1
2020	2020	Concrete/Industrial Saws	81	0.3783	0.3407	0.0484	0.0007	0.0073	0.0067		4
2020	2020	Cranes	208	0.3917	0.7511	0.0898	0.0014	0.0094	0.0086		6
2020	2020	Crawler Tractors	82	0.5260	0.3449	0.1049	0.0013	0.0074	0.0068		4
2020	2020	Crushing/Proc. Equipment	85	0.6247	0.3575	0.0934	0.0015	0.0076	0.0070		4
2020	2020	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0030	0.0028		1
2020	2020	Excavators	157	0.5124	0.5670	0.0733	0.0013	0.0104	0.0095		5
2020	2020	Forklifts	149	0.2160	0.5381	0.0320	0.0006	0.0098	0.0090		5
2020	2020	Generator Sets	84	0.2732	0.3533	0.0395	0.0007	0.0075	0.0069		4
2020	2020	Graders	162	0.5765	0.5850	0.0919	0.0015	0.0107	0.0098		5
2020	2020	Off-Highway Tractors	160	0.6517	0.5778	0.1470	0.0017	0.0106	0.0097		5
2020	2020	Off-Highway Trucks	381	0.5514	1.3759	0.1443	0.0027	0.0172	0.0158		6
2020	2020	Other Construction Equipment	327	0.3508	1.1809	0.0563	0.0013	0.0148	0.0136		6
2020	2020	Other General Industrial Equipm	150	0.4517	0.5417	0.0983	0.0016	0.0099	0.0091		5
2020	2020	Other Material Handling Equipm	196	0.4429	0.7078	0.0924	0.0015	0.0088	0.0081		6
2020	2020	Pavers	89	0.4920	0.3744	0.0989	0.0009	0.0080	0.0074		4
2020	2020	Paving Equipment	82	0.4084	0.3449	0.0757	0.0008	0.0074	0.0068		4
2020	2020	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014		1
2020	2020	Pressure Washers	13	0.0549	0.0963	0.0085	0.0001	0.0025	0.0023		1
2020	2020	Pumps	84	0.2674	0.3533	0.0376	0.0006	0.0075	0.0069		4
2020	2020	Rollers	84	0.3837	0.3533	0.0584	0.0008	0.0075	0.0069		4
2020	2020	Rough Terrain Forklifts	83	0.4464	0.3491	0.0533	0.0008	0.0075	0.0069		4
2020	2020	Rubber Tired Dozers	358	0.8006	1.2928	0.2118	0.0025	0.0162	0.0149		6
2020	2020	Rubber Tired Loaders	87	0.4406	0.3660	0.0753	0.0012	0.0078	0.0072		4
2020	2020	Scrapers	356	0.7938	1.2856	0.1914	0.0027	0.0161	0.0148		6
2020	2020	Signal Boards	6	0.0912	0.0444	0.0129	0.0002	0.0011	0.0010		1
2020	2020	Skid Steer Loaders	37	0.2125	0.2638	0.0222	0.0004	0.0050	0.0046		2
2020	2020	Surfacing Equipment	392	0.3953	1.4156	0.0823	0.0017	0.0177	0.0163		6
2020	2020	Sweepers/Scrubbers	88	0.4916	0.3702	0.0584	0.0009	0.0079	0.0073		4
2020	2020	Tractors/Loaders/Backhoes	75	0.3616	0.3155	0.0436	0.0008	0.0067	0.0062		4
2020	2020	Trenchers	69	0.4270	0.4920	0.0933	0.0007	0.0062	0.0057		3
2020	2020	Welders	46	0.1816	0.3280	0.0310	0.0003	0.0062	0.0057		2

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2021	2021	Arial Lifts	34	0.1677	0.2424	0.0238	0.0004	0.0046	0.0042	34.7	2
2021	2021	Air Compressors	78	0.3051	0.3281	0.0442	0.0007	0.0070	0.0064	63.6	4
2021	2021	Bore/Drill Rigs	82	0.5007	0.3449	0.0460	0.0017	0.0074	0.0068	165	4
2021	2021	Cement and Mortar Mixers	9	0.0415	0.0667	0.0086	0.0001	0.0017	0.0016	7.2	1
2021	2021	Concrete/Industrial Saws	81	0.3761	0.3407	0.0444	0.0007	0.0073	0.0067	58.5	4
2021	2021	Cranes	208	0.3865	0.7511	0.0846	0.0014	0.0094	0.0086	129	6
2021	2021	Crawler Tractors	82	0.5208	0.3449	0.0988	0.0013	0.0074	0.0068	114	4
2021	2021	Crushing/Proc. Equipment	85	0.6224	0.3575	0.0872	0.0015	0.0076	0.0070	132	4
2021	2021	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0030	0.0028	7.6	1
2021	2021	Excavators	157	0.5113	0.5670	0.0687	0.0013	0.0104	0.0095	120	5
2021	2021	Forklifts	149	0.2148	0.5381	0.0294	0.0006	0.0098	0.0090	54.4	5
2021	2021	Generator Sets	84	0.2708	0.3533	0.0363	0.0007	0.0075	0.0069	61.0	4
2021	2021	Graders	162	0.5747	0.5850	0.0861	0.0015	0.0107	0.0098	133	5
2021	2021	Off-Highway Tractors	160	0.6413	0.5778	0.1394	0.0017	0.0106	0.0097	151	5
2021	2021	Off-Highway Trucks	381	0.5476	1.3759	0.1370	0.0027	0.0172	0.0158	260	6
2021	2021	Other Construction Equipment	327	0.3497	1.1809	0.0534	0.0013	0.0148	0.0136	122	6
2021	2021	Other General Industrial Equipment	150	0.4479	0.5417	0.0915	0.0016	0.0099	0.0091	152	5
2021	2021	Other Material Handling Equipment	196	0.4392	0.7078	0.0860	0.0015	0.0088	0.0081	141	6
2021	2021	Pavers	89	0.4878	0.3744	0.0928	0.0009	0.0080	0.0074	77.9	4
2021	2021	Paving Equipment	82	0.4062	0.3449	0.0710	0.0008	0.0074	0.0068	68.9	4
2021	2021	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014	4.3	1
2021	2021	Pressure Washers	13	0.0543	0.0963	0.0079	0.0001	0.0025	0.0023	9.4	1
2021	2021	Pumps	84	0.2652	0.3533	0.0344	0.0006	0.0075	0.0069	49.6	4
2021	2021	Rollers	84	0.3816	0.3533	0.0540	0.0008	0.0075	0.0069	67.0	4
2021	2021	Rough Terrain Forklifts	83	0.4454	0.3491	0.0497	0.0008	0.0075	0.0069	70.3	4
2021	2021	Rubber Tired Dozers	358	0.7661	1.2928	0.2015	0.0025	0.0162	0.0149	239	6
2021	2021	Rubber Tired Loaders	87	0.4381	0.3660	0.0705	0.0012	0.0078	0.0072	109	4
2021	2021	Scrapers	356	0.7745	1.2856	0.1815	0.0027	0.0161	0.0148	262	6
2021	2021	Signal Boards	6	0.0911	0.0444	0.0125	0.0002	0.0011	0.0010	16.7	1
2021	2021	Skid Steer Loaders	37	0.2119	0.2638	0.0212	0.0004	0.0050	0.0046	30.3	2
2021	2021	Surfacing Equipment	392	0.3860	1.4156	0.0779	0.0017	0.0177	0.0163	166	6
2021	2021	Sweepers/Scrubbers	88	0.4882	0.3702	0.0536	0.0009	0.0079	0.0073	78.5	4
2021	2021	Tractors/Loaders/Backhoes	75	0.3606	0.3155	0.0407	0.0008	0.0067	0.0062	66.8	4
2021	2021	Trenchers	69	0.4226	0.4920	0.0874	0.0007	0.0062	0.0057	58.7	3
2021	2021	Welders	46	0.1788	0.3280	0.0280	0.0003	0.0062	0.0057	25.6	2
2022	2022	Arial Lifts	34	0.1667	0.2424	0.0222	0.0004	0.0046	0.0042		2
2022	2022	Air Compressors	78	0.3041	0.3281	0.0414	0.0007	0.0070	0.0064		4
2022	2022	Bore/Drill Rigs	82	0.5007	0.3449	0.0446	0.0017	0.0074	0.0068		4
2022	2022	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0017	0.0016		1
2022	2022	Concrete/Industrial Saws	81	0.3743	0.3407	0.0411	0.0007	0.0073	0.0067		4
2022	2022	Cranes	208	0.3822	0.7511	0.0798	0.0014	0.0094	0.0086		6
2022	2022	Crawler Tractors	82	0.5163	0.3449	0.0931	0.0013	0.0074	0.0068		4
2022	2022	Crushing/Proc. Equipment	85	0.6208	0.3575	0.0820	0.0015	0.0076	0.0070		4
2022	2022	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0030	0.0028		1
2022	2022	Excavators	157	0.5104	0.5670	0.0648	0.0013	0.0104	0.0095		5
2022	2022	Forklifts	149	0.2146	0.5381	0.0274	0.0006	0.0098	0.0090		5
2022	2022	Generator Sets	84	0.2694	0.3533	0.0340	0.0007	0.0075	0.0069		4
2022	2022	Graders	162	0.5732	0.5850	0.0807	0.0015	0.0107	0.0098		5
2022	2022	Off-Highway Tractors	160	0.6320	0.5778	0.1322	0.0017	0.0106	0.0097		5

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2022	2022	Off-Highway Trucks	381	0.5447	1.3759	0.1303	0.0027	0.0172	0.0158		6
2022	2022	Other Construction Equipment	327	0.3488	1.1809	0.0507	0.0013	0.0148	0.0136		6
2022	2022	Other General Industrial Equipment	150	0.4464	0.5417	0.0867	0.0016	0.0099	0.0091		5
2022	2022	Other Material Handling Equipment	196	0.4378	0.7078	0.0813	0.0015	0.0088	0.0081		6
2022	2022	Pavers	89	0.4840	0.3744	0.0870	0.0009	0.0080	0.0074		4
2022	2022	Paving Equipment	82	0.4042	0.3449	0.0666	0.0008	0.0074	0.0068		4
2022	2022	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014		1
2022	2022	Pressure Washers	13	0.0539	0.0963	0.0075	0.0001	0.0025	0.0023		1
2022	2022	Pumps	84	0.2640	0.3533	0.0322	0.0006	0.0075	0.0069		4
2022	2022	Rollers	84	0.3799	0.3533	0.0500	0.0008	0.0075	0.0069		4
2022	2022	Rough Terrain Forklifts	83	0.4445	0.3491	0.0467	0.0008	0.0075	0.0069		4
2022	2022	Rubber Tired Dozers	358	0.7353	1.2928	0.1919	0.0025	0.0162	0.0149		6
2022	2022	Rubber Tired Loaders	87	0.4359	0.3660	0.0661	0.0012	0.0078	0.0072		4
2022	2022	Scrapers	356	0.7579	1.2856	0.1724	0.0027	0.0161	0.0148		6
2022	2022	Signal Boards	6	0.0910	0.0444	0.0121	0.0002	0.0011	0.0010		1
2022	2022	Skid Steer Loaders	37	0.2114	0.2638	0.0204	0.0004	0.0050	0.0046		2
2022	2022	Surfacing Equipment	392	0.3778	1.4156	0.0739	0.0017	0.0177	0.0163		6
2022	2022	Sweepers/Scrubbers	88	0.4867	0.3702	0.0498	0.0009	0.0079	0.0073		4
2022	2022	Tractors/Loaders/Backhoes	75	0.3599	0.3155	0.0384	0.0008	0.0067	0.0062		4
2022	2022	Trenchers	69	0.4186	0.4920	0.0819	0.0007	0.0062	0.0057		3
2022	2022	Welders	46	0.1773	0.3280	0.0260	0.0003	0.0062	0.0057		2
2023	2023	Arial Lifts	34	0.1658	0.2424	0.0208	0.0004	0.0046	0.0042	34.7	2
2023	2023	Air Compressors	78	0.3035	0.3281	0.0390	0.0007	0.0070	0.0064	63.6	4
2023	2023	Bore/Drill Rigs	82	0.5007	0.3449	0.0436	0.0017	0.0074	0.0068	165	4
2023	2023	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0017	0.0016	7.2	1
2023	2023	Concrete/Industrial Saws	81	0.3728	0.3407	0.0382	0.0007	0.0073	0.0067	58.5	4
2023	2023	Cranes	208	0.3786	0.7511	0.0754	0.0014	0.0094	0.0086	129	6
2023	2023	Crawler Tractors	82	0.5125	0.3449	0.0879	0.0013	0.0074	0.0068	114	4
2023	2023	Crushing/Proc. Equipment	85	0.6199	0.3575	0.0773	0.0015	0.0076	0.0070	132	4
2023	2023	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0030	0.0028	7.6	1
2023	2023	Excavators	157	0.5097	0.5670	0.0615	0.0013	0.0104	0.0095	120	5
2023	2023	Forklifts	149	0.2146	0.5381	0.0259	0.0006	0.0098	0.0090	54.4	5
2023	2023	Generator Sets	84	0.2683	0.3533	0.0321	0.0007	0.0075	0.0069	61.0	4
2023	2023	Graders	162	0.5718	0.5850	0.0758	0.0015	0.0107	0.0098	133	5
2023	2023	Off-Highway Tractors	160	0.6238	0.5778	0.1255	0.0017	0.0106	0.0097	151	5
2023	2023	Off-Highway Trucks	381	0.5422	1.3759	0.1243	0.0027	0.0172	0.0158	260	6
2023	2023	Other Construction Equipment	327	0.3482	1.1809	0.0483	0.0013	0.0148	0.0136	123	6
2023	2023	Other General Industrial Equipment	150	0.4454	0.5417	0.0824	0.0016	0.0099	0.0091	152	5
2023	2023	Other Material Handling Equipment	196	0.4369	0.7078	0.0771	0.0015	0.0088	0.0081	141	6
2023	2023	Pavers	89	0.4805	0.3744	0.0815	0.0009	0.0080	0.0074	77.9	4
2023	2023	Paving Equipment	82	0.4024	0.3449	0.0624	0.0008	0.0074	0.0068	68.9	4
2023	2023	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014	4.3	1
2023	2023	Pressure Washers	13	0.0536	0.0963	0.0072	0.0001	0.0025	0.0023	9.4	1
2023	2023	Pumps	84	0.2631	0.3533	0.0302	0.0006	0.0075	0.0069	49.6	4
2023	2023	Rollers	84	0.3784	0.3533	0.0465	0.0008	0.0075	0.0069	67.0	4
2023	2023	Rough Terrain Forklifts	83	0.4439	0.3491	0.0439	0.0008	0.0075	0.0069	70.3	4
2023	2023	Rubber Tired Dozers	358	0.7078	1.2928	0.1830	0.0025	0.0162	0.0149	239	6
2023	2023	Rubber Tired Loaders	87	0.4340	0.3660	0.0622	0.0012	0.0078	0.0072	109	4
2023	2023	Scrapers	356	0.7432	1.2856	0.1641	0.0027	0.0161	0.0148	262	6

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2023	2023	Signal Boards	6	0.0909	0.0444	0.0117	0.0002	0.0011	0.0010	16.7	1
2023	2023	Skid Steer Loaders	37	0.2110	0.2638	0.0196	0.0004	0.0050	0.0046	30.3	2
2023	2023	Surfacing Equipment	392	0.3707	1.4156	0.0703	0.0017	0.0177	0.0163	166	6
2023	2023	Sweepers/Scrubbers	88	0.4855	0.3702	0.0464	0.0009	0.0079	0.0073	78.5	4
2023	2023	Tractors/Loaders/Backhoes	75	0.3593	0.3155	0.0365	0.0008	0.0067	0.0062	66.8	4
2023	2023	Trenchers	69	0.4150	0.4920	0.0767	0.0007	0.0062	0.0057	58.7	3
2023	2023	Welders	46	0.1762	0.3280	0.0242	0.0003	0.0062	0.0057	25.6	2
2024	2024	Arial Lifts	34	0.1652	0.2424	0.0195	0.0004	0.0046	0.0042	34.7	2
2024	2024	Air Compressors	78	0.3031	0.3281	0.0369	0.0007	0.0070	0.0064	63.6	4
2024	2024	Bore/Drill Rigs	82	0.5007	0.3449	0.0431	0.0017	0.0074	0.0068	165	4
2024	2024	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0017	0.0016	7.2	1
2024	2024	Concrete/Industrial Saws	81	0.3716	0.3407	0.0358	0.0007	0.0073	0.0067	58.5	4
2024	2024	Cranes	208	0.3759	0.7511	0.0715	0.0014	0.0094	0.0086	129	6
2024	2024	Crawler Tractors	82	0.5092	0.3449	0.0832	0.0013	0.0074	0.0068	114	4
2024	2024	Crushing/Proc. Equipment	85	0.6193	0.3575	0.0731	0.0015	0.0076	0.0070	132	4
2024	2024	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0030	0.0028	7.6	1
2024	2024	Excavators	157	0.5091	0.5670	0.0585	0.0013	0.0104	0.0095	120	5
2024	2024	Forklifts	149	0.2146	0.5381	0.0246	0.0006	0.0098	0.0090	54.4	5
2024	2024	Generator Sets	84	0.2674	0.3533	0.0303	0.0007	0.0075	0.0069	61.0	4
2024	2024	Graders	162	0.5706	0.5850	0.0714	0.0015	0.0107	0.0098	133	5
2024	2024	Off-Highway Tractors	160	0.6165	0.5778	0.1192	0.0017	0.0106	0.0097	151	5
2024	2024	Off-Highway Trucks	381	0.5401	1.3759	0.1189	0.0027	0.0172	0.0158	260	6
2024	2024	Other Construction Equipment	327	0.3477	1.1809	0.0462	0.0013	0.0148	0.0136	123	6
2024	2024	Other General Industrial Equipment	150	0.4446	0.5417	0.0784	0.0016	0.0099	0.0091	152	5
2024	2024	Other Material Handling Equipment	196	0.4362	0.7078	0.0733	0.0015	0.0088	0.0081	141	6
2024	2024	Pavers	89	0.4773	0.3744	0.0764	0.0009	0.0080	0.0074	77.9	4
2024	2024	Paving Equipment	82	0.4007	0.3449	0.0584	0.0008	0.0074	0.0068	68.9	4
2024	2024	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014	4.3	1
2024	2024	Pressure Washers	13	0.0534	0.0963	0.0069	0.0001	0.0025	0.0023	9.4	1
2024	2024	Pumps	84	0.2624	0.3533	0.0285	0.0006	0.0075	0.0069	49.6	4
2024	2024	Rollers	84	0.3772	0.3533	0.0435	0.0008	0.0075	0.0069	67.0	4
2024	2024	Rough Terrain Forklifts	83	0.4433	0.3491	0.0416	0.0008	0.0075	0.0069	70.3	4
2024	2024	Rubber Tired Dozers	358	0.6835	1.2928	0.1748	0.0025	0.0162	0.0149	239	6
2024	2024	Rubber Tired Loaders	87	0.4324	0.3660	0.0588	0.0012	0.0078	0.0072	109	4
2024	2024	Scrapers	356	0.7302	1.2856	0.1565	0.0027	0.0161	0.0148	262	6
2024	2024	Signal Boards	6	0.0909	0.0444	0.0114	0.0002	0.0011	0.0010	16.7	1
2024	2024	Skid Steer Loaders	37	0.2107	0.2638	0.0190	0.0004	0.0050	0.0046	30.3	2
2024	2024	Surfacing Equipment	392	0.3644	1.4156	0.0669	0.0017	0.0177	0.0163	166	6
2024	2024	Sweepers/Scrubbers	88	0.4846	0.3702	0.0434	0.0009	0.0079	0.0073	78.5	4
2024	2024	Tractors/Loaders/Backhoes	75	0.3589	0.3155	0.0349	0.0008	0.0067	0.0062	66.8	4
2024	2024	Trenchers	69	0.4116	0.4920	0.0719	0.0007	0.0062	0.0057	58.7	3
2024	2024	Welders	46	0.1753	0.3280	0.0227	0.0003	0.0062	0.0057	25.6	2
2025	2025	Arial Lifts	34	0.1646	0.2424	0.0184	0.0004	0.0046	0.0042	34.7	2
2025	2025	Air Compressors	78	0.3027	0.3281	0.0349	0.0007	0.0070	0.0064	63.6	4
2025	2025	Bore/Drill Rigs	82	0.5007	0.3449	0.0428	0.0017	0.0074	0.0068	165	4
2025	2025	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0017	0.0016	7.2	1
2025	2025	Concrete/Industrial Saws	81	0.3706	0.3407	0.0337	0.0007	0.0073	0.0067	58.5	4
2025	2025	Cranes	208	0.3738	0.7511	0.0681	0.0014	0.0094	0.0086	129	6
2025	2025	Crawler Tractors	82	0.5065	0.3449	0.0789	0.0013	0.0074	0.0068	114	4

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2025	2025	Crushing/Proc. Equipment	85	0.6187	0.3575	0.0693	0.0015	0.0076	0.0070	132	4
2025	2025	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0030	0.0028	7.6	1
2025	2025	Excavators	157	0.5086	0.5670	0.0559	0.0013	0.0104	0.0095	120	5
2025	2025	Forklifts	149	0.2148	0.5381	0.0236	0.0006	0.0098	0.0090	54.4	5
2025	2025	Generator Sets	84	0.2667	0.3533	0.0288	0.0007	0.0075	0.0069	61.0	4
2025	2025	Graders	162	0.5696	0.5850	0.0676	0.0015	0.0107	0.0098	133	5
2025	2025	Off-Highway Tractors	160	0.6101	0.5778	0.1134	0.0017	0.0106	0.0097	151	5
2025	2025	Off-Highway Trucks	381	0.5385	1.3759	0.1140	0.0027	0.0172	0.0158	260	6
2025	2025	Other Construction Equipment	327	0.3474	1.1809	0.0442	0.0013	0.0148	0.0136	123	6
2025	2025	Other General Industrial Equipment	150	0.4438	0.5417	0.0747	0.0016	0.0099	0.0091	152	5
2025	2025	Other Material Handling Equipment	196	0.4355	0.7078	0.0696	0.0015	0.0088	0.0081	141	6
2025	2025	Pavers	89	0.4745	0.3744	0.0717	0.0009	0.0080	0.0074	77.9	4
2025	2025	Paving Equipment	82	0.3993	0.3449	0.0548	0.0008	0.0074	0.0068	68.9	4
2025	2025	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014	4.3	1
2025	2025	Pressure Washers	13	0.0531	0.0963	0.0066	0.0001	0.0025	0.0023	9.4	1
2025	2025	Pumps	84	0.2617	0.3533	0.0270	0.0006	0.0075	0.0069	49.6	4
2025	2025	Rollers	84	0.3763	0.3533	0.0410	0.0008	0.0075	0.0069	67.0	4
2025	2025	Rough Terrain Forklifts	83	0.4430	0.3491	0.0396	0.0008	0.0075	0.0069	70.3	4
2025	2025	Rubber Tired Dozers	358	0.6620	1.2928	0.1672	0.0025	0.0162	0.0149	239	6
2025	2025	Rubber Tired Loaders	87	0.4311	0.3660	0.0559	0.0012	0.0078	0.0072	109	4
2025	2025	Scrapers	356	0.7187	1.2856	0.1495	0.0027	0.0161	0.0148	262	6
2025	2025	Signal Boards	6	0.0909	0.0444	0.0111	0.0002	0.0011	0.0010	16.7	1
2025	2025	Skid Steer Loaders	37	0.2104	0.2638	0.0186	0.0004	0.0050	0.0046	30.3	2
2025	2025	Surfacing Equipment	392	0.3590	1.4156	0.0638	0.0017	0.0177	0.0163	166	6
2025	2025	Sweepers/Scrubbers	88	0.4840	0.3702	0.0410	0.0009	0.0079	0.0073	78.5	4
2025	2025	Tractors/Loaders/Backhoes	75	0.3586	0.3155	0.0336	0.0008	0.0067	0.0062	66.8	4
2025	2025	Trenchers	69	0.4085	0.4920	0.0674	0.0007	0.0062	0.0057	58.7	3
2025	2025	Welders	46	0.1745	0.3280	0.0214	0.0003	0.0062	0.0057	25.6	2
2026	2026	Arial Lifts	34	0.1646	0.2424	0.0184	0.0004	0.0046	0.0042	34.7	2
2026	2026	Air Compressors	78	0.3027	0.3281	0.0349	0.0007	0.0070	0.0064	63.6	4
2026	2026	Bore/Drill Rigs	82	0.5007	0.3449	0.0428	0.0017	0.0074	0.0068	165	4
2026	2026	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0017	0.0016	7.2	1
2026	2026	Concrete/Industrial Saws	81	0.3706	0.3407	0.0337	0.0007	0.0073	0.0067	58.5	4
2026	2026	Cranes	208	0.3738	0.7511	0.0681	0.0014	0.0094	0.0086	129	6
2026	2026	Crawler Tractors	82	0.5065	0.3449	0.0789	0.0013	0.0074	0.0068	114	4
2026	2026	Crushing/Proc. Equipment	85	0.6187	0.3575	0.0693	0.0015	0.0076	0.0070	132	4
2026	2026	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0030	0.0028	7.6	1
2026	2026	Excavators	157	0.5086	0.5670	0.0559	0.0013	0.0104	0.0095	120	5
2026	2026	Forklifts	149	0.2148	0.5381	0.0236	0.0006	0.0098	0.0090	54.4	5
2026	2026	Generator Sets	84	0.2667	0.3533	0.0288	0.0007	0.0075	0.0069	61.0	4
2026	2026	Graders	162	0.5696	0.5850	0.0676	0.0015	0.0107	0.0098	133	5
2026	2026	Off-Highway Tractors	160	0.6101	0.5778	0.1134	0.0017	0.0106	0.0097	151	5
2026	2026	Off-Highway Trucks	381	0.5385	1.3759	0.1140	0.0027	0.0172	0.0158	260	6
2026	2026	Other Construction Equipment	327	0.3474	1.1809	0.0442	0.0013	0.0148	0.0136	123	6
2026	2026	Other General Industrial Equipment	150	0.4438	0.5417	0.0747	0.0016	0.0099	0.0091	152	5
2026	2026	Other Material Handling Equipment	196	0.4355	0.7078	0.0696	0.0015	0.0088	0.0081	141	6
2026	2026	Pavers	89	0.4745	0.3744	0.0717	0.0009	0.0080	0.0074	77.9	4
2026	2026	Paving Equipment	82	0.3993	0.3449	0.0548	0.0008	0.0074	0.0068	68.9	4
2026	2026	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014	4.3	1

Chiquita Canyon Landfill EIR

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

	Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range	
2026	2026Pressure Washers	Pressure Washers	13	0.0531	0.0963	0.0066	0.0001	0.0025	0.0023	9.4	1
2026	2026Pumps	Pumps	84	0.2617	0.3533	0.0270	0.0006	0.0075	0.0069	49.6	4
2026	2026Rollers	Rollers	84	0.3763	0.3533	0.0410	0.0008	0.0075	0.0069	67.0	4
2026	2026Rough Terrain Forklifts	Rough Terrain Forklifts	83	0.4430	0.3491	0.0396	0.0008	0.0075	0.0069	70.3	4
2026	2026Rubber Tired Dozers	Rubber Tired Dozers	358	0.6620	1.2928	0.1672	0.0025	0.0162	0.0149	239	6
2026	2026Rubber Tired Loaders	Rubber Tired Loaders	87	0.4311	0.3660	0.0559	0.0012	0.0078	0.0072	109	4
2026	2026Scrapers	Scrapers	356	0.7187	1.2856	0.1495	0.0027	0.0161	0.0148	262	6
2026	2026Signal Boards	Signal Boards	6	0.0909	0.0444	0.0111	0.0002	0.0011	0.0010	16.7	1
2026	2026Skid Steer Loaders	Skid Steer Loaders	37	0.2104	0.2638	0.0186	0.0004	0.0050	0.0046	30.3	2
2026	2026Surfacing Equipment	Surfacing Equipment	392	0.3590	1.4156	0.0638	0.0017	0.0177	0.0163	166	6
2026	2026Sweepers/Scrubbers	Sweepers/Scrubbers	88	0.4840	0.3702	0.0410	0.0009	0.0079	0.0073	78.5	4
2026	2026Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	75	0.3586	0.3155	0.0336	0.0008	0.0067	0.0062	66.8	4
2026	2026Trenchers	Trenchers	69	0.4085	0.4920	0.0674	0.0007	0.0062	0.0057	58.7	3
2026	2026Welders	Welders	46	0.1745	0.3280	0.0214	0.0003	0.0062	0.0057	25.6	2
2027	2027Aerial Lifts	Arial Lifts	34	0.1646	0.2424	0.0184	0.0004	0.0046	0.0042		2
2027	2027Air Compressors	Air Compressors	78	0.3027	0.3281	0.0349	0.0007	0.0070	0.0064		4
2027	2027Bore/Drill Rigs	Bore/Drill Rigs	82	0.5007	0.3449	0.0428	0.0017	0.0074	0.0068		4
2027	2027Cement and Mortar Mixers	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0017	0.0016		1
2027	2027Concrete/Industrial Saws	Concrete/Industrial Saws	81	0.3706	0.3407	0.0337	0.0007	0.0073	0.0067		4
2027	2027Cranes	Cranes	208	0.3738	0.7511	0.0681	0.0014	0.0094	0.0086		6
2027	2027Crawler Tractors	Crawler Tractors	82	0.5065	0.3449	0.0789	0.0013	0.0074	0.0068		4
2027	2027Crushing/Proc. Equipment	Crushing/Proc. Equipment	85	0.6187	0.3575	0.0693	0.0015	0.0076	0.0070		4
2027	2027Dumpers/Tenders	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0030	0.0028		1
2027	2027Excavators	Excavators	157	0.5086	0.5670	0.0559	0.0013	0.0104	0.0095		5
2027	2027Forklifts	Forklifts	149	0.2148	0.5381	0.0236	0.0006	0.0098	0.0090		5
2027	2027Generator Sets	Generator Sets	84	0.2667	0.3533	0.0288	0.0007	0.0075	0.0069		4
2027	2027Graders	Graders	162	0.5696	0.5850	0.0676	0.0015	0.0107	0.0098		5
2027	2027Off-Highway Tractors	Off-Highway Tractors	160	0.6101	0.5778	0.1134	0.0017	0.0106	0.0097		5
2027	2027Off-Highway Trucks	Off-Highway Trucks	381	0.5385	1.3759	0.1140	0.0027	0.0172	0.0158		6
2027	2027Other Construction Equipment	Other Construction Equipment	327	0.3474	1.1809	0.0442	0.0013	0.0148	0.0136		6
2027	2027Other General Industrial Equipm	Other General Industrial Equipment	150	0.4438	0.5417	0.0747	0.0016	0.0099	0.0091		5
2027	2027Other Material Handling Equipm	Other Material Handling Equipment	196	0.4355	0.7078	0.0696	0.0015	0.0088	0.0081		6
2027	2027Pavers	Pavers	89	0.4745	0.3744	0.0717	0.0009	0.0080	0.0074		4
2027	2027Paving Equipment	Paving Equipment	82	0.3993	0.3449	0.0548	0.0008	0.0074	0.0068		4
2027	2027Plate Compactors	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014		1
2027	2027Pressure Washers	Pressure Washers	13	0.0531	0.0963	0.0066	0.0001	0.0025	0.0023		1
2027	2027Pumps	Pumps	84	0.2617	0.3533	0.0270	0.0006	0.0075	0.0069		4
2027	2027Rollers	Rollers	84	0.3763	0.3533	0.0410	0.0008	0.0075	0.0069		4
2027	2027Rough Terrain Forklifts	Rough Terrain Forklifts	83	0.4430	0.3491	0.0396	0.0008	0.0075	0.0069		4
2027	2027Rubber Tired Dozers	Rubber Tired Dozers	358	0.6620	1.2928	0.1672	0.0025	0.0162	0.0149		6
2027	2027Rubber Tired Loaders	Rubber Tired Loaders	87	0.4311	0.3660	0.0559	0.0012	0.0078	0.0072		4
2027	2027Scrapers	Scrapers	356	0.7187	1.2856	0.1495	0.0027	0.0161	0.0148		6
2027	2027Signal Boards	Signal Boards	6	0.0909	0.0444	0.0111	0.0002	0.0011	0.0010		1
2027	2027Skid Steer Loaders	Skid Steer Loaders	37	0.2104	0.2638	0.0186	0.0004	0.0050	0.0046		2
2027	2027Surfacing Equipment	Surfacing Equipment	392	0.3590	1.4156	0.0638	0.0017	0.0177	0.0163		6
2027	2027Sweepers/Scrubbers	Sweepers/Scrubbers	88	0.4840	0.3702	0.0410	0.0009	0.0079	0.0073		4
2027	2027Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	75	0.3586	0.3155	0.0336	0.0008	0.0067	0.0062		4
2027	2027Trenchers	Trenchers	69	0.4085	0.4920	0.0674	0.0007	0.0062	0.0057		3
2027	2027Welders	Welders	46	0.1745	0.3280	0.0214	0.0003	0.0062	0.0057		2

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2028	2028	Arial Lifts	34	0.1646	0.2424	0.0184	0.0004	0.0046	0.0042		2
2028	2028	Air Compressors	78	0.3027	0.3281	0.0349	0.0007	0.0070	0.0064		4
2028	2028	Bore/Drill Rigs	82	0.5007	0.3449	0.0428	0.0017	0.0074	0.0068		4
2028	2028	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0017	0.0016		1
2028	2028	Concrete/Industrial Saws	81	0.3706	0.3407	0.0337	0.0007	0.0073	0.0067		4
2028	2028	Cranes	208	0.3738	0.7511	0.0681	0.0014	0.0094	0.0086		6
2028	2028	Crawler Tractors	82	0.5065	0.3449	0.0789	0.0013	0.0074	0.0068		4
2028	2028	Crushing/Proc. Equipment	85	0.6187	0.3575	0.0693	0.0015	0.0076	0.0070		4
2028	2028	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0030	0.0028		1
2028	2028	Excavators	157	0.5086	0.5670	0.0559	0.0013	0.0104	0.0095		5
2028	2028	Forklifts	149	0.2148	0.5381	0.0236	0.0006	0.0098	0.0090		5
2028	2028	Generator Sets	84	0.2667	0.3533	0.0288	0.0007	0.0075	0.0069		4
2028	2028	Graders	162	0.5696	0.5850	0.0676	0.0015	0.0107	0.0098		5
2028	2028	Off-Highway Tractors	160	0.6101	0.5778	0.1134	0.0017	0.0106	0.0097		5
2028	2028	Off-Highway Trucks	381	0.5385	1.3759	0.1140	0.0027	0.0172	0.0158		6
2028	2028	Other Construction Equipment	327	0.3474	1.1809	0.0442	0.0013	0.0148	0.0136		6
2028	2028	Other General Industrial Equipment	150	0.4438	0.5417	0.0747	0.0016	0.0099	0.0091		5
2028	2028	Other Material Handling Equipment	196	0.4355	0.7078	0.0696	0.0015	0.0088	0.0081		6
2028	2028	Pavers	89	0.4745	0.3744	0.0717	0.0009	0.0080	0.0074		4
2028	2028	Paving Equipment	82	0.3993	0.3449	0.0548	0.0008	0.0074	0.0068		4
2028	2028	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014		1
2028	2028	Pressure Washers	13	0.0531	0.0963	0.0066	0.0001	0.0025	0.0023		1
2028	2028	Pumps	84	0.2617	0.3533	0.0270	0.0006	0.0075	0.0069		4
2028	2028	Rollers	84	0.3763	0.3533	0.0410	0.0008	0.0075	0.0069		4
2028	2028	Rough Terrain Forklifts	83	0.4430	0.3491	0.0396	0.0008	0.0075	0.0069		4
2028	2028	Rubber Tired Dozers	358	0.6620	1.2928	0.1672	0.0025	0.0162	0.0149		6
2028	2028	Rubber Tired Loaders	87	0.4311	0.3660	0.0559	0.0012	0.0078	0.0072		4
2028	2028	Scrapers	356	0.7187	1.2856	0.1495	0.0027	0.0161	0.0148		6
2028	2028	Signal Boards	6	0.0909	0.0444	0.0111	0.0002	0.0011	0.0010		1
2028	2028	Skid Steer Loaders	37	0.2104	0.2638	0.0186	0.0004	0.0050	0.0046		2
2028	2028	Surfacing Equipment	392	0.3590	1.4156	0.0638	0.0017	0.0177	0.0163		6
2028	2028	Sweepers/Scrubbers	88	0.4840	0.3702	0.0410	0.0009	0.0079	0.0073		4
2028	2028	Tractors/Loaders/Backhoes	75	0.3586	0.3155	0.0336	0.0008	0.0067	0.0062		4
2028	2028	Trenchers	69	0.4085	0.4920	0.0674	0.0007	0.0062	0.0057		3
2028	2028	Welders	46	0.1745	0.3280	0.0214	0.0003	0.0062	0.0057		2
2029	2029	Arial Lifts	34	0.1646	0.2424	0.0184	0.0004	0.0046	0.0042		2
2029	2029	Air Compressors	78	0.3027	0.3281	0.0349	0.0007	0.0070	0.0064		4
2029	2029	Bore/Drill Rigs	82	0.5007	0.3449	0.0428	0.0017	0.0074	0.0068		4
2029	2029	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0017	0.0016		1
2029	2029	Concrete/Industrial Saws	81	0.3706	0.3407	0.0337	0.0007	0.0073	0.0067		4
2029	2029	Cranes	208	0.3738	0.7511	0.0681	0.0014	0.0094	0.0086		6
2029	2029	Crawler Tractors	82	0.5065	0.3449	0.0789	0.0013	0.0074	0.0068		4
2029	2029	Crushing/Proc. Equipment	85	0.6187	0.3575	0.0693	0.0015	0.0076	0.0070		4
2029	2029	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0030	0.0028		1
2029	2029	Excavators	157	0.5086	0.5670	0.0559	0.0013	0.0104	0.0095		5
2029	2029	Forklifts	149	0.2148	0.5381	0.0236	0.0006	0.0098	0.0090		5
2029	2029	Generator Sets	84	0.2667	0.3533	0.0288	0.0007	0.0075	0.0069		4
2029	2029	Graders	162	0.5696	0.5850	0.0676	0.0015	0.0107	0.0098		5
2029	2029	Off-Highway Tractors	160	0.6101	0.5778	0.1134	0.0017	0.0106	0.0097		5

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2029	2029Off-Highway Trucks	Off-Highway Trucks	381	0.5385	1.3759	0.1140	0.0027	0.0172	0.0158		6
2029	2029Other Construction Equipment	Other Construction Equipment	327	0.3474	1.1809	0.0442	0.0013	0.0148	0.0136		6
2029	2029Other General Industrial Equipm	Other General Industrial Equipment	150	0.4438	0.5417	0.0747	0.0016	0.0099	0.0091		5
2029	2029Other Material Handling Equipm	Other Material Handling Equipment	196	0.4355	0.7078	0.0696	0.0015	0.0088	0.0081		6
2029	2029Pavers	Pavers	89	0.4745	0.3744	0.0717	0.0009	0.0080	0.0074		4
2029	2029Paving Equipment	Paving Equipment	82	0.3993	0.3449	0.0548	0.0008	0.0074	0.0068		4
2029	2029Plate Compactors	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014		1
2029	2029Pressure Washers	Pressure Washers	13	0.0531	0.0963	0.0066	0.0001	0.0025	0.0023		1
2029	2029Pumps	Pumps	84	0.2617	0.3533	0.0270	0.0006	0.0075	0.0069		4
2029	2029Rollers	Rollers	84	0.3763	0.3533	0.0410	0.0008	0.0075	0.0069		4
2029	2029Rough Terrain Forklifts	Rough Terrain Forklifts	83	0.4430	0.3491	0.0396	0.0008	0.0075	0.0069		4
2029	2029Rubber Tired Dozers	Rubber Tired Dozers	358	0.6620	1.2928	0.1672	0.0025	0.0162	0.0149		6
2029	2029Rubber Tired Loaders	Rubber Tired Loaders	87	0.4311	0.3660	0.0559	0.0012	0.0078	0.0072		4
2029	2029Scrapers	Scrapers	356	0.7187	1.2856	0.1495	0.0027	0.0161	0.0148		6
2029	2029Signal Boards	Signal Boards	6	0.0909	0.0444	0.0111	0.0002	0.0011	0.0010		1
2029	2029Skid Steer Loaders	Skid Steer Loaders	37	0.2104	0.2638	0.0186	0.0004	0.0050	0.0046		2
2029	2029Surfacing Equipment	Surfacing Equipment	392	0.3590	1.4156	0.0638	0.0017	0.0177	0.0163		6
2029	2029Sweepers/Scrubbers	Sweepers/Scrubbers	88	0.4840	0.3702	0.0410	0.0009	0.0079	0.0073		4
2029	2029Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	75	0.3586	0.3155	0.0336	0.0008	0.0067	0.0062		4
2029	2029Trenchers	Trenchers	69	0.4085	0.4920	0.0674	0.0007	0.0062	0.0057		3
2029	2029Welders	Welders	46	0.1745	0.3280	0.0214	0.0003	0.0062	0.0057		2
2030	2030Aerial Lifts	Aerial Lifts	34	0.1646	0.2424	0.0184	0.0004	0.0046	0.0042	34.7	2
2030	2030Air Compressors	Air Compressors	78	0.3027	0.3281	0.0349	0.0007	0.0070	0.0064	63.6	4
2030	2030Bore/Drill Rigs	Bore/Drill Rigs	82	0.5007	0.3449	0.0428	0.0017	0.0074	0.0068	165	4
2030	2030Cement and Mortar Mixers	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0017	0.0016	7.2	1
2030	2030Concrete/Industrial Saws	Concrete/Industrial Saws	81	0.3706	0.3407	0.0337	0.0007	0.0073	0.0067	58.5	4
2030	2030Cranes	Cranes	208	0.3738	0.7511	0.0681	0.0014	0.0094	0.0086	129	6
2030	2030Crawler Tractors	Crawler Tractors	82	0.5065	0.3449	0.0789	0.0013	0.0074	0.0068	114	4
2030	2030Crushing/Proc. Equipment	Crushing/Proc. Equipment	85	0.6187	0.3575	0.0693	0.0015	0.0076	0.0070	132	4
2030	2030Dumpers/Tenders	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0030	0.0028	7.6	1
2030	2030Excavators	Excavators	157	0.5086	0.5670	0.0559	0.0013	0.0104	0.0095	120	5
2030	2030Forklifts	Forklifts	149	0.2148	0.5381	0.0236	0.0006	0.0098	0.0090	54.4	5
2030	2030Generator Sets	Generator Sets	84	0.2667	0.3533	0.0288	0.0007	0.0075	0.0069	61.0	4
2030	2030Graders	Graders	162	0.5696	0.5850	0.0676	0.0015	0.0107	0.0098	133	5
2030	2030Off-Highway Tractors	Off-Highway Tractors	160	0.6101	0.5778	0.1134	0.0017	0.0106	0.0097	151	5
2030	2030Off-Highway Trucks	Off-Highway Trucks	381	0.5385	1.3759	0.1140	0.0027	0.0172	0.0158	260	6
2030	2030Other Construction Equipment	Other Construction Equipment	327	0.3474	1.1809	0.0442	0.0013	0.0148	0.0136	123	6
2030	2030Other General Industrial Equipm	Other General Industrial Equipment	150	0.4438	0.5417	0.0747	0.0016	0.0099	0.0091	152	5
2030	2030Other Material Handling Equipm	Other Material Handling Equipment	196	0.4355	0.7078	0.0696	0.0015	0.0088	0.0081	141	6
2030	2030Pavers	Pavers	89	0.4745	0.3744	0.0717	0.0009	0.0080	0.0074	77.9	4
2030	2030Paving Equipment	Paving Equipment	82	0.3993	0.3449	0.0548	0.0008	0.0074	0.0068	68.9	4
2030	2030Plate Compactors	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014	4.3	1
2030	2030Pressure Washers	Pressure Washers	13	0.0531	0.0963	0.0066	0.0001	0.0025	0.0023	9.4	1
2030	2030Pumps	Pumps	84	0.2617	0.3533	0.0270	0.0006	0.0075	0.0069	49.6	4
2030	2030Rollers	Rollers	84	0.3763	0.3533	0.0410	0.0008	0.0075	0.0069	67.0	4
2030	2030Rough Terrain Forklifts	Rough Terrain Forklifts	83	0.4430	0.3491	0.0396	0.0008	0.0075	0.0069	70.3	4
2030	2030Rubber Tired Dozers	Rubber Tired Dozers	358	0.6620	1.2928	0.1672	0.0025	0.0162	0.0149	239	6
2030	2030Rubber Tired Loaders	Rubber Tired Loaders	87	0.4311	0.3660	0.0559	0.0012	0.0078	0.0072	109	4
2030	2030Scrapers	Scrapers	356	0.7187	1.2856	0.1495	0.0027	0.0161	0.0148	262	6



Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2030	2030	Signal Boards	6	0.0909	0.0444	0.0111	0.0002	0.0011	0.0010	16.7	1
2030	2030	Skid Steer Loaders	37	0.2104	0.2638	0.0186	0.0004	0.0050	0.0046	30.3	2
2030	2030	Surfacing Equipment	392	0.3590	1.4156	0.0638	0.0017	0.0177	0.0163	166	6
2030	2030	Sweepers/Scrubbers	88	0.4840	0.3702	0.0410	0.0009	0.0079	0.0073	78.5	4
2030	2030	Tractors/Loaders/Backhoes	75	0.3586	0.3155	0.0336	0.0008	0.0067	0.0062	66.8	4
2030	2030	Trenchers	69	0.4085	0.4920	0.0674	0.0007	0.0062	0.0057	58.7	3
2030	2030	Welders	46	0.1745	0.3280	0.0214	0.0003	0.0062	0.0057	25.6	2
2031	2031	Arial Lifts	34	0.1646	0.2424	0.0184	0.0004	0.0046	0.0042		2
2031	2031	Air Compressors	78	0.3027	0.3281	0.0349	0.0007	0.0070	0.0064		4
2031	2031	Bore/Drill Rigs	82	0.5007	0.3449	0.0428	0.0017	0.0074	0.0068		4
2031	2031	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0017	0.0016		1
2031	2031	Concrete/Industrial Saws	81	0.3706	0.3407	0.0337	0.0007	0.0073	0.0067		4
2031	2031	Cranes	208	0.3738	0.7511	0.0681	0.0014	0.0094	0.0086		6
2031	2031	Crawler Tractors	82	0.5065	0.3449	0.0789	0.0013	0.0074	0.0068		4
2031	2031	Crushing/Proc. Equipment	85	0.6187	0.3575	0.0693	0.0015	0.0076	0.0070		4
2031	2031	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0030	0.0028		1
2031	2031	Excavators	157	0.5086	0.5670	0.0559	0.0013	0.0104	0.0095		5
2031	2031	Forklifts	149	0.2148	0.5381	0.0236	0.0006	0.0098	0.0090		5
2031	2031	Generator Sets	84	0.2667	0.3533	0.0288	0.0007	0.0075	0.0069		4
2031	2031	Graders	162	0.5696	0.5850	0.0676	0.0015	0.0107	0.0098		5
2031	2031	Off-Highway Tractors	160	0.6101	0.5778	0.1134	0.0017	0.0106	0.0097		5
2031	2031	Off-Highway Trucks	381	0.5385	1.3759	0.1140	0.0027	0.0172	0.0158		6
2031	2031	Other Construction Equipment	327	0.3474	1.1809	0.0442	0.0013	0.0148	0.0136		6
2031	2031	Other General Industrial Equipment	150	0.4438	0.5417	0.0747	0.0016	0.0099	0.0091		5
2031	2031	Other Material Handling Equipment	196	0.4355	0.7078	0.0696	0.0015	0.0088	0.0081		6
2031	2031	Pavers	89	0.4745	0.3744	0.0717	0.0009	0.0080	0.0074		4
2031	2031	Paving Equipment	82	0.3993	0.3449	0.0548	0.0008	0.0074	0.0068		4
2031	2031	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014		1
2031	2031	Pressure Washers	13	0.0531	0.0963	0.0066	0.0001	0.0025	0.0023		1
2031	2031	Pumps	84	0.2617	0.3533	0.0270	0.0006	0.0075	0.0069		4
2031	2031	Rollers	84	0.3763	0.3533	0.0410	0.0008	0.0075	0.0069		4
2031	2031	Rough Terrain Forklifts	83	0.4430	0.3491	0.0396	0.0008	0.0075	0.0069		4
2031	2031	Rubber Tired Dozers	358	0.6620	1.2928	0.1672	0.0025	0.0162	0.0149		6
2031	2031	Rubber Tired Loaders	87	0.4311	0.3660	0.0559	0.0012	0.0078	0.0072		4
2031	2031	Scrapers	356	0.7187	1.2856	0.1495	0.0027	0.0161	0.0148		6
2031	2031	Signal Boards	6	0.0909	0.0444	0.0111	0.0002	0.0011	0.0010		1
2031	2031	Skid Steer Loaders	37	0.2104	0.2638	0.0186	0.0004	0.0050	0.0046		2
2031	2031	Surfacing Equipment	392	0.3590	1.4156	0.0638	0.0017	0.0177	0.0163		6
2031	2031	Sweepers/Scrubbers	88	0.4840	0.3702	0.0410	0.0009	0.0079	0.0073		4
2031	2031	Tractors/Loaders/Backhoes	75	0.3586	0.3155	0.0336	0.0008	0.0067	0.0062		4
2031	2031	Trenchers	69	0.4085	0.4920	0.0674	0.0007	0.0062	0.0057		3
2031	2031	Welders	46	0.1745	0.3280	0.0214	0.0003	0.0062	0.0057		2
2035	2035	Arial Lifts	34	0.1646	0.2424	0.0184	0.0004	0.0046	0.0042		2
2035	2035	Air Compressors	78	0.3027	0.3281	0.0349	0.0007	0.0070	0.0064		4
2035	2035	Bore/Drill Rigs	82	0.5007	0.3449	0.0428	0.0017	0.0074	0.0068		4
2035	2035	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0017	0.0016		1
2035	2035	Concrete/Industrial Saws	81	0.3706	0.3407	0.0337	0.0007	0.0073	0.0067		4
2035	2035	Cranes	208	0.3738	0.7511	0.0681	0.0014	0.0094	0.0086		6
2035	2035	Crawler Tractors	82	0.5065	0.3449	0.0789	0.0013	0.0074	0.0068		4

**Chiquita Canyon Landfill EIR**

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2035	2035Crushing/Proc. Equipment	Crushing/Proc. Equipment	85	0.6187	0.3575	0.0693	0.0015	0.0076	0.0070		4
2035	2035Dumpers/Tenders	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0030	0.0028		1
2035	2035Excavators	Excavators	157	0.5086	0.5670	0.0559	0.0013	0.0104	0.0095		5
2035	2035Forklifts	Forklifts	149	0.2148	0.5381	0.0236	0.0006	0.0098	0.0090		5
2035	2035Generator Sets	Generator Sets	84	0.2667	0.3533	0.0288	0.0007	0.0075	0.0069		4
2035	2035Graders	Graders	162	0.5696	0.5850	0.0676	0.0015	0.0107	0.0098		5
2035	2035Off-Highway Tractors	Off-Highway Tractors	160	0.6101	0.5778	0.1134	0.0017	0.0106	0.0097		5
2035	2035Off-Highway Trucks	Off-Highway Trucks	381	0.5385	1.3759	0.1140	0.0027	0.0172	0.0158		6
2035	2035Other Construction Equipment	Other Construction Equipment	327	0.3474	1.1809	0.0442	0.0013	0.0148	0.0136		6
2035	2035Other General Industrial Equipm	Other General Industrial Equipment	150	0.4438	0.5417	0.0747	0.0016	0.0099	0.0091		5
2035	2035Other Material Handling Equipm	Other Material Handling Equipment	196	0.4355	0.7078	0.0696	0.0015	0.0088	0.0081		6
2035	2035Pavers	Pavers	89	0.4745	0.3744	0.0717	0.0009	0.0080	0.0074		4
2035	2035Paving Equipment	Paving Equipment	82	0.3993	0.3449	0.0548	0.0008	0.0074	0.0068		4
2035	2035Plate Compactors	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0015	0.0014		1
2035	2035Pressure Washers	Pressure Washers	13	0.0531	0.0963	0.0066	0.0001	0.0025	0.0023		1
2035	2035Pumps	Pumps	84	0.2617	0.3533	0.0270	0.0006	0.0075	0.0069		4
2035	2035Rollers	Rollers	84	0.3763	0.3533	0.0410	0.0008	0.0075	0.0069		4
2035	2035Rough Terrain Forklifts	Rough Terrain Forklifts	83	0.4430	0.3491	0.0396	0.0008	0.0075	0.0069		4
2035	2035Rubber Tired Dozers	Rubber Tired Dozers	358	0.6620	1.2928	0.1672	0.0025	0.0162	0.0149		6
2035	2035Rubber Tired Loaders	Rubber Tired Loaders	87	0.4311	0.3660	0.0559	0.0012	0.0078	0.0072		4
2035	2035Scrapers	Scrapers	356	0.7187	1.2856	0.1495	0.0027	0.0161	0.0148		6
2035	2035Signal Boards	Signal Boards	6	0.0909	0.0444	0.0111	0.0002	0.0011	0.0010		1
2035	2035Skid Steer Loaders	Skid Steer Loaders	37	0.2104	0.2638	0.0186	0.0004	0.0050	0.0046		2
2035	2035Surfacing Equipment	Surfacing Equipment	392	0.3590	1.4156	0.0638	0.0017	0.0177	0.0163		6
2035	2035Sweepers/Scrubbers	Sweepers/Scrubbers	88	0.4840	0.3702	0.0410	0.0009	0.0079	0.0073		4
2035	2035Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	75	0.3586	0.3155	0.0336	0.0008	0.0067	0.0062		4
2035	2035Trenchers	Trenchers	69	0.4085	0.4920	0.0674	0.0007	0.0062	0.0057		3
2035	2035Welders	Welders	46	0.1745	0.3280	0.0214	0.0003	0.0062	0.0057		2

Source: SCAQMD CEQA Handbook website: <http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html>

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 and PM10 emission factors taken as a combination of the Tier 3 and Tier 4 emission standards based on the required BACT turnover rate for large fleets per the ARB's Diesel Off-road Equipment Regulation (13 CCR 2449). Source: Table 1. ARB and USEPA Off-Road Compression-Ignition (Diesel) Engine Standards (NMHC+NOx/CO/PM in g/bhp-hr):

[http://www.arb.ca.gov/msprog/ordiesel/documents/Off-Road\\_Diesel\\_Std.s.xls](http://www.arb.ca.gov/msprog/ordiesel/documents/Off-Road_Diesel_Std.s.xls).

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](http://www.aqmd.gov/ceqa/handbook/PM2_5/finalAppA.doc)).

Default hp taken from CalEEMod User Guide Appendix D, Table 3.3 (February 2011).

Off-road diesel equipment would be equipped with diesel particulate filters as a project control.

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2014	2014	Arial Lifts	34	0.1877	0.1574	0.0483	0.0004	0.0002	0.0002	34.7	2
2014	2014	Air Compressors	78	0.3313	0.0310	0.0842	0.0007	0.0004	0.0004	63.6	4
2014	2014	Bore/Drill Rigs	82	0.5030	0.0325	0.0729	0.0017	0.0004	0.0004	165	4
2014	2014	Cement and Mortar Mixers	9	0.0420	0.0667	0.0089	0.0001	0.0009	0.0008	7.2	1
2014	2014	Concrete/Industrial Saws	81	0.4031	0.0321	0.0917	0.0007	0.0004	0.0004	58.5	4
2014	2014	Cranes	208	0.4553	0.0825	0.1276	0.0014	0.0010	0.0009	129	6
2014	2014	Crawler Tractors	82	0.5767	0.0325	0.1499	0.0013	0.0004	0.0004	114	4
2014	2014	Crushing/Proc. Equipment	85	0.6651	0.0337	0.1597	0.0015	0.0004	0.0004	132	4
2014	2014	Dumpers/Tenders	16	0.0317	0.1185	0.0095	0.0001	0.0016	0.0015	7.6	1
2014	2014	Excavators	157	0.5289	0.0623	0.1143	0.0013	0.0008	0.0007	120.0	5
2014	2014	Forklifts	149	0.2215	0.0591	0.0497	0.0006	0.0007	0.0007	54.4	5
2014	2014	Generator Sets	84	0.2974	0.0333	0.0702	0.0007	0.0004	0.0004	61.0	4
2014	2014	Graders	162	0.5987	0.0643	0.1362	0.0015	0.0008	0.0007	133	5
2014	2014	Off-Highway Tractors	160	0.7438	0.0635	0.1986	0.0017	0.0008	0.0007	151	5
2014	2014	Off-Highway Trucks	381	0.6148	0.1512	0.2034	0.0027	0.0019	0.0017	260	6
2014	2014	Other Construction Equipment	327	0.3697	0.1298	0.0820	0.0013	0.0016	0.0015	123	6
2014	2014	Other General Industrial Equipment	150	0.4985	0.0595	0.1448	0.0016	0.0007	0.0007	152	5
2014	2014	Other Material Handling Equipment	196	0.4814	0.0778	0.1381	0.0015	0.0010	0.0009	141	6
2014	2014	Pavers	89	0.5277	0.0353	0.1429	0.0009	0.0004	0.0004	77.9	4
2014	2014	Paving Equipment	82	0.4273	0.0325	0.1082	0.0008	0.0004	0.0004	68.9	4
2014	2014	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007	4.3	1
2014	2014	Pressure Washers	13	0.0603	0.0963	0.0145	0.0001	0.0013	0.0012	9.4	1
2014	2014	Pumps	84	0.2873	0.0333	0.0683	0.0006	0.0004	0.0004	49.6	4
2014	2014	Rollers	84	0.4018	0.0333	0.0912	0.0008	0.0004	0.0004	67.1	4
2014	2014	Rough Terrain Forklifts	83	0.4608	0.0329	0.0929	0.0008	0.0004	0.0004	70.3	4
2014	2014	Rubber Tired Dozers	358	1.1058	0.1421	0.2854	0.0025	0.0018	0.0016	239	6
2014	2014	Rubber Tired Loaders	87	0.4683	0.0345	0.1122	0.0012	0.0004	0.0004	109	4
2014	2014	Scrapers	356	0.9890	0.1413	0.2648	0.0027	0.0018	0.0016	262	6
2014	2014	Signal Boards	6	0.0929	0.0444	0.0181	0.0002	0.0006	0.0005	16.7	1
2014	2014	Skid Steer Loaders	37	0.2262	0.1713	0.0406	0.0004	0.0002	0.0002	30.3	2
2014	2014	Surfacing Equipment	392	0.4930	0.1556	0.1194	0.0017	0.0019	0.0018	166	6
2014	2014	Sweepers/Scrubbers	88	0.5086	0.0349	0.1029	0.0009	0.0004	0.0004	78.5	4
2014	2014	Tractors/Loaders/Backhoes	75	0.3747	0.0298	0.0728	0.0008	0.0004	0.0003	66.8	4
2014	2014	Trenchers	69	0.4606	0.3195	0.1350	0.0007	0.0005	0.0004	58.7	3
2014	2014	Welders	46	0.2041	0.2130	0.0589	0.0003	0.0003	0.0003	25.6	2
2015	2015	Arial Lifts	34	0.1837	0.1574	0.0439	0.0004	0.0002	0.0002	34.7	2
2015	2015	Air Compressors	78	0.3257	0.0310	0.0773	0.0007	0.0004	0.0004	63.6	4
2015	2015	Bore/Drill Rigs	82	0.5022	0.0325	0.0673	0.0017	0.0004	0.0004	165	4
2015	2015	Cement and Mortar Mixers	9	0.0419	0.0667	0.0088	0.0001	0.0009	0.0008	7.2	1
2015	2015	Concrete/Industrial Saws	81	0.3982	0.0321	0.0835	0.0007	0.0004	0.0004	58.5	4
2015	2015	Cranes	208	0.4395	0.0825	0.1204	0.0014	0.0010	0.0009	129	6
2015	2015	Crawler Tractors	82	0.5650	0.0325	0.1415	0.0013	0.0004	0.0004	114	4
2015	2015	Crushing/Proc. Equipment	85	0.6549	0.0337	0.1465	0.0015	0.0004	0.0004	132	4
2015	2015	Dumpers/Tenders	16	0.0315	0.1185	0.0093	0.0001	0.0016	0.0015	7.6	1
2015	2015	Excavators	157	0.5248	0.0623	0.1064	0.0013	0.0008	0.0007	120	5
2015	2015	Forklifts	149	0.2200	0.0591	0.0459	0.0006	0.0007	0.0007	54.4	5
2015	2015	Generator Sets	84	0.2913	0.0333	0.0640	0.0007	0.0004	0.0004	61.0	4
2015	2015	Graders	162	0.5931	0.0643	0.1277	0.0015	0.0008	0.0007	133	5
2015	2015	Off-Highway Tractors	160	0.7244	0.0635	0.1893	0.0017	0.0008	0.0007	151	5

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2015	2015Off-Highway Trucks	Off-Highway Trucks	381	0.5974	0.1512	0.1924	0.0027	0.0019	0.0017	260	6
2015	2015Other Construction Equipment	Other Construction Equipment	327	0.3645	0.1298	0.0768	0.0013	0.0016	0.0015	123	6
2015	2015Other General Industrial Equipm	Other General Industrial Equipment	150	0.4843	0.0595	0.1355	0.0016	0.0007	0.0007	152	5
2015	2015Other Material Handling Equipm	Other Material Handling Equipment	196	0.4698	0.0778	0.1289	0.0015	0.0010	0.0009	141	6
2015	2015Pavers	Pavers	89	0.5203	0.0353	0.1347	0.0009	0.0004	0.0004	77.9	4
2015	2015Paving Equipment	Paving Equipment	82	0.4234	0.0325	0.1023	0.0008	0.0004	0.0004	68.9	4
2015	2015Plate Compactors	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007	4.3	1
2015	2015Pressure Washers	Pressure Washers	13	0.0590	0.0963	0.0133	0.0001	0.0013	0.0012	9.4	1
2015	2015Pumps	Pumps	84	0.2825	0.0333	0.0621	0.0006	0.0004	0.0004	49.6	4
2015	2015Rollers	Rollers	84	0.3979	0.0333	0.0851	0.0008	0.0004	0.0004	67.0	4
2015	2015Rough Terrain Forklifts	Rough Terrain Forklifts	83	0.4577	0.0329	0.0850	0.0008	0.0004	0.0004	70.3	4
2015	2015Rubber Tired Dozers	Rubber Tired Dozers	358	1.0420	0.1421	0.2721	0.0025	0.0018	0.0016	239	6
2015	2015Rubber Tired Loaders	Rubber Tired Loaders	87	0.4615	0.0345	0.1050	0.0012	0.0004	0.0004	109	4
2015	2015Scrapers	Scrapers	356	0.9443	0.1413	0.2513	0.0027	0.0018	0.0016	262	6
2015	2015Signal Boards	Signal Boards	6	0.0925	0.0444	0.0171	0.0002	0.0006	0.0005	16.7	1
2015	2015Skid Steer Loaders	Skid Steer Loaders	37	0.2220	0.1713	0.0352	0.0004	0.0002	0.0002	30.3	2
2015	2015Surfacing Equipment	Surfacing Equipment	392	0.4705	0.1556	0.1116	0.0017	0.0019	0.0018	166	6
2015	2015Sweepers/Scrubbers	Sweepers/Scrubbers	88	0.5034	0.0349	0.0913	0.0009	0.0004	0.0004	78.5	4
2015	2015Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	75	0.3716	0.0298	0.0666	0.0008	0.0004	0.0003	66.8	4
2015	2015Trenchers	Trenchers	69	0.4541	0.3195	0.1274	0.0007	0.0005	0.0004	58.7	3
2015	2015Welders	Welders	46	0.1994	0.2130	0.0534	0.0003	0.0003	0.0003	25.6	2
2016	2016Aerial Lifts	Aerial Lifts	34	0.1800	0.1574	0.0397	0.0004	0.0002	0.0002	34.7	2
2016	2016Air Compressors	Air Compressors	78	0.3207	0.0310	0.0704	0.0007	0.0004	0.0004	63.6	4
2016	2016Bore/Drill Rigs	Bore/Drill Rigs	82	0.5016	0.0325	0.0623	0.0017	0.0004	0.0004	165	4
2016	2016Cement and Mortar Mixers	Cement and Mortar Mixers	9	0.0418	0.0667	0.0088	0.0001	0.0009	0.0008	7.2	1
2016	2016Concrete/Industrial Saws	Concrete/Industrial Saws	81	0.3936	0.0321	0.0756	0.0007	0.0004	0.0004	58.5	4
2016	2016Cranes	Cranes	208	0.4263	0.0825	0.1137	0.0014	0.0010	0.0009	129	6
2016	2016Crawler Tractors	Crawler Tractors	82	0.5549	0.0325	0.1335	0.0013	0.0004	0.0004	114	4
2016	2016Crushing/Proc. Equipment	Crushing/Proc. Equipment	85	0.6461	0.0337	0.1337	0.0015	0.0004	0.0004	132	4
2016	2016Dumpers/Tenders	Dumpers/Tenders	16	0.0314	0.1185	0.0093	0.0001	0.0016	0.0015	7.6	1
2016	2016Excavators	Excavators	157	0.5213	0.0623	0.0988	0.0013	0.0008	0.0007	120	5
2016	2016Forklifts	Forklifts	149	0.2190	0.0591	0.0427	0.0006	0.0007	0.0007	54.4	5
2016	2016Generator Sets	Generator Sets	84	0.2862	0.0333	0.0581	0.0007	0.0004	0.0004	61.0	4
2016	2016Graders	Graders	162	0.5883	0.0643	0.1197	0.0015	0.0008	0.0007	133	5
2016	2016Off-Highway Tractors	Off-Highway Tractors	160	0.7067	0.0635	0.1803	0.0017	0.0008	0.0007	151	5
2016	2016Off-Highway Trucks	Off-Highway Trucks	381	0.5831	0.1512	0.1816	0.0027	0.0019	0.0017	260	6
2016	2016Other Construction Equipment	Other Construction Equipment	327	0.3602	0.1298	0.0720	0.0013	0.0016	0.0015	123	6
2016	2016Other General Industrial Equipm	Other General Industrial Equipment	150	0.4731	0.0595	0.1267	0.0016	0.0007	0.0007	152	5
2016	2016Other Material Handling Equipm	Other Material Handling Equipment	196	0.4608	0.0778	0.1202	0.0015	0.0010	0.0009	141	6
2016	2016Pavers	Pavers	89	0.5135	0.0353	0.1269	0.0009	0.0004	0.0004	77.9	4
2016	2016Paving Equipment	Paving Equipment	82	0.4198	0.0325	0.0965	0.0008	0.0004	0.0004	68.9	4
2016	2016Plate Compactors	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007	4.3	1
2016	2016Pressure Washers	Pressure Washers	13	0.0579	0.0963	0.0121	0.0001	0.0013	0.0012	9.4	1
2016	2016Pumps	Pumps	84	0.2785	0.0333	0.0562	0.0006	0.0004	0.0004	49.6	4
2016	2016Rollers	Rollers	84	0.3944	0.0333	0.0792	0.0008	0.0004	0.0004	67.0	4
2016	2016Rough Terrain Forklifts	Rough Terrain Forklifts	83	0.4549	0.0329	0.0775	0.0008	0.0004	0.0004	70.3	4
2016	2016Rubber Tired Dozers	Rubber Tired Dozers	358	0.9834	0.1421	0.2591	0.0025	0.0018	0.0016	239	6
2016	2016Rubber Tired Loaders	Rubber Tired Loaders	87	0.4557	0.0345	0.0983	0.0012	0.0004	0.0004	109	4
2016	2016Scrapers	Scrapers	356	0.9053	0.1413	0.2383	0.0027	0.0018	0.0016	262	6

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2016	2016	Signal Boards	6	0.0921	0.0444	0.0161	0.0002	0.0006	0.0005	16.7	1
2016	2016	Skid Steer Loaders	37	0.2184	0.1713	0.0305	0.0004	0.0002	0.0002	30.3	2
2016	2016	Surfacing Equipment	392	0.4506	0.1556	0.1045	0.0017	0.0019	0.0018	166	6
2016	2016	Sweepers/Scrubbers	88	0.4988	0.0349	0.0810	0.0009	0.0004	0.0004	78.5	4
2016	2016	Tractors/Loaders/Backhoes	75	0.3689	0.0298	0.0610	0.0008	0.0004	0.0003	66.8	4
2016	2016	Trenchers	69	0.4479	0.3195	0.1200	0.0007	0.0005	0.0004	58.7	3
2016	2016	Welders	46	0.1951	0.2130	0.0482	0.0003	0.0003	0.0003	25.6	2
2017	2017	Arial Lifts	34	0.1768	0.1574	0.0358	0.0004	0.0002	0.0002		2
2017	2017	Air Compressors	78	0.3165	0.0310	0.0641	0.0007	0.0004	0.0004		4
2017	2017	Bore/Drill Rigs	82	0.5013	0.0325	0.0578	0.0017	0.0004	0.0004		4
2017	2017	Cement and Mortar Mixers	9	0.0417	0.0667	0.0087	0.0001	0.0009	0.0008		1
2017	2017	Concrete/Industrial Saws	81	0.3892	0.0321	0.0679	0.0007	0.0004	0.0004		4
2017	2017	Cranes	208	0.4152	0.0825	0.1073	0.0014	0.0010	0.0009		6
2017	2017	Crawler Tractors	82	0.5464	0.0325	0.1258	0.0013	0.0004	0.0004		4
2017	2017	Crushing/Proc. Equipment	85	0.6388	0.0337	0.1219	0.0015	0.0004	0.0004		4
2017	2017	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0016	0.0015		1
2017	2017	Excavators	157	0.5184	0.0623	0.0916	0.0013	0.0008	0.0007		5
2017	2017	Forklifts	149	0.2181	0.0591	0.0399	0.0006	0.0007	0.0007		5
2017	2017	Generator Sets	84	0.2821	0.0333	0.0527	0.0007	0.0004	0.0004		4
2017	2017	Graders	162	0.5844	0.0643	0.1121	0.0015	0.0008	0.0007		5
2017	2017	Off-Highway Tractors	160	0.6906	0.0635	0.1716	0.0017	0.0008	0.0007		5
2017	2017	Off-Highway Trucks	381	0.5722	0.1512	0.1712	0.0027	0.0019	0.0017		6
2017	2017	Other Construction Equipment	327	0.3568	0.1298	0.0675	0.0013	0.0016	0.0015		6
2017	2017	Other General Industrial Equipment	150	0.4650	0.0595	0.1187	0.0016	0.0007	0.0007		5
2017	2017	Other Material Handling Equipment	196	0.4544	0.0778	0.1123	0.0015	0.0010	0.0009		6
2017	2017	Pavers	89	0.5073	0.0353	0.1193	0.0009	0.0004	0.0004		4
2017	2017	Paving Equipment	82	0.4165	0.0325	0.0910	0.0008	0.0004	0.0004		4
2017	2017	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007		1
2017	2017	Pressure Washers	13	0.0570	0.0963	0.0111	0.0001	0.0013	0.0012		1
2017	2017	Pumps	84	0.2751	0.0333	0.0508	0.0006	0.0004	0.0004		4
2017	2017	Rollers	84	0.3913	0.0333	0.0736	0.0008	0.0004	0.0004		4
2017	2017	Rough Terrain Forklifts	83	0.4522	0.0329	0.0704	0.0008	0.0004	0.0004		4
2017	2017	Rubber Tired Dozers	358	0.9300	0.1421	0.2465	0.0025	0.0018	0.0016		6
2017	2017	Rubber Tired Loaders	87	0.4510	0.0345	0.0920	0.0012	0.0004	0.0004		4
2017	2017	Scrapers	356	0.8713	0.1413	0.2257	0.0027	0.0018	0.0016		6
2017	2017	Signal Boards	6	0.0918	0.0444	0.0151	0.0002	0.0006	0.0005		1
2017	2017	Skid Steer Loaders	37	0.2161	0.1713	0.0274	0.0004	0.0002	0.0002		2
2017	2017	Surfacing Equipment	392	0.4333	0.1556	0.0981	0.0017	0.0019	0.0018		6
2017	2017	Sweepers/Scrubbers	88	0.4962	0.0349	0.0737	0.0009	0.0004	0.0004		4
2017	2017	Tractors/Loaders/Backhoes	75	0.3666	0.0298	0.0559	0.0008	0.0004	0.0003		4
2017	2017	Trenchers	69	0.4422	0.3195	0.1129	0.0007	0.0005	0.0004		3
2017	2017	Welders	46	0.1912	0.2130	0.0434	0.0003	0.0003	0.0003		2
2018	2018	Arial Lifts	34	0.1740	0.1574	0.0322	0.0004	0.0002	0.0002		2
2018	2018	Air Compressors	78	0.3130	0.0310	0.0582	0.0007	0.0004	0.0004		4
2018	2018	Bore/Drill Rigs	82	0.5011	0.0325	0.0539	0.0017	0.0004	0.0004		4
2018	2018	Cement and Mortar Mixers	9	0.0416	0.0667	0.0087	0.0001	0.0009	0.0008		1
2018	2018	Concrete/Industrial Saws	81	0.3850	0.0321	0.0605	0.0007	0.0004	0.0004		4
2018	2018	Cranes	208	0.4060	0.0825	0.1012	0.0014	0.0010	0.0009		6
2018	2018	Crawler Tractors	82	0.5387	0.0325	0.1185	0.0013	0.0004	0.0004		4

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2018	2018	Crushing/Proc. Equipment	85	0.6328	0.0337	0.1109	0.0015	0.0004	0.0004		4
2018	2018	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0016	0.0015		1
2018	2018	Excavators	157	0.5160	0.0623	0.0848	0.0013	0.0008	0.0007		5
2018	2018	Forklifts	149	0.2173	0.0591	0.0372	0.0006	0.0007	0.0007		5
2018	2018	Generator Sets	84	0.2786	0.0333	0.0477	0.0007	0.0004	0.0004		4
2018	2018	Graders	162	0.5812	0.0643	0.1049	0.0015	0.0008	0.0007		5
2018	2018	Off-Highway Tractors	160	0.6762	0.0635	0.1631	0.0017	0.0008	0.0007		5
2018	2018	Off-Highway Trucks	381	0.5634	0.1512	0.1613	0.0027	0.0019	0.0017		6
2018	2018	Other Construction Equipment	327	0.3542	0.1298	0.0633	0.0013	0.0016	0.0015		6
2018	2018	Other General Industrial Equipment	150	0.4591	0.0595	0.1113	0.0016	0.0007	0.0007		5
2018	2018	Other Material Handling Equipment	196	0.4495	0.0778	0.1050	0.0015	0.0010	0.0009		6
2018	2018	Pavers	89	0.5017	0.0353	0.1121	0.0009	0.0004	0.0004		4
2018	2018	Paving Equipment	82	0.4136	0.0325	0.0857	0.0008	0.0004	0.0004		4
2018	2018	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007		1
2018	2018	Pressure Washers	13	0.0562	0.0963	0.0101	0.0001	0.0013	0.0012		1
2018	2018	Pumps	84	0.2722	0.0333	0.0458	0.0006	0.0004	0.0004		4
2018	2018	Rollers	84	0.3885	0.0333	0.0683	0.0008	0.0004	0.0004		4
2018	2018	Rough Terrain Forklifts	83	0.4499	0.0329	0.0638	0.0008	0.0004	0.0004		4
2018	2018	Rubber Tired Dozers	358	0.8819	0.1421	0.2343	0.0025	0.0018	0.0016		6
2018	2018	Rubber Tired Loaders	87	0.4470	0.0345	0.0861	0.0012	0.0004	0.0004		4
2018	2018	Scrapers	356	0.8418	0.1413	0.2135	0.0027	0.0018	0.0016		6
2018	2018	Signal Boards	6	0.0916	0.0444	0.0143	0.0002	0.0006	0.0005		1
2018	2018	Skid Steer Loaders	37	0.2146	0.1713	0.0253	0.0004	0.0002	0.0002		2
2018	2018	Surfacing Equipment	392	0.4187	0.1556	0.0923	0.0017	0.0019	0.0018		6
2018	2018	Sweepers/Scrubbers	88	0.4946	0.0349	0.0681	0.0009	0.0004	0.0004		4
2018	2018	Tractors/Loaders/Backhoes	75	0.3647	0.0298	0.0513	0.0008	0.0004	0.0003		4
2018	2018	Trenchers	69	0.4368	0.3195	0.1061	0.0007	0.0005	0.0004		3
2018	2018	Welders	46	0.1876	0.2130	0.0388	0.0003	0.0003	0.0003		2
2019	2019	Arial Lifts	34	0.1715	0.1574	0.0288	0.0004	0.0002	0.0002		2
2019	2019	Air Compressors	78	0.3100	0.0310	0.0526	0.0007	0.0004	0.0004		4
2019	2019	Bore/Drill Rigs	82	0.5009	0.0325	0.0506	0.0017	0.0004	0.0004		4
2019	2019	Cement and Mortar Mixers	9	0.0416	0.0667	0.0086	0.0001	0.0009	0.0008		1
2019	2019	Concrete/Industrial Saws	81	0.3812	0.0321	0.0536	0.0007	0.0004	0.0004		4
2019	2019	Cranes	208	0.3982	0.0825	0.0954	0.0014	0.0010	0.0009		6
2019	2019	Crawler Tractors	82	0.5319	0.0325	0.1115	0.0013	0.0004	0.0004		4
2019	2019	Crushing/Proc. Equipment	85	0.6280	0.0337	0.1011	0.0015	0.0004	0.0004		4
2019	2019	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0016	0.0015		1
2019	2019	Excavators	157	0.5140	0.0623	0.0787	0.0013	0.0008	0.0007		5
2019	2019	Forklifts	149	0.2166	0.0591	0.0345	0.0006	0.0007	0.0007		5
2019	2019	Generator Sets	84	0.2755	0.0333	0.0431	0.0007	0.0004	0.0004		4
2019	2019	Graders	162	0.5787	0.0643	0.0982	0.0015	0.0008	0.0007		5
2019	2019	Off-Highway Tractors	160	0.6634	0.0635	0.1549	0.0017	0.0008	0.0007		5
2019	2019	Off-Highway Trucks	381	0.5565	0.1512	0.1524	0.0027	0.0019	0.0017		6
2019	2019	Other Construction Equipment	327	0.3522	0.1298	0.0596	0.0013	0.0016	0.0015		6
2019	2019	Other General Industrial Equipment	150	0.4549	0.0595	0.1044	0.0016	0.0007	0.0007		5
2019	2019	Other Material Handling Equipment	196	0.4458	0.0778	0.0983	0.0015	0.0010	0.0009		6
2019	2019	Pavers	89	0.4966	0.0353	0.1053	0.0009	0.0004	0.0004		4
2019	2019	Paving Equipment	82	0.4109	0.0325	0.0806	0.0008	0.0004	0.0004		4
2019	2019	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007		1

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2019	2019	Pressure Washers	13	0.0554	0.0963	0.0092	0.0001	0.0013	0.0012		1
2019	2019	Pumps	84	0.2695	0.0333	0.0412	0.0006	0.0004	0.0004		4
2019	2019	Rollers	84	0.3859	0.0333	0.0632	0.0008	0.0004	0.0004		4
2019	2019	Rough Terrain Forklifts	83	0.4479	0.0329	0.0579	0.0008	0.0004	0.0004		4
2019	2019	Rubber Tired Dozers	358	0.8388	0.1421	0.2227	0.0025	0.0018	0.0016		6
2019	2019	Rubber Tired Loaders	87	0.4436	0.0345	0.0805	0.0012	0.0004	0.0004		4
2019	2019	Scrapers	356	0.8161	0.1413	0.2021	0.0027	0.0018	0.0016		6
2019	2019	Signal Boards	6	0.0913	0.0444	0.0135	0.0002	0.0006	0.0005		1
2019	2019	Skid Steer Loaders	37	0.2134	0.1713	0.0236	0.0004	0.0002	0.0002		2
2019	2019	Surfacing Equipment	392	0.4061	0.1556	0.0871	0.0017	0.0019	0.0018		6
2019	2019	Sweepers/Scrubbers	88	0.4933	0.0349	0.0632	0.0009	0.0004	0.0004		4
2019	2019	Tractors/Loaders/Backhoes	75	0.3630	0.0298	0.0472	0.0008	0.0004	0.0003		4
2019	2019	Trenchers	69	0.4317	0.3195	0.0995	0.0007	0.0005	0.0004		3
2019	2019	Welders	46	0.1843	0.2130	0.0344	0.0003	0.0003	0.0003		2
2020	2020	Arial Lifts	34	0.1696	0.1574	0.0261	0.0004	0.0002	0.0002		2
2020	2020	Air Compressors	78	0.3077	0.0310	0.0483	0.0007	0.0004	0.0004		4
2020	2020	Bore/Drill Rigs	82	0.5008	0.0325	0.0480	0.0017	0.0004	0.0004		4
2020	2020	Cement and Mortar Mixers	9	0.0415	0.0667	0.0086	0.0001	0.0009	0.0008		1
2020	2020	Concrete/Industrial Saws	81	0.3783	0.0321	0.0484	0.0007	0.0004	0.0004		4
2020	2020	Cranes	208	0.3917	0.0825	0.0898	0.0014	0.0010	0.0009		6
2020	2020	Crawler Tractors	82	0.5260	0.0325	0.1049	0.0013	0.0004	0.0004		4
2020	2020	Crushing/Proc. Equipment	85	0.6247	0.0337	0.0934	0.0015	0.0004	0.0004		4
2020	2020	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0016	0.0015		1
2020	2020	Excavators	157	0.5124	0.0623	0.0733	0.0013	0.0008	0.0007		5
2020	2020	Forklifts	149	0.2160	0.0591	0.0320	0.0006	0.0007	0.0007		5
2020	2020	Generator Sets	84	0.2732	0.0333	0.0395	0.0007	0.0004	0.0004		4
2020	2020	Graders	162	0.5765	0.0643	0.0919	0.0015	0.0008	0.0007		5
2020	2020	Off-Highway Tractors	160	0.6517	0.0635	0.1470	0.0017	0.0008	0.0007		5
2020	2020	Off-Highway Trucks	381	0.5514	0.1512	0.1443	0.0027	0.0019	0.0017		6
2020	2020	Other Construction Equipment	327	0.3508	0.1298	0.0563	0.0013	0.0016	0.0015		6
2020	2020	Other General Industrial Equipm	150	0.4517	0.0595	0.0983	0.0016	0.0007	0.0007		5
2020	2020	Other Material Handling Equipm	196	0.4429	0.0778	0.0924	0.0015	0.0010	0.0009		6
2020	2020	Pavers	89	0.4920	0.0353	0.0989	0.0009	0.0004	0.0004		4
2020	2020	Paving Equipment	82	0.4084	0.0325	0.0757	0.0008	0.0004	0.0004		4
2020	2020	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007		1
2020	2020	Pressure Washers	13	0.0549	0.0963	0.0085	0.0001	0.0013	0.0012		1
2020	2020	Pumps	84	0.2674	0.0333	0.0376	0.0006	0.0004	0.0004		4
2020	2020	Rollers	84	0.3837	0.0333	0.0584	0.0008	0.0004	0.0004		4
2020	2020	Rough Terrain Forklifts	83	0.4464	0.0329	0.0533	0.0008	0.0004	0.0004		4
2020	2020	Rubber Tired Dozers	358	0.8006	0.1421	0.2118	0.0025	0.0018	0.0016		6
2020	2020	Rubber Tired Loaders	87	0.4406	0.0345	0.0753	0.0012	0.0004	0.0004		4
2020	2020	Scrapers	356	0.7938	0.1413	0.1914	0.0027	0.0018	0.0016		6
2020	2020	Signal Boards	6	0.0912	0.0444	0.0129	0.0002	0.0006	0.0005		1
2020	2020	Skid Steer Loaders	37	0.2125	0.1713	0.0222	0.0004	0.0002	0.0002		2
2020	2020	Surfacing Equipment	392	0.3953	0.1556	0.0823	0.0017	0.0019	0.0018		6
2020	2020	Sweepers/Scrubbers	88	0.4916	0.0349	0.0584	0.0009	0.0004	0.0004		4
2020	2020	Tractors/Loaders/Backhoes	75	0.3616	0.0298	0.0436	0.0008	0.0004	0.0003		4
2020	2020	Trenchers	69	0.4270	0.3195	0.0933	0.0007	0.0005	0.0004		3
2020	2020	Welders	46	0.1816	0.2130	0.0310	0.0003	0.0003	0.0003		2

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2021	2021	Arial Lifts	34	0.1677	0.1574	0.0238	0.0004	0.0002	0.0002	34.7	2
2021	2021	Air Compressors	78	0.3051	0.0310	0.0442	0.0007	0.0004	0.0004	63.6	4
2021	2021	Bore/Drill Rigs	82	0.5007	0.0325	0.0460	0.0017	0.0004	0.0004	165	4
2021	2021	Cement and Mortar Mixers	9	0.0415	0.0667	0.0086	0.0001	0.0009	0.0008	7.2	1
2021	2021	Concrete/Industrial Saws	81	0.3761	0.0321	0.0444	0.0007	0.0004	0.0004	58.5	4
2021	2021	Cranes	208	0.3865	0.0825	0.0846	0.0014	0.0010	0.0009	129	6
2021	2021	Crawler Tractors	82	0.5208	0.0325	0.0988	0.0013	0.0004	0.0004	114	4
2021	2021	Crushing/Proc. Equipment	85	0.6224	0.0337	0.0872	0.0015	0.0004	0.0004	132	4
2021	2021	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0016	0.0015	7.6	1
2021	2021	Excavators	157	0.5113	0.0623	0.0687	0.0013	0.0008	0.0007	120	5
2021	2021	Forklifts	149	0.2148	0.0591	0.0294	0.0006	0.0007	0.0007	54.4	5
2021	2021	Generator Sets	84	0.2708	0.0333	0.0363	0.0007	0.0004	0.0004	61.0	4
2021	2021	Graders	162	0.5747	0.0643	0.0861	0.0015	0.0008	0.0007	133	5
2021	2021	Off-Highway Tractors	160	0.6413	0.0635	0.1394	0.0017	0.0008	0.0007	151	5
2021	2021	Off-Highway Trucks	381	0.5476	0.1512	0.1370	0.0027	0.0019	0.0017	260	6
2021	2021	Other Construction Equipment	327	0.3497	0.1298	0.0534	0.0013	0.0016	0.0015	122	6
2021	2021	Other General Industrial Equipment	150	0.4479	0.0595	0.0915	0.0016	0.0007	0.0007	152	5
2021	2021	Other Material Handling Equipment	196	0.4392	0.0778	0.0860	0.0015	0.0010	0.0009	141	6
2021	2021	Pavers	89	0.4878	0.0353	0.0928	0.0009	0.0004	0.0004	77.9	4
2021	2021	Paving Equipment	82	0.4062	0.0325	0.0710	0.0008	0.0004	0.0004	68.9	4
2021	2021	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007	4.3	1
2021	2021	Pressure Washers	13	0.0543	0.0963	0.0079	0.0001	0.0013	0.0012	9.4	1
2021	2021	Pumps	84	0.2652	0.0333	0.0344	0.0006	0.0004	0.0004	49.6	4
2021	2021	Rollers	84	0.3816	0.0333	0.0540	0.0008	0.0004	0.0004	67.0	4
2021	2021	Rough Terrain Forklifts	83	0.4454	0.0329	0.0497	0.0008	0.0004	0.0004	70.3	4
2021	2021	Rubber Tired Dozers	358	0.7661	0.1421	0.2015	0.0025	0.0018	0.0016	239	6
2021	2021	Rubber Tired Loaders	87	0.4381	0.0345	0.0705	0.0012	0.0004	0.0004	109	4
2021	2021	Scrapers	356	0.7745	0.1413	0.1815	0.0027	0.0018	0.0016	262	6
2021	2021	Signal Boards	6	0.0911	0.0444	0.0125	0.0002	0.0006	0.0005	16.7	1
2021	2021	Skid Steer Loaders	37	0.2119	0.1713	0.0212	0.0004	0.0002	0.0002	30.3	2
2021	2021	Surfacing Equipment	392	0.3860	0.1556	0.0779	0.0017	0.0019	0.0018	166	6
2021	2021	Sweepers/Scrubbers	88	0.4882	0.0349	0.0536	0.0009	0.0004	0.0004	78.5	4
2021	2021	Tractors/Loaders/Backhoes	75	0.3606	0.0298	0.0407	0.0008	0.0004	0.0003	66.8	4
2021	2021	Trenchers	69	0.4226	0.3195	0.0874	0.0007	0.0005	0.0004	58.7	3
2021	2021	Welders	46	0.1788	0.2130	0.0280	0.0003	0.0003	0.0003	25.6	2
2022	2022	Arial Lifts	34	0.1667	0.1574	0.0222	0.0004	0.0002	0.0002		2
2022	2022	Air Compressors	78	0.3041	0.0310	0.0414	0.0007	0.0004	0.0004		4
2022	2022	Bore/Drill Rigs	82	0.5007	0.0325	0.0446	0.0017	0.0004	0.0004		4
2022	2022	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0009	0.0008		1
2022	2022	Concrete/Industrial Saws	81	0.3743	0.0321	0.0411	0.0007	0.0004	0.0004		4
2022	2022	Cranes	208	0.3822	0.0825	0.0798	0.0014	0.0010	0.0009		6
2022	2022	Crawler Tractors	82	0.5163	0.0325	0.0931	0.0013	0.0004	0.0004		4
2022	2022	Crushing/Proc. Equipment	85	0.6208	0.0337	0.0820	0.0015	0.0004	0.0004		4
2022	2022	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0016	0.0015		1
2022	2022	Excavators	157	0.5104	0.0623	0.0648	0.0013	0.0008	0.0007		5
2022	2022	Forklifts	149	0.2146	0.0591	0.0274	0.0006	0.0007	0.0007		5
2022	2022	Generator Sets	84	0.2694	0.0333	0.0340	0.0007	0.0004	0.0004		4
2022	2022	Graders	162	0.5732	0.0643	0.0807	0.0015	0.0008	0.0007		5
2022	2022	Off-Highway Tractors	160	0.6320	0.0635	0.1322	0.0017	0.0008	0.0007		5



Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2022	2022	Off-Highway Trucks	381	0.5447	0.1512	0.1303	0.0027	0.0019	0.0017		6
2022	2022	Other Construction Equipment	327	0.3488	0.1298	0.0507	0.0013	0.0016	0.0015		6
2022	2022	Other General Industrial Equipment	150	0.4464	0.0595	0.0867	0.0016	0.0007	0.0007		5
2022	2022	Other Material Handling Equipment	196	0.4378	0.0778	0.0813	0.0015	0.0010	0.0009		6
2022	2022	Pavers	89	0.4840	0.0353	0.0870	0.0009	0.0004	0.0004		4
2022	2022	Paving Equipment	82	0.4042	0.0325	0.0666	0.0008	0.0004	0.0004		4
2022	2022	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007		1
2022	2022	Pressure Washers	13	0.0539	0.0963	0.0075	0.0001	0.0013	0.0012		1
2022	2022	Pumps	84	0.2640	0.0333	0.0322	0.0006	0.0004	0.0004		4
2022	2022	Rollers	84	0.3799	0.0333	0.0500	0.0008	0.0004	0.0004		4
2022	2022	Rough Terrain Forklifts	83	0.4445	0.0329	0.0467	0.0008	0.0004	0.0004		4
2022	2022	Rubber Tired Dozers	358	0.7353	0.1421	0.1919	0.0025	0.0018	0.0016		6
2022	2022	Rubber Tired Loaders	87	0.4359	0.0345	0.0661	0.0012	0.0004	0.0004		4
2022	2022	Scrapers	356	0.7579	0.1413	0.1724	0.0027	0.0018	0.0016		6
2022	2022	Signal Boards	6	0.0910	0.0444	0.0121	0.0002	0.0006	0.0005		1
2022	2022	Skid Steer Loaders	37	0.2114	0.1713	0.0204	0.0004	0.0002	0.0002		2
2022	2022	Surfacing Equipment	392	0.3778	0.1556	0.0739	0.0017	0.0019	0.0018		6
2022	2022	Sweepers/Scrubbers	88	0.4867	0.0349	0.0498	0.0009	0.0004	0.0004		4
2022	2022	Tractors/Loaders/Backhoes	75	0.3599	0.0298	0.0384	0.0008	0.0004	0.0003		4
2022	2022	Trenchers	69	0.4186	0.3195	0.0819	0.0007	0.0005	0.0004		3
2022	2022	Welders	46	0.1773	0.2130	0.0260	0.0003	0.0003	0.0003		2
2023	2023	Arial Lifts	34	0.1658	0.1574	0.0208	0.0004	0.0002	0.0002	34.7	2
2023	2023	Air Compressors	78	0.3035	0.0310	0.0390	0.0007	0.0004	0.0004	63.6	4
2023	2023	Bore/Drill Rigs	82	0.5007	0.0325	0.0436	0.0017	0.0004	0.0004	165	4
2023	2023	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0009	0.0008	7.2	1
2023	2023	Concrete/Industrial Saws	81	0.3728	0.0321	0.0382	0.0007	0.0004	0.0004	58.5	4
2023	2023	Cranes	208	0.3786	0.0825	0.0754	0.0014	0.0010	0.0009	129	6
2023	2023	Crawler Tractors	82	0.5125	0.0325	0.0879	0.0013	0.0004	0.0004	114	4
2023	2023	Crushing/Proc. Equipment	85	0.6199	0.0337	0.0773	0.0015	0.0004	0.0004	132	4
2023	2023	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0016	0.0015	7.6	1
2023	2023	Excavators	157	0.5097	0.0623	0.0615	0.0013	0.0008	0.0007	120	5
2023	2023	Forklifts	149	0.2146	0.0591	0.0259	0.0006	0.0007	0.0007	54.4	5
2023	2023	Generator Sets	84	0.2683	0.0333	0.0321	0.0007	0.0004	0.0004	61.0	4
2023	2023	Graders	162	0.5718	0.0643	0.0758	0.0015	0.0008	0.0007	133	5
2023	2023	Off-Highway Tractors	160	0.6238	0.0635	0.1255	0.0017	0.0008	0.0007	151	5
2023	2023	Off-Highway Trucks	381	0.5422	0.1512	0.1243	0.0027	0.0019	0.0017	260	6
2023	2023	Other Construction Equipment	327	0.3482	0.1298	0.0483	0.0013	0.0016	0.0015	123	6
2023	2023	Other General Industrial Equipment	150	0.4454	0.0595	0.0824	0.0016	0.0007	0.0007	152	5
2023	2023	Other Material Handling Equipment	196	0.4369	0.0778	0.0771	0.0015	0.0010	0.0009	141	6
2023	2023	Pavers	89	0.4805	0.0353	0.0815	0.0009	0.0004	0.0004	77.9	4
2023	2023	Paving Equipment	82	0.4024	0.0325	0.0624	0.0008	0.0004	0.0004	68.9	4
2023	2023	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007	4.3	1
2023	2023	Pressure Washers	13	0.0536	0.0963	0.0072	0.0001	0.0013	0.0012	9.4	1
2023	2023	Pumps	84	0.2631	0.0333	0.0302	0.0006	0.0004	0.0004	49.6	4
2023	2023	Rollers	84	0.3784	0.0333	0.0465	0.0008	0.0004	0.0004	67.0	4
2023	2023	Rough Terrain Forklifts	83	0.4439	0.0329	0.0439	0.0008	0.0004	0.0004	70.3	4
2023	2023	Rubber Tired Dozers	358	0.7078	0.1421	0.1830	0.0025	0.0018	0.0016	239	6
2023	2023	Rubber Tired Loaders	87	0.4340	0.0345	0.0622	0.0012	0.0004	0.0004	109	4
2023	2023	Scrapers	356	0.7432	0.1413	0.1641	0.0027	0.0018	0.0016	262	6

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2023	2023	Signal Boards	6	0.0909	0.0444	0.0117	0.0002	0.0006	0.0005	16.7	1
2023	2023	Skid Steer Loaders	37	0.2110	0.1713	0.0196	0.0004	0.0002	0.0002	30.3	2
2023	2023	Surfacing Equipment	392	0.3707	0.1556	0.0703	0.0017	0.0019	0.0018	166	6
2023	2023	Sweepers/Scrubbers	88	0.4855	0.0349	0.0464	0.0009	0.0004	0.0004	78.5	4
2023	2023	Tractors/Loaders/Backhoes	75	0.3593	0.0298	0.0365	0.0008	0.0004	0.0003	66.8	4
2023	2023	Trenchers	69	0.4150	0.3195	0.0767	0.0007	0.0005	0.0004	58.7	3
2023	2023	Welders	46	0.1762	0.2130	0.0242	0.0003	0.0003	0.0003	25.6	2
2024	2024	Arial Lifts	34	0.1652	0.1574	0.0195	0.0004	0.0002	0.0002	34.7	2
2024	2024	Air Compressors	78	0.3031	0.0310	0.0369	0.0007	0.0004	0.0004	63.6	4
2024	2024	Bore/Drill Rigs	82	0.5007	0.0325	0.0431	0.0017	0.0004	0.0004	165	4
2024	2024	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0009	0.0008	7.2	1
2024	2024	Concrete/Industrial Saws	81	0.3716	0.0321	0.0358	0.0007	0.0004	0.0004	58.5	4
2024	2024	Cranes	208	0.3759	0.0825	0.0715	0.0014	0.0010	0.0009	129	6
2024	2024	Crawler Tractors	82	0.5092	0.0325	0.0832	0.0013	0.0004	0.0004	114	4
2024	2024	Crushing/Proc. Equipment	85	0.6193	0.0337	0.0731	0.0015	0.0004	0.0004	132	4
2024	2024	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0016	0.0015	7.6	1
2024	2024	Excavators	157	0.5091	0.0623	0.0585	0.0013	0.0008	0.0007	120	5
2024	2024	Forklifts	149	0.2146	0.0591	0.0246	0.0006	0.0007	0.0007	54.4	5
2024	2024	Generator Sets	84	0.2674	0.0333	0.0303	0.0007	0.0004	0.0004	61.0	4
2024	2024	Graders	162	0.5706	0.0643	0.0714	0.0015	0.0008	0.0007	133	5
2024	2024	Off-Highway Tractors	160	0.6165	0.0635	0.1192	0.0017	0.0008	0.0007	151	5
2024	2024	Off-Highway Trucks	381	0.5401	0.1512	0.1189	0.0027	0.0019	0.0017	260	6
2024	2024	Other Construction Equipment	327	0.3477	0.1298	0.0462	0.0013	0.0016	0.0015	123	6
2024	2024	Other General Industrial Equipment	150	0.4446	0.0595	0.0784	0.0016	0.0007	0.0007	152	5
2024	2024	Other Material Handling Equipment	196	0.4362	0.0778	0.0733	0.0015	0.0010	0.0009	141	6
2024	2024	Pavers	89	0.4773	0.0353	0.0764	0.0009	0.0004	0.0004	77.9	4
2024	2024	Paving Equipment	82	0.4007	0.0325	0.0584	0.0008	0.0004	0.0004	68.9	4
2024	2024	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007	4.3	1
2024	2024	Pressure Washers	13	0.0534	0.0963	0.0069	0.0001	0.0013	0.0012	9.4	1
2024	2024	Pumps	84	0.2624	0.0333	0.0285	0.0006	0.0004	0.0004	49.6	4
2024	2024	Rollers	84	0.3772	0.0333	0.0435	0.0008	0.0004	0.0004	67.0	4
2024	2024	Rough Terrain Forklifts	83	0.4433	0.0329	0.0416	0.0008	0.0004	0.0004	70.3	4
2024	2024	Rubber Tired Dozers	358	0.6835	0.1421	0.1748	0.0025	0.0018	0.0016	239	6
2024	2024	Rubber Tired Loaders	87	0.4324	0.0345	0.0588	0.0012	0.0004	0.0004	109	4
2024	2024	Scrapers	356	0.7302	0.1413	0.1565	0.0027	0.0018	0.0016	262	6
2024	2024	Signal Boards	6	0.0909	0.0444	0.0114	0.0002	0.0006	0.0005	16.7	1
2024	2024	Skid Steer Loaders	37	0.2107	0.1713	0.0190	0.0004	0.0002	0.0002	30.3	2
2024	2024	Surfacing Equipment	392	0.3644	0.1556	0.0669	0.0017	0.0019	0.0018	166	6
2024	2024	Sweepers/Scrubbers	88	0.4846	0.0349	0.0434	0.0009	0.0004	0.0004	78.5	4
2024	2024	Tractors/Loaders/Backhoes	75	0.3589	0.0298	0.0349	0.0008	0.0004	0.0003	66.8	4
2024	2024	Trenchers	69	0.4116	0.3195	0.0719	0.0007	0.0005	0.0004	58.7	3
2024	2024	Welders	46	0.1753	0.2130	0.0227	0.0003	0.0003	0.0003	25.6	2
2025	2025	Arial Lifts	34	0.1646	0.1574	0.0184	0.0004	0.0002	0.0002	34.7	2
2025	2025	Air Compressors	78	0.3027	0.0310	0.0349	0.0007	0.0004	0.0004	63.6	4
2025	2025	Bore/Drill Rigs	82	0.5007	0.0325	0.0428	0.0017	0.0004	0.0004	165	4
2025	2025	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0009	0.0008	7.2	1
2025	2025	Concrete/Industrial Saws	81	0.3706	0.0321	0.0337	0.0007	0.0004	0.0004	58.5	4
2025	2025	Cranes	208	0.3738	0.0825	0.0681	0.0014	0.0010	0.0009	129	6
2025	2025	Crawler Tractors	82	0.5065	0.0325	0.0789	0.0013	0.0004	0.0004	114	4

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2025	2025	Crushing/Proc. Equipment	85	0.6187	0.0337	0.0693	0.0015	0.0004	0.0004	132	4
2025	2025	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0016	0.0015	7.6	1
2025	2025	Excavators	157	0.5086	0.0623	0.0559	0.0013	0.0008	0.0007	120	5
2025	2025	Forklifts	149	0.2148	0.0591	0.0236	0.0006	0.0007	0.0007	54.4	5
2025	2025	Generator Sets	84	0.2667	0.0333	0.0288	0.0007	0.0004	0.0004	61.0	4
2025	2025	Graders	162	0.5696	0.0643	0.0676	0.0015	0.0008	0.0007	133	5
2025	2025	Off-Highway Tractors	160	0.6101	0.0635	0.1134	0.0017	0.0008	0.0007	151	5
2025	2025	Off-Highway Trucks	381	0.5385	0.1512	0.1140	0.0027	0.0019	0.0017	260	6
2025	2025	Other Construction Equipment	327	0.3474	0.1298	0.0442	0.0013	0.0016	0.0015	123	6
2025	2025	Other General Industrial Equipment	150	0.4438	0.0595	0.0747	0.0016	0.0007	0.0007	152	5
2025	2025	Other Material Handling Equipment	196	0.4355	0.0778	0.0696	0.0015	0.0010	0.0009	141	6
2025	2025	Pavers	89	0.4745	0.0353	0.0717	0.0009	0.0004	0.0004	77.9	4
2025	2025	Paving Equipment	82	0.3993	0.0325	0.0548	0.0008	0.0004	0.0004	68.9	4
2025	2025	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007	4.3	1
2025	2025	Pressure Washers	13	0.0531	0.0963	0.0066	0.0001	0.0013	0.0012	9.4	1
2025	2025	Pumps	84	0.2617	0.0333	0.0270	0.0006	0.0004	0.0004	49.6	4
2025	2025	Rollers	84	0.3763	0.0333	0.0410	0.0008	0.0004	0.0004	67.0	4
2025	2025	Rough Terrain Forklifts	83	0.4430	0.0329	0.0396	0.0008	0.0004	0.0004	70.3	4
2025	2025	Rubber Tired Dozers	358	0.6620	0.1421	0.1672	0.0025	0.0018	0.0016	239	6
2025	2025	Rubber Tired Loaders	87	0.4311	0.0345	0.0559	0.0012	0.0004	0.0004	109	4
2025	2025	Scrapers	356	0.7187	0.1413	0.1495	0.0027	0.0018	0.0016	262	6
2025	2025	Signal Boards	6	0.0909	0.0444	0.0111	0.0002	0.0006	0.0005	16.7	1
2025	2025	Skid Steer Loaders	37	0.2104	0.1713	0.0186	0.0004	0.0002	0.0002	30.3	2
2025	2025	Surfacing Equipment	392	0.3590	0.1556	0.0638	0.0017	0.0019	0.0018	166	6
2025	2025	Sweepers/Scrubbers	88	0.4840	0.0349	0.0410	0.0009	0.0004	0.0004	78.5	4
2025	2025	Tractors/Loaders/Backhoes	75	0.3586	0.0298	0.0336	0.0008	0.0004	0.0003	66.8	4
2025	2025	Trenchers	69	0.4085	0.3195	0.0674	0.0007	0.0005	0.0004	58.7	3
2025	2025	Welders	46	0.1745	0.2130	0.0214	0.0003	0.0003	0.0003	25.6	2
2026	2026	Arial Lifts	34	0.1646	0.1574	0.0184	0.0004	0.0002	0.0002	34.7	2
2026	2026	Air Compressors	78	0.3027	0.0310	0.0349	0.0007	0.0004	0.0004	63.6	4
2026	2026	Bore/Drill Rigs	82	0.5007	0.0325	0.0428	0.0017	0.0004	0.0004	165	4
2026	2026	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0009	0.0008	7.2	1
2026	2026	Concrete/Industrial Saws	81	0.3706	0.0321	0.0337	0.0007	0.0004	0.0004	58.5	4
2026	2026	Cranes	208	0.3738	0.0825	0.0681	0.0014	0.0010	0.0009	129	6
2026	2026	Crawler Tractors	82	0.5065	0.0325	0.0789	0.0013	0.0004	0.0004	114	4
2026	2026	Crushing/Proc. Equipment	85	0.6187	0.0337	0.0693	0.0015	0.0004	0.0004	132	4
2026	2026	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0016	0.0015	7.6	1
2026	2026	Excavators	157	0.5086	0.0623	0.0559	0.0013	0.0008	0.0007	120	5
2026	2026	Forklifts	149	0.2148	0.0591	0.0236	0.0006	0.0007	0.0007	54.4	5
2026	2026	Generator Sets	84	0.2667	0.0333	0.0288	0.0007	0.0004	0.0004	61.0	4
2026	2026	Graders	162	0.5696	0.0643	0.0676	0.0015	0.0008	0.0007	133	5
2026	2026	Off-Highway Tractors	160	0.6101	0.0635	0.1134	0.0017	0.0008	0.0007	151	5
2026	2026	Off-Highway Trucks	381	0.5385	0.1512	0.1140	0.0027	0.0019	0.0017	260	6
2026	2026	Other Construction Equipment	327	0.3474	0.1298	0.0442	0.0013	0.0016	0.0015	123	6
2026	2026	Other General Industrial Equipment	150	0.4438	0.0595	0.0747	0.0016	0.0007	0.0007	152	5
2026	2026	Other Material Handling Equipment	196	0.4355	0.0778	0.0696	0.0015	0.0010	0.0009	141	6
2026	2026	Pavers	89	0.4745	0.0353	0.0717	0.0009	0.0004	0.0004	77.9	4
2026	2026	Paving Equipment	82	0.3993	0.0325	0.0548	0.0008	0.0004	0.0004	68.9	4
2026	2026	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007	4.3	1

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2026	2026	Pressure Washers	13	0.0531	0.0963	0.0066	0.0001	0.0013	0.0012	9.4	1
2026	2026	Pumps	84	0.2617	0.0333	0.0270	0.0006	0.0004	0.0004	49.6	4
2026	2026	Rollers	84	0.3763	0.0333	0.0410	0.0008	0.0004	0.0004	67.0	4
2026	2026	Rough Terrain Forklifts	83	0.4430	0.0329	0.0396	0.0008	0.0004	0.0004	70.3	4
2026	2026	Rubber Tired Dozers	358	0.6620	0.1421	0.1672	0.0025	0.0018	0.0016	239	6
2026	2026	Rubber Tired Loaders	87	0.4311	0.0345	0.0559	0.0012	0.0004	0.0004	109	4
2026	2026	Scrapers	356	0.7187	0.1413	0.1495	0.0027	0.0018	0.0016	262	6
2026	2026	Signal Boards	6	0.0909	0.0444	0.0111	0.0002	0.0006	0.0005	16.7	1
2026	2026	Skid Steer Loaders	37	0.2104	0.1713	0.0186	0.0004	0.0002	0.0002	30.3	2
2026	2026	Surfacing Equipment	392	0.3590	0.1556	0.0638	0.0017	0.0019	0.0018	166	6
2026	2026	Sweepers/Scrubbers	88	0.4840	0.0349	0.0410	0.0009	0.0004	0.0004	78.5	4
2026	2026	Tractors/Loaders/Backhoes	75	0.3586	0.0298	0.0336	0.0008	0.0004	0.0003	66.8	4
2026	2026	Trenchers	69	0.4085	0.3195	0.0674	0.0007	0.0005	0.0004	58.7	3
2026	2026	Welders	46	0.1745	0.2130	0.0214	0.0003	0.0003	0.0003	25.6	2
2027	2027	Arial Lifts	34	0.1646	0.1574	0.0184	0.0004	0.0002	0.0002		2
2027	2027	Air Compressors	78	0.3027	0.0310	0.0349	0.0007	0.0004	0.0004		4
2027	2027	Bore/Drill Rigs	82	0.5007	0.0325	0.0428	0.0017	0.0004	0.0004		4
2027	2027	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0009	0.0008		1
2027	2027	Concrete/Industrial Saws	81	0.3706	0.0321	0.0337	0.0007	0.0004	0.0004		4
2027	2027	Cranes	208	0.3738	0.0825	0.0681	0.0014	0.0010	0.0009		6
2027	2027	Crawler Tractors	82	0.5065	0.0325	0.0789	0.0013	0.0004	0.0004		4
2027	2027	Crushing/Proc. Equipment	85	0.6187	0.0337	0.0693	0.0015	0.0004	0.0004		4
2027	2027	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0016	0.0015		1
2027	2027	Excavators	157	0.5086	0.0623	0.0559	0.0013	0.0008	0.0007		5
2027	2027	Forklifts	149	0.2148	0.0591	0.0236	0.0006	0.0007	0.0007		5
2027	2027	Generator Sets	84	0.2667	0.0333	0.0288	0.0007	0.0004	0.0004		4
2027	2027	Graders	162	0.5696	0.0643	0.0676	0.0015	0.0008	0.0007		5
2027	2027	Off-Highway Tractors	160	0.6101	0.0635	0.1134	0.0017	0.0008	0.0007		5
2027	2027	Off-Highway Trucks	381	0.5385	0.1512	0.1140	0.0027	0.0019	0.0017		6
2027	2027	Other Construction Equipment	327	0.3474	0.1298	0.0442	0.0013	0.0016	0.0015		6
2027	2027	Other General Industrial Equipm	150	0.4438	0.0595	0.0747	0.0016	0.0007	0.0007		5
2027	2027	Other Material Handling Equipm	196	0.4355	0.0778	0.0696	0.0015	0.0010	0.0009		6
2027	2027	Pavers	89	0.4745	0.0353	0.0717	0.0009	0.0004	0.0004		4
2027	2027	Paving Equipment	82	0.3993	0.0325	0.0548	0.0008	0.0004	0.0004		4
2027	2027	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007		1
2027	2027	Pressure Washers	13	0.0531	0.0963	0.0066	0.0001	0.0013	0.0012		1
2027	2027	Pumps	84	0.2617	0.0333	0.0270	0.0006	0.0004	0.0004		4
2027	2027	Rollers	84	0.3763	0.0333	0.0410	0.0008	0.0004	0.0004		4
2027	2027	Rough Terrain Forklifts	83	0.4430	0.0329	0.0396	0.0008	0.0004	0.0004		4
2027	2027	Rubber Tired Dozers	358	0.6620	0.1421	0.1672	0.0025	0.0018	0.0016		6
2027	2027	Rubber Tired Loaders	87	0.4311	0.0345	0.0559	0.0012	0.0004	0.0004		4
2027	2027	Scrapers	356	0.7187	0.1413	0.1495	0.0027	0.0018	0.0016		6
2027	2027	Signal Boards	6	0.0909	0.0444	0.0111	0.0002	0.0006	0.0005		1
2027	2027	Skid Steer Loaders	37	0.2104	0.1713	0.0186	0.0004	0.0002	0.0002		2
2027	2027	Surfacing Equipment	392	0.3590	0.1556	0.0638	0.0017	0.0019	0.0018		6
2027	2027	Sweepers/Scrubbers	88	0.4840	0.0349	0.0410	0.0009	0.0004	0.0004		4
2027	2027	Tractors/Loaders/Backhoes	75	0.3586	0.0298	0.0336	0.0008	0.0004	0.0003		4
2027	2027	Trenchers	69	0.4085	0.3195	0.0674	0.0007	0.0005	0.0004		3
2027	2027	Welders	46	0.1745	0.2130	0.0214	0.0003	0.0003	0.0003		2

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2028	2028	Arial Lifts	34	0.1646	0.1574	0.0184	0.0004	0.0002	0.0002		2
2028	2028	Air Compressors	78	0.3027	0.0310	0.0349	0.0007	0.0004	0.0004		4
2028	2028	Bore/Drill Rigs	82	0.5007	0.0325	0.0428	0.0017	0.0004	0.0004		4
2028	2028	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0009	0.0008		1
2028	2028	Concrete/Industrial Saws	81	0.3706	0.0321	0.0337	0.0007	0.0004	0.0004		4
2028	2028	Cranes	208	0.3738	0.0825	0.0681	0.0014	0.0010	0.0009		6
2028	2028	Crawler Tractors	82	0.5065	0.0325	0.0789	0.0013	0.0004	0.0004		4
2028	2028	Crushing/Proc. Equipment	85	0.6187	0.0337	0.0693	0.0015	0.0004	0.0004		4
2028	2028	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0016	0.0015		1
2028	2028	Excavators	157	0.5086	0.0623	0.0559	0.0013	0.0008	0.0007		5
2028	2028	Forklifts	149	0.2148	0.0591	0.0236	0.0006	0.0007	0.0007		5
2028	2028	Generator Sets	84	0.2667	0.0333	0.0288	0.0007	0.0004	0.0004		4
2028	2028	Graders	162	0.5696	0.0643	0.0676	0.0015	0.0008	0.0007		5
2028	2028	Off-Highway Tractors	160	0.6101	0.0635	0.1134	0.0017	0.0008	0.0007		5
2028	2028	Off-Highway Trucks	381	0.5385	0.1512	0.1140	0.0027	0.0019	0.0017		6
2028	2028	Other Construction Equipment	327	0.3474	0.1298	0.0442	0.0013	0.0016	0.0015		6
2028	2028	Other General Industrial Equipment	150	0.4438	0.0595	0.0747	0.0016	0.0007	0.0007		5
2028	2028	Other Material Handling Equipment	196	0.4355	0.0778	0.0696	0.0015	0.0010	0.0009		6
2028	2028	Pavers	89	0.4745	0.0353	0.0717	0.0009	0.0004	0.0004		4
2028	2028	Paving Equipment	82	0.3993	0.0325	0.0548	0.0008	0.0004	0.0004		4
2028	2028	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007		1
2028	2028	Pressure Washers	13	0.0531	0.0963	0.0066	0.0001	0.0013	0.0012		1
2028	2028	Pumps	84	0.2617	0.0333	0.0270	0.0006	0.0004	0.0004		4
2028	2028	Rollers	84	0.3763	0.0333	0.0410	0.0008	0.0004	0.0004		4
2028	2028	Rough Terrain Forklifts	83	0.4430	0.0329	0.0396	0.0008	0.0004	0.0004		4
2028	2028	Rubber Tired Dozers	358	0.6620	0.1421	0.1672	0.0025	0.0018	0.0016		6
2028	2028	Rubber Tired Loaders	87	0.4311	0.0345	0.0559	0.0012	0.0004	0.0004		4
2028	2028	Scrapers	356	0.7187	0.1413	0.1495	0.0027	0.0018	0.0016		6
2028	2028	Signal Boards	6	0.0909	0.0444	0.0111	0.0002	0.0006	0.0005		1
2028	2028	Skid Steer Loaders	37	0.2104	0.1713	0.0186	0.0004	0.0002	0.0002		2
2028	2028	Surfacing Equipment	392	0.3590	0.1556	0.0638	0.0017	0.0019	0.0018		6
2028	2028	Sweepers/Scrubbers	88	0.4840	0.0349	0.0410	0.0009	0.0004	0.0004		4
2028	2028	Tractors/Loaders/Backhoes	75	0.3586	0.0298	0.0336	0.0008	0.0004	0.0003		4
2028	2028	Trenchers	69	0.4085	0.3195	0.0674	0.0007	0.0005	0.0004		3
2028	2028	Welders	46	0.1745	0.2130	0.0214	0.0003	0.0003	0.0003		2
2029	2029	Arial Lifts	34	0.1646	0.1574	0.0184	0.0004	0.0002	0.0002		2
2029	2029	Air Compressors	78	0.3027	0.0310	0.0349	0.0007	0.0004	0.0004		4
2029	2029	Bore/Drill Rigs	82	0.5007	0.0325	0.0428	0.0017	0.0004	0.0004		4
2029	2029	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0009	0.0008		1
2029	2029	Concrete/Industrial Saws	81	0.3706	0.0321	0.0337	0.0007	0.0004	0.0004		4
2029	2029	Cranes	208	0.3738	0.0825	0.0681	0.0014	0.0010	0.0009		6
2029	2029	Crawler Tractors	82	0.5065	0.0325	0.0789	0.0013	0.0004	0.0004		4
2029	2029	Crushing/Proc. Equipment	85	0.6187	0.0337	0.0693	0.0015	0.0004	0.0004		4
2029	2029	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0016	0.0015		1
2029	2029	Excavators	157	0.5086	0.0623	0.0559	0.0013	0.0008	0.0007		5
2029	2029	Forklifts	149	0.2148	0.0591	0.0236	0.0006	0.0007	0.0007		5
2029	2029	Generator Sets	84	0.2667	0.0333	0.0288	0.0007	0.0004	0.0004		4
2029	2029	Graders	162	0.5696	0.0643	0.0676	0.0015	0.0008	0.0007		5
2029	2029	Off-Highway Tractors	160	0.6101	0.0635	0.1134	0.0017	0.0008	0.0007		5

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2029	2029Off-Highway Trucks	Off-Highway Trucks	381	0.5385	0.1512	0.1140	0.0027	0.0019	0.0017		6
2029	2029Other Construction Equipment	Other Construction Equipment	327	0.3474	0.1298	0.0442	0.0013	0.0016	0.0015		6
2029	2029Other General Industrial Equipm	Other General Industrial Equipment	150	0.4438	0.0595	0.0747	0.0016	0.0007	0.0007		5
2029	2029Other Material Handling Equipm	Other Material Handling Equipment	196	0.4355	0.0778	0.0696	0.0015	0.0010	0.0009		6
2029	2029Pavers	Pavers	89	0.4745	0.0353	0.0717	0.0009	0.0004	0.0004		4
2029	2029Paving Equipment	Paving Equipment	82	0.3993	0.0325	0.0548	0.0008	0.0004	0.0004		4
2029	2029Plate Compactors	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007		1
2029	2029Pressure Washers	Pressure Washers	13	0.0531	0.0963	0.0066	0.0001	0.0013	0.0012		1
2029	2029Pumps	Pumps	84	0.2617	0.0333	0.0270	0.0006	0.0004	0.0004		4
2029	2029Rollers	Rollers	84	0.3763	0.0333	0.0410	0.0008	0.0004	0.0004		4
2029	2029Rough Terrain Forklifts	Rough Terrain Forklifts	83	0.4430	0.0329	0.0396	0.0008	0.0004	0.0004		4
2029	2029Rubber Tired Dozers	Rubber Tired Dozers	358	0.6620	0.1421	0.1672	0.0025	0.0018	0.0016		6
2029	2029Rubber Tired Loaders	Rubber Tired Loaders	87	0.4311	0.0345	0.0559	0.0012	0.0004	0.0004		4
2029	2029Scrapers	Scrapers	356	0.7187	0.1413	0.1495	0.0027	0.0018	0.0016		6
2029	2029Signal Boards	Signal Boards	6	0.0909	0.0444	0.0111	0.0002	0.0006	0.0005		1
2029	2029Skid Steer Loaders	Skid Steer Loaders	37	0.2104	0.1713	0.0186	0.0004	0.0002	0.0002		2
2029	2029Surfacing Equipment	Surfacing Equipment	392	0.3590	0.1556	0.0638	0.0017	0.0019	0.0018		6
2029	2029Sweepers/Scrubbers	Sweepers/Scrubbers	88	0.4840	0.0349	0.0410	0.0009	0.0004	0.0004		4
2029	2029Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	75	0.3586	0.0298	0.0336	0.0008	0.0004	0.0003		4
2029	2029Trenchers	Trenchers	69	0.4085	0.3195	0.0674	0.0007	0.0005	0.0004		3
2029	2029Welders	Welders	46	0.1745	0.2130	0.0214	0.0003	0.0003	0.0003		2
2030	2030Aerial Lifts	Aerial Lifts	34	0.1646	0.1574	0.0184	0.0004	0.0002	0.0002	34.7	2
2030	2030Air Compressors	Air Compressors	78	0.3027	0.0310	0.0349	0.0007	0.0004	0.0004	63.6	4
2030	2030Bore/Drill Rigs	Bore/Drill Rigs	82	0.5007	0.0325	0.0428	0.0017	0.0004	0.0004	165	4
2030	2030Cement and Mortar Mixers	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0009	0.0008	7.2	1
2030	2030Concrete/Industrial Saws	Concrete/Industrial Saws	81	0.3706	0.0321	0.0337	0.0007	0.0004	0.0004	58.5	4
2030	2030Cranes	Cranes	208	0.3738	0.0825	0.0681	0.0014	0.0010	0.0009	129	6
2030	2030Crawler Tractors	Crawler Tractors	82	0.5065	0.0325	0.0789	0.0013	0.0004	0.0004	114	4
2030	2030Crushing/Proc. Equipment	Crushing/Proc. Equipment	85	0.6187	0.0337	0.0693	0.0015	0.0004	0.0004	132	4
2030	2030Dumpers/Tenders	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0016	0.0015	7.6	1
2030	2030Excavators	Excavators	157	0.5086	0.0623	0.0559	0.0013	0.0008	0.0007	120	5
2030	2030Forklifts	Forklifts	149	0.2148	0.0591	0.0236	0.0006	0.0007	0.0007	54.4	5
2030	2030Generator Sets	Generator Sets	84	0.2667	0.0333	0.0288	0.0007	0.0004	0.0004	61.0	4
2030	2030Graders	Graders	162	0.5696	0.0643	0.0676	0.0015	0.0008	0.0007	133	5
2030	2030Off-Highway Tractors	Off-Highway Tractors	160	0.6101	0.0635	0.1134	0.0017	0.0008	0.0007	151	5
2030	2030Off-Highway Trucks	Off-Highway Trucks	381	0.5385	0.1512	0.1140	0.0027	0.0019	0.0017	260	6
2030	2030Other Construction Equipment	Other Construction Equipment	327	0.3474	0.1298	0.0442	0.0013	0.0016	0.0015	123	6
2030	2030Other General Industrial Equipm	Other General Industrial Equipment	150	0.4438	0.0595	0.0747	0.0016	0.0007	0.0007	152	5
2030	2030Other Material Handling Equipm	Other Material Handling Equipment	196	0.4355	0.0778	0.0696	0.0015	0.0010	0.0009	141	6
2030	2030Pavers	Pavers	89	0.4745	0.0353	0.0717	0.0009	0.0004	0.0004	77.9	4
2030	2030Paving Equipment	Paving Equipment	82	0.3993	0.0325	0.0548	0.0008	0.0004	0.0004	68.9	4
2030	2030Plate Compactors	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007	4.3	1
2030	2030Pressure Washers	Pressure Washers	13	0.0531	0.0963	0.0066	0.0001	0.0013	0.0012	9.4	1
2030	2030Pumps	Pumps	84	0.2617	0.0333	0.0270	0.0006	0.0004	0.0004	49.6	4
2030	2030Rollers	Rollers	84	0.3763	0.0333	0.0410	0.0008	0.0004	0.0004	67.0	4
2030	2030Rough Terrain Forklifts	Rough Terrain Forklifts	83	0.4430	0.0329	0.0396	0.0008	0.0004	0.0004	70.3	4
2030	2030Rubber Tired Dozers	Rubber Tired Dozers	358	0.6620	0.1421	0.1672	0.0025	0.0018	0.0016	239	6
2030	2030Rubber Tired Loaders	Rubber Tired Loaders	87	0.4311	0.0345	0.0559	0.0012	0.0004	0.0004	109	4
2030	2030Scrapers	Scrapers	356	0.7187	0.1413	0.1495	0.0027	0.0018	0.0016	262	6

Chiquita Canyon Landfill EIR

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2030	2030	Signal Boards	6	0.0909	0.0444	0.0111	0.0002	0.0006	0.0005	16.7	1
2030	2030	Skid Steer Loaders	37	0.2104	0.1713	0.0186	0.0004	0.0002	0.0002	30.3	2
2030	2030	Surfacing Equipment	392	0.3590	0.1556	0.0638	0.0017	0.0019	0.0018	166	6
2030	2030	Sweepers/Scrubbers	88	0.4840	0.0349	0.0410	0.0009	0.0004	0.0004	78.5	4
2030	2030	Tractors/Loaders/Backhoes	75	0.3586	0.0298	0.0336	0.0008	0.0004	0.0003	66.8	4
2030	2030	Trenchers	69	0.4085	0.3195	0.0674	0.0007	0.0005	0.0004	58.7	3
2030	2030	Welders	46	0.1745	0.2130	0.0214	0.0003	0.0003	0.0003	25.6	2
2031	2031	Arial Lifts	34	0.1646	0.1574	0.0184	0.0004	0.0002	0.0002		2
2031	2031	Air Compressors	78	0.3027	0.0310	0.0349	0.0007	0.0004	0.0004		4
2031	2031	Bore/Drill Rigs	82	0.5007	0.0325	0.0428	0.0017	0.0004	0.0004		4
2031	2031	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0009	0.0008		1
2031	2031	Concrete/Industrial Saws	81	0.3706	0.0321	0.0337	0.0007	0.0004	0.0004		4
2031	2031	Cranes	208	0.3738	0.0825	0.0681	0.0014	0.0010	0.0009		6
2031	2031	Crawler Tractors	82	0.5065	0.0325	0.0789	0.0013	0.0004	0.0004		4
2031	2031	Crushing/Proc. Equipment	85	0.6187	0.0337	0.0693	0.0015	0.0004	0.0004		4
2031	2031	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0016	0.0015		1
2031	2031	Excavators	157	0.5086	0.0623	0.0559	0.0013	0.0008	0.0007		5
2031	2031	Forklifts	149	0.2148	0.0591	0.0236	0.0006	0.0007	0.0007		5
2031	2031	Generator Sets	84	0.2667	0.0333	0.0288	0.0007	0.0004	0.0004		4
2031	2031	Graders	162	0.5696	0.0643	0.0676	0.0015	0.0008	0.0007		5
2031	2031	Off-Highway Tractors	160	0.6101	0.0635	0.1134	0.0017	0.0008	0.0007		5
2031	2031	Off-Highway Trucks	381	0.5385	0.1512	0.1140	0.0027	0.0019	0.0017		6
2031	2031	Other Construction Equipment	327	0.3474	0.1298	0.0442	0.0013	0.0016	0.0015		6
2031	2031	Other General Industrial Equipment	150	0.4438	0.0595	0.0747	0.0016	0.0007	0.0007		5
2031	2031	Other Material Handling Equipment	196	0.4355	0.0778	0.0696	0.0015	0.0010	0.0009		6
2031	2031	Pavers	89	0.4745	0.0353	0.0717	0.0009	0.0004	0.0004		4
2031	2031	Paving Equipment	82	0.3993	0.0325	0.0548	0.0008	0.0004	0.0004		4
2031	2031	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007		1
2031	2031	Pressure Washers	13	0.0531	0.0963	0.0066	0.0001	0.0013	0.0012		1
2031	2031	Pumps	84	0.2617	0.0333	0.0270	0.0006	0.0004	0.0004		4
2031	2031	Rollers	84	0.3763	0.0333	0.0410	0.0008	0.0004	0.0004		4
2031	2031	Rough Terrain Forklifts	83	0.4430	0.0329	0.0396	0.0008	0.0004	0.0004		4
2031	2031	Rubber Tired Dozers	358	0.6620	0.1421	0.1672	0.0025	0.0018	0.0016		6
2031	2031	Rubber Tired Loaders	87	0.4311	0.0345	0.0559	0.0012	0.0004	0.0004		4
2031	2031	Scrapers	356	0.7187	0.1413	0.1495	0.0027	0.0018	0.0016		6
2031	2031	Signal Boards	6	0.0909	0.0444	0.0111	0.0002	0.0006	0.0005		1
2031	2031	Skid Steer Loaders	37	0.2104	0.1713	0.0186	0.0004	0.0002	0.0002		2
2031	2031	Surfacing Equipment	392	0.3590	0.1556	0.0638	0.0017	0.0019	0.0018		6
2031	2031	Sweepers/Scrubbers	88	0.4840	0.0349	0.0410	0.0009	0.0004	0.0004		4
2031	2031	Tractors/Loaders/Backhoes	75	0.3586	0.0298	0.0336	0.0008	0.0004	0.0003		4
2031	2031	Trenchers	69	0.4085	0.3195	0.0674	0.0007	0.0005	0.0004		3
2031	2031	Welders	46	0.1745	0.2130	0.0214	0.0003	0.0003	0.0003		2
2035	2035	Arial Lifts	34	0.1646	0.1574	0.0184	0.0004	0.0002	0.0002		2
2035	2035	Air Compressors	78	0.3027	0.0310	0.0349	0.0007	0.0004	0.0004		4
2035	2035	Bore/Drill Rigs	82	0.5007	0.0325	0.0428	0.0017	0.0004	0.0004		4
2035	2035	Cement and Mortar Mixers	9	0.0414	0.0667	0.0085	0.0001	0.0009	0.0008		1
2035	2035	Concrete/Industrial Saws	81	0.3706	0.0321	0.0337	0.0007	0.0004	0.0004		4
2035	2035	Cranes	208	0.3738	0.0825	0.0681	0.0014	0.0010	0.0009		6
2035	2035	Crawler Tractors	82	0.5065	0.0325	0.0789	0.0013	0.0004	0.0004		4

**Chiquita Canyon Landfill EIR**

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

		Eq Name	Default Hp	CO	NOx	VOC	SOx	PM10	PM2.5	CO2	Range
2035	2035Crushing/Proc. Equipment	Crushing/Proc. Equipment	85	0.6187	0.0337	0.0693	0.0015	0.0004	0.0004		4
2035	2035Dumpers/Tenders	Dumpers/Tenders	16	0.0314	0.1185	0.0092	0.0001	0.0016	0.0015		1
2035	2035Excavators	Excavators	157	0.5086	0.0623	0.0559	0.0013	0.0008	0.0007		5
2035	2035Forklifts	Forklifts	149	0.2148	0.0591	0.0236	0.0006	0.0007	0.0007		5
2035	2035Generator Sets	Generator Sets	84	0.2667	0.0333	0.0288	0.0007	0.0004	0.0004		4
2035	2035Graders	Graders	162	0.5696	0.0643	0.0676	0.0015	0.0008	0.0007		5
2035	2035Off-Highway Tractors	Off-Highway Tractors	160	0.6101	0.0635	0.1134	0.0017	0.0008	0.0007		5
2035	2035Off-Highway Trucks	Off-Highway Trucks	381	0.5385	0.1512	0.1140	0.0027	0.0019	0.0017		6
2035	2035Other Construction Equipment	Other Construction Equipment	327	0.3474	0.1298	0.0442	0.0013	0.0016	0.0015		6
2035	2035Other General Industrial Equipm	Other General Industrial Equipment	150	0.4438	0.0595	0.0747	0.0016	0.0007	0.0007		5
2035	2035Other Material Handling Equipm	Other Material Handling Equipment	196	0.4355	0.0778	0.0696	0.0015	0.0010	0.0009		6
2035	2035Pavers	Pavers	89	0.4745	0.0353	0.0717	0.0009	0.0004	0.0004		4
2035	2035Paving Equipment	Paving Equipment	82	0.3993	0.0325	0.0548	0.0008	0.0004	0.0004		4
2035	2035Plate Compactors	Plate Compactors	8	0.0263	0.0593	0.0050	0.0001	0.0008	0.0007		1
2035	2035Pressure Washers	Pressure Washers	13	0.0531	0.0963	0.0066	0.0001	0.0013	0.0012		1
2035	2035Pumps	Pumps	84	0.2617	0.0333	0.0270	0.0006	0.0004	0.0004		4
2035	2035Rollers	Rollers	84	0.3763	0.0333	0.0410	0.0008	0.0004	0.0004		4
2035	2035Rough Terrain Forklifts	Rough Terrain Forklifts	83	0.4430	0.0329	0.0396	0.0008	0.0004	0.0004		4
2035	2035Rubber Tired Dozers	Rubber Tired Dozers	358	0.6620	0.1421	0.1672	0.0025	0.0018	0.0016		6
2035	2035Rubber Tired Loaders	Rubber Tired Loaders	87	0.4311	0.0345	0.0559	0.0012	0.0004	0.0004		4
2035	2035Scrapers	Scrapers	356	0.7187	0.1413	0.1495	0.0027	0.0018	0.0016		6
2035	2035Signal Boards	Signal Boards	6	0.0909	0.0444	0.0111	0.0002	0.0006	0.0005		1
2035	2035Skid Steer Loaders	Skid Steer Loaders	37	0.2104	0.1713	0.0186	0.0004	0.0002	0.0002		2
2035	2035Surfacing Equipment	Surfacing Equipment	392	0.3590	0.1556	0.0638	0.0017	0.0019	0.0018		6
2035	2035Sweepers/Scrubbers	Sweepers/Scrubbers	88	0.4840	0.0349	0.0410	0.0009	0.0004	0.0004		4
2035	2035Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	75	0.3586	0.0298	0.0336	0.0008	0.0004	0.0003		4
2035	2035Trenchers	Trenchers	69	0.4085	0.3195	0.0674	0.0007	0.0005	0.0004		3
2035	2035Welders	Welders	46	0.1745	0.2130	0.0214	0.0003	0.0003	0.0003		2

Source: SCAQMD CEQA Handbook website: <http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html>

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 and PM10 emission factors taken as the Tier 4 emission standards per the ARB's Diesel Off-road Equipment Regulation (13 CCR 2449). Source: Table 1. ARB and USEPA Off-Road Compression-Ignition (Diesel) Engine Standards (NMHC+NOx/CO/PM in g/bhp-hr): [http://www.arb.ca.gov/msprog/ordiesel/documents/Off-Road\\_Diesel\\_Std.xls](http://www.arb.ca.gov/msprog/ordiesel/documents/Off-Road_Diesel_Std.xls).

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](http://www.aqmd.gov/ceqa/handbook/PM2_5/finalAppA.doc)).

Default hp taken from CalEEMod User Guide Appendix D, Table 3.3 (February 2011).

Off-road diesel equipment would be equipped with diesel particulate filters as a project control.



**Construction**

453.592 g/lb

	Engine Size (hp)			Tier 3 (g/bhp-hr) <sup>2</sup>		Tier 4 (g/bhp-hr)	
	Min <sup>1</sup>	Max	Range	NOx	PM	NOx (final)	PM
Baseline	0	24	1	5.6	0.6	5.6	0.3
Baseline	25	49	2	5.6	0.45	3.5	0.02
Baseline	50	74	3	5.6	0.3	3.5	0.02
Baseline	75	99	4	3.5	0.3	0.3	0.015
Baseline	100	174	5	3	0.22	0.3	0.015
Baseline	175	749	6	3	0.15	0.3	0.015

<sup>1</sup> Tier EFs not available for equipment with less than 25 hp; EFs assumed equal to EFs for equipment with 25-49 hp.

<sup>2</sup> Tier 3 EFs not available for equipment with less than 75 hp. Tier 2 EFs conservatively used.

Source: Table 1. ARB and USEPA Off-Road Compression-Ignition (Diesel) Engine Standards (NMHC+NOx/CO/PM in g/bhp-hr): [http://www.arb.ca.gov/msprog/ordiesel/documents/Off-Road\\_Diesel\\_Std.xls](http://www.arb.ca.gov/msprog/ordiesel/documents/Off-Road_Diesel_Std.xls)

Large Fleet Phase In		
Year	Tier 3	Tier 4
2014	95.2%	4.8%
2015	92.0%	8.0%
2016	92.0%	8.0%
2017	92.0%	8.0%
2018	90.0%	10.0%
2019	90.0%	10.0%
2020	90.0%	10.0%
2021	90.0%	10.0%
2022	90.0%	10.0%
2023	90.0%	10.0%
2024	90.0%	10.0%
2025	90.0%	10.0%
2026	90.0%	10.0%
2027	90.0%	10.0%
2028	90.0%	10.0%
2029	90.0%	10.0%
2030	90.0%	10.0%
2031	90.0%	10.0%
2032	90.0%	10.0%
2033	90.0%	10.0%
2034	90.0%	10.0%
2035	90.0%	10.0%

Combined Emission Factors by Year					Controlled*		
Year	Engine Size (hp)		EF lbs/bhp-hr		EF lbs/bhp-hr		
	Min	Max	Level	NOx	PM	NOx	PM
2014	0	24	1	0.0123	0.00129	0.00740754	0.00019365
2014	25	49	2	0.0121	0.00095	0.0072742	0.00014199
2014	50	74	3	0.0121	0.00063	0.0072742	9.4764E-05
2014	75	99	4	0.0074	0.00063	0.00442653	9.4684E-05
2014	100	174	5	0.0063	0.00046	0.00379689	6.9499E-05
2014	175	749	6	0.0063	0.00032	0.00379689	4.7461E-05
2015	0	24	1	0.0123	0.00127	0.00740754	0.00019048
2015	25	49	2	0.0120	0.00092	0.00718531	0.00013744
2015	50	74	3	0.0120	0.00061	0.00718531	9.1801E-05
2015	75	99	4	0.0072	0.00061	0.00429108	9.1668E-05
2015	100	174	5	0.0061	0.00045	0.0036826	6.7329E-05
2015	175	749	6	0.0061	0.00031	0.0036826	4.6033E-05
2016	0	24	1	0.0123	0.00127	0.00740754	0.00019048
2016	25	49	2	0.0120	0.00092	0.00718531	0.00013744
2016	50	74	3	0.0120	0.00061	0.00718531	9.1801E-05
2016	75	99	4	0.0072	0.00061	0.00429108	9.1668E-05
2016	100	174	5	0.0061	0.00045	0.0036826	6.7329E-05
2016	175	749	6	0.0061	0.00031	0.0036826	4.6033E-05
2017	0	24	1	0.0123	0.00127	0.00740754	0.00019048
2017	25	49	2	0.0120	0.00092	0.00718531	0.00013744
2017	50	74	3	0.0120	0.00061	0.00718531	9.1801E-05
2017	75	99	4	0.0072	0.00061	0.00429108	9.1668E-05
2017	100	174	5	0.0061	0.00045	0.0036826	6.7329E-05
2017	175	749	6	0.0061	0.00031	0.0036826	4.6033E-05
2018	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2018	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2018	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2018	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2018	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05

\*DPF Reduction:  
 PM Reduction 85%  
 NOx Reduction 40%  
 Source: EPA Retrofit Devices webpage (<http://www.epa.gov/otaq/diesel/technologies/retrofits.htm#dpf>)

Source: ARB Diesel Off-road Equipment Regulation (13 CCR 2449)

Construction

453.592 g/lb

2018	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2019	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2019	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2019	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2019	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2019	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2019	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2020	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2020	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2020	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2020	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2020	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2020	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2021	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2021	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2021	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2021	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2021	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2021	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2022	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2022	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2022	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2022	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2022	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2022	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2023	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2023	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2023	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2023	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2023	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2023	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2024	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2024	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2024	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2024	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2024	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2024	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2025	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2025	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2025	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2025	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2025	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2025	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2026	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2026	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2026	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2026	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2026	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2026	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2027	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2027	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2027	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05

Construction

453.592 g/lb

2027	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2027	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2027	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2028	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2028	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2028	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2028	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2028	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2028	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2029	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2029	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2029	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2029	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2029	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2029	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2030	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2030	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2030	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2030	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2030	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2030	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2031	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2031	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2031	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2031	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2031	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2031	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2032	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2032	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2032	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2032	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2032	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2032	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2033	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2033	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2033	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2033	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2033	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2033	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2034	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2034	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2034	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2034	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2034	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2034	175	749	6	0.0060	0.00030	0.00361117	4.514E-05
2035	0	24	1	0.0123	0.00126	0.00740754	0.0001885
2035	25	49	2	0.0119	0.00090	0.00712976	0.00013459
2035	50	74	3	0.0119	0.00060	0.00712976	8.9949E-05
2035	75	99	4	0.0070	0.00060	0.00420642	8.9783E-05
2035	100	174	5	0.0060	0.00044	0.00361117	6.5973E-05
2035	175	749	6	0.0060	0.00030	0.00361117	4.514E-05

**Operation**

Engine Size (hp)			Tier 4 (g/bhp-hr)		Tier 4 (lbs/bhp-hr)	
Min <sup>1</sup>	Max	Range	NOx (final)	PM	NOx (final)	PM
0	24	1	5.6	0.3	0.012346	0.000661
25	49	2	3.5	0.02	0.007716	4.41E-05
50	74	3	3.5	0.02	0.007716	4.41E-05
75	99	4	0.3	0.015	0.000661	3.31E-05
100	174	5	0.3	0.015	0.000661	3.31E-05
175	749	6	0.3	0.015	0.000661	3.31E-05

<sup>1</sup> Tier EFs not available for equipment with less than 25 hp; EFs assumed equal to EFs for equipment with 25-49 hp.

Source: Table 1. ARB and USEPA Off-Road Compression-Ignition (Diesel) Engine Standards (NMHC+NOx/CO/PM in g/bhp-hr):

[http://www.arb.ca.gov/msprog/ordiesel/documents/Off-Road\\_Diesel\\_Stdts.xls](http://www.arb.ca.gov/msprog/ordiesel/documents/Off-Road_Diesel_Stdts.xls)

**Operation Controlled**

Engine Size (hp)			Tier 4 (g/bhp-hr)		Tier 4 (lbs/bhp-hr)	
Min <sup>1</sup>	Max	Range	NOx (final)	PM	NOx (final)	PM
0	24	1	3.36	0.045	0.007408	9.92E-05
25	49	2	2.1	0.003	0.00463	6.61E-06
50	74	3	2.1	0.003	0.00463	6.61E-06
75	99	4	0.18	0.00225	0.000397	4.96E-06
100	174	5	0.18	0.00225	0.000397	4.96E-06
175	749	6	0.18	0.00225	0.000397	4.96E-06

Controls:

DPF Emission  
Reduction:

PM 85%  
NOx 40%

Source: EPA  
Technologies, Diesel  
Retrofit Devices  
webpage  
(<http://www.epa.gov/otaq/diesel/technologies/retrofits.htm#dpf>)

## Chiquita Canyon Landfill EIR

### EMFAC2011 Onroad Vehicle Emission Factors

#### EMFAC2011-Light Duty: Passenger Cars (LDA), Light-Duty Trucks (LDT2), Light-Heavy-Duty Trucks (LHD2),

Exhaust emission factors from EMFAC2011-LD for the South Coast Air Basin, calendar years 2014, 2015, 2016, 2021, 2023-2026, 2030. 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: Emfac2011-LDV V2.50.57.246; Run Date : 2012/03/19 15:24:37, 2012/04/16 09:01:54, and 2013/03/28 11:23:39; Season: Annual; Area: South Coast AQMD; Table 1 Running Exhaust Emissions

#### EMFAC 2011- Heavy Duty: Medium-Heavy-Duty Trucks (MHDT), Heavy-Heavy\_Duty Trucks (HHDT)

EMFAC Emission Rates Database ([http://www.arb.ca.gov/jpub/webapp//EMFAC2011WebApp/rateSelectionPage\\_1.jsp](http://www.arb.ca.gov/jpub/webapp//EMFAC2011WebApp/rateSelectionPage_1.jsp)), EMFAC2011 Vehicle Categories; Region: Los Angeles (SC), calendar years 2015, 2016, 2021, 2030, Season: annual average, Fuel: diesel, Model Year: combined; 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.

Note: Emissions calculated for all GHGs for which the EMFAC model provides EFs: CO2 and CH4. EMFAC does not predict methane emissions from MHDT and HHDT.

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

Year	Vehicle Category		CO g/mi	NOx g/mi	ROG g/mi	SOx g/mi	PM <sub>10</sub> g/mi	PM <sub>10</sub> - Tire Wear g/mi	PM <sub>10</sub> - Break Wear g/mi	PM10 Fugitive g/mi	PM <sub>2.5</sub> g/mi	PM <sup>2.5</sup> - Tire Wear g/mi	PM <sup>2.5</sup> - Break Wear (Fugitive) g/mi	PM2.5 Fugitive g/mi	CO2 g/mi	CH4 g/mi
2014	Heavy-Heavy Duty Trucks	HHDT								0				0		
2014	Medium-Heavy Duty Trucks	MHDT								0				0		
2014	Light-Heavy Duty Trucks	LHD2	1.019	1.853	0.101	0.005	0.017	0.01	0.063	0.073	0.015	0.002	0.027	0.029	492.117	0.011
2014	Light-Duty Trucks	LDT2	1.631	0.188	0.035	0.004	0.002	0.008	0.037	0.045	0.001	0.002	0.016	0.018	387.423	0.016
2014	Passenger Cars	LDA	1.157	0.103	0.029	0.003	0.002	0.008	0.037	0.045	0.001	0.002	0.016	0.018	283.872	0.011
2014	Light-Light Duty Trucks	LDT1	2.92	0.28	0.078	0.003	0.004	0.008	0.037	0.045	0.003	0.002	0.016	0.018	327.338	0.025
2015	Heavy-Heavy Duty Trucks	HHDT	0.56742	11.7985	0.10495	0.017	0.0705	0.036	0.06174	0.09773949	0.06488687	0.009	0.0264599	0.03546	1692.74	
2015	Medium-Heavy Duty Trucks	MHDT	0.47447	5.13267	0.10867	0.011	0.0706	0.012	0.130339	0.14233926	0.0649636	0.003	0.0558597	0.05886	1074.24	
2015	Light-Heavy Duty Trucks	LHD2	0.903	1.702	0.092	0.005	0.016	0.01	0.063	0.073	0.014	0.002	0.027	0.029	491.516	0.01
2015	Light-Duty Trucks	LDT2	1.472	0.167	0.03	0.004	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	387.384	0.014
2015	Passenger Cars	LDA	1.034	0.092	0.024	0.003	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	284.015	0.01
2015	Light-Light Duty Trucks	LDT1	2.658	0.255	0.067	0.003	0.004	0.008	0.037	0.045	0.003	0.002	0.016	0.018	327.62	0.023
2016	Heavy-Heavy Duty Trucks	HHDT	0.572	11.041	0.107	0.017	0.068	0.036	0.062	0.098	0.062	0.009	0.026	0.035	1670.17	
2016	Medium-Heavy Duty Trucks	MHDT	0.4258	4.4836	0.10	0.011	0.0616	0.012	0.13	0.142	0.057	0.003	0.056	0.059	1061.34	
2016	Light-Heavy Duty Trucks	LHD2	0.802	1.596	0.086	0.005	0.015	0.01	0.063	0.073	0.014	0.002	0.027	0.029	491.443	0.009
2016	Light-Duty Trucks	LDT2	1.329	0.147	0.026	0	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	387.352	0.013
2016	Passenger Cars	LDA	0.932	0.082	0.02	0	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	284.135	0.009
2016	Light-Light Duty Trucks	LDT1	2.41	0.231	0.056	0	0.003	0.008	0.037	0.045	0.003	0.002	0.016	0.018	327.94	0.021
2021	Heavy-Heavy Duty Trucks	HHDT	0.605	7.837	0.121	0.017	0.056	0.036	0.062	0.098	0.052	0.009	0.026	0.035	1537.04	

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2021	Medium-Heavy Duty Trucks	MHDT	0.3286	1.8756	0.0796	0.011	0.0324	0.012	0.13	0.142	0.0296	0.003	0.056	0.059	981.069	
2021	Light-Heavy Duty Trucks	LHD2	0.472	1.079	0.058	0.005	0.012	0.01	0.063	0.073	0.011	0.002	0.027	0.029	490.413	0.006
2021	Light-Duty Trucks	LDT2	0.867	0.088	0.013	0.004	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	387.3	0.009
2021	Passenger Cars	LDA	0.634	0.056	0.01	0.003	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	284.512	0.007
2021	Light-Light Duty Trucks	LDT1	1.606	0.152	0.03	0.003	0.002	0.008	0.037	0.045	0.002	0.002	0.016	0.018	329.134	0.015
2023	Heavy-Heavy Duty Trucks	HHDT								0					0	
2023	Medium-Heavy Duty Trucks	MHDT								0					0	
2023	Light-Heavy Duty Trucks	LHD2	0.405	0.916	0.05	0.005	0.011	0.01	0.063	0.073	0.01	0.002	0.027	0.029	490.135	0.005
2023	Light-Duty Trucks	LDT2	0.778	0.078	0.012	0.004	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	387.289	0.008
2023	Passenger Cars	LDA	0.59	0.052	0.009	0.003	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	284.537	0.006
2023	Light-Light Duty Trucks	LDT1	1.379	0.13	0.025	0.003	0.002	0.008	0.037	0.045	0.002	0.002	0.016	0.018	329.44	0.013
2024	Heavy-Heavy Duty Trucks	HHDT								0					0	
2024	Medium-Heavy Duty Trucks	MHDT								0					0	
2024	Light-Heavy Duty Trucks	LHD2	0.379	0.848	0.047	0.005	0.01	0.01	0.063	0.073	0.009	0.002	0.027	0.029	490.003	0.005
2024	Light-Duty Trucks	LDT2	0.746	0.074	0.011	0.004	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	387.279	0.008
2024	Passenger Cars	LDA	0.571	0.051	0.008	0.003	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	284.519	0.006
2024	Light-Light Duty Trucks	LDT1	1.281	0.12	0.023	0.003	0.002	0.008	0.037	0.045	0.002	0.002	0.016	0.018	329.549	0.013
2025	Heavy-Heavy Duty Trucks	HHDT								0					0	
2025	Medium-Heavy Duty Trucks	MHDT								0					0	
2025	Light-Heavy Duty Trucks	LHD2	0.356	0.771	0.043	0.005	0.01	0.01	0.063	0.073	0.009	0.002	0.027	0.029	490.009	0.004
2025	Light-Duty Trucks	LDT2	0.72	0.071	0.011	0.004	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	387.271	0.008
2025	Passenger Cars	LDA	0.559	0.05	0.008	0.003	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	284.513	0.006
2025	Light-Light Duty Trucks	LDT1	1.194	0.111	0.021	0.003	0.002	0.008	0.037	0.045	0.002	0.002	0.016	0.018	329.648	0.012
2026	Heavy-Heavy Duty Trucks	HHDT								0					0	
2026	Medium-Heavy Duty Trucks	MHDT								0					0	
2026	Light-Heavy Duty Trucks	LHD2	0.339	0.714	0.041	0.005	0.009	0.01	0.063	0.073	0.008	0.002	0.027	0.029	489.951	0.004
2026	Light-Duty Trucks	LDT2	0.697	0.068	0.01	0.004	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	387.259	0.008
2026	Passenger Cars	LDA	0.549	0.049	0.008	0.003	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	284.523	0.006
2026	Light-Light Duty Trucks	LDT1	1.115	0.103	0.019	0.003	0.002	0.008	0.037	0.045	0.002	0.002	0.016	0.018	329.767	0.011
2030	Heavy-Heavy Duty Trucks	HHDT	0.63	4.211	0.133	0.016	0.044	0.036	0.062	0.098	0.041	0.009	0.026	0.035	1516.31	
2030	Medium-Heavy Duty Trucks	MHDT	0.318	1.0164	0.0774	0.011	0.0306	0.012	0.13	0.142	0.0282	0.003	0.056	0.059	975.233	
2030	Light-Heavy Duty Trucks	LHD2	0.292	0.538	0.033	0.005	0.008	0.01	0.063	0.073	0.007	0.002	0.027	0.029	489.772	0.003
2030	Light-Duty Trucks	LDT2	0.642	0.061	0.009	0.004	0.002	0.008	0.037	0.045	0.001	0.002	0.016	0.018	387.202	0.007
2030	Passenger Cars	LDA	0.522	0.046	0.007	0.003	0.002	0.008	0.037	0.045	0.001	0.002	0.016	0.018	284.52	0.006
2030	Light-Light Duty Trucks	LDT1	0.856	0.076	0.013	0.003	0.002	0.008	0.037	0.045	0.002	0.002	0.016	0.018	330.227	0.009

Diesel Particulate Filter Control

Emission Reduction

PM 85%

NO2 40%

Source: EPA Technologies, Diesel Retrofit Devices webpage (<http://www.epa.gov/otaq/diesel/technologies/retrofits.htm#dpf>)

Controlled Running Exhaust Emissions (grams/mile)

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Year	Vehicle Category		CO g/mi	NOx g/mi	ROG g/mi	SOx g/mi	PM <sub>10</sub> g/mi	PM <sub>10</sub> - Tire Wear g/mi	PM <sub>10</sub> - Break Wear g/mi	PM10 Fugitive g/mi	PM <sub>2.5</sub> g/mi	PM <sub>2.5</sub> - Tire Wear g/mi	PM <sup>2.5</sup> - Break Wear (Fugitive) g/mi	PM2.5 Fugitive g/mi	CO2 g/mi	CH4 g/mi
2014	Heavy-Heavy Duty Trucks	HHDT		0			0			0	0			0		
2014	Medium-Heavy Duty Trucks	MHDT		0			0			0	0			0		
2014	Light-Heavy Duty Trucks	LHD2	1.019	1.1118	0.101	0.005	0.0026	0.01	0.063	0.073	0.00225	0.002	0.027	0.029	492.117	0.011
2014	Light-Duty Trucks	LDT2	1.631	0.1128	0.035	0.004	0.0003	0.008	0.037	0.045	0.00015	0.002	0.016	0.018	387.423	0.016
2014	Passenger Cars	LDA	1.157	0.0618	0.029	0.003	0.002	0.008	0.037	0.045	0.001	0.002	0.016	0.018	283.872	0.011
2014	Light-Light Duty Trucks	LDT1	2.92	0.168	0.078	0.003	0.0006	0.008	0.037	0.045	0.00045	0.002	0.016	0.018	327.338	0.025
2015	Heavy-Heavy Duty Trucks	HHDT	0.56742	7.07912	0.10495	0.017	0.0106	0.036	0.06174	0.09773949	0.00973303	0.009	0.0264599	0.03546	1692.74	
2015	Medium-Heavy Duty Trucks	MHDT	0.47447	3.0796	0.10867	0.011	0.0106	0.012	0.130339	0.14233926	0.00974454	0.003	0.0558597	0.05886	1074.24	
2015	Light-Heavy Duty Trucks	LHD2	0.903	1.0212	0.092	0.005	0.0024	0.01	0.063	0.073	0.0021	0.002	0.027	0.029	491.516	0.01
2015	Light-Duty Trucks	LDT2	1.472	0.1002	0.03	0.004	0.0002	0.008	0.037	0.045	0.00015	0.002	0.016	0.018	387.384	0.014
2015	Passenger Cars	LDA	1.034	0.0552	0.024	0.003	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	284.015	0.01
2015	Light-Light Duty Trucks	LDT1	2.658	0.153	0.067	0.003	0.0006	0.008	0.037	0.045	0.00045	0.002	0.016	0.018	327.62	0.023
2016	Heavy-Heavy Duty Trucks	HHDT	0.572	6.6246	0.107	0.017	0.0102	0.036	0.062	0.098	0.0093	0.009	0.026	0.035	1670.17	
2016	Medium-Heavy Duty Trucks	MHDT	0.4258	2.69016	0.10	0.011	0.0092	0.012	0.13	0.142	0.00855	0.003	0.056	0.059	1061.34	
2016	Light-Heavy Duty Trucks	LHD2	0.802	0.9576	0.086	0.005	0.0023	0.01	0.063	0.073	0.0021	0.002	0.027	0.029	491.443	0.009
2016	Light-Duty Trucks	LDT2	1.329	0.0882	0.026	0	0.0002	0.008	0.037	0.045	0.00015	0.002	0.016	0.018	387.352	0.013
2016	Passenger Cars	LDA	0.932	0.0492	0.02	0	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	284.135	0.009
2016	Light-Light Duty Trucks	LDT1	2.41	0.1386	0.056	0	0.0005	0.008	0.037	0.045	0.00045	0.002	0.016	0.018	327.94	0.021
2021	Heavy-Heavy Duty Trucks	HHDT	0.605	4.7022	0.121	0.017	0.0084	0.036	0.062	0.098	0.0078	0.009	0.026	0.035	1537.04	
2021	Medium-Heavy Duty Trucks	MHDT	0.3286	1.12536	0.0796	0.011	0.0049	0.012	0.13	0.142	0.00444	0.003	0.056	0.059	981.069	
2021	Light-Heavy Duty Trucks	LHD2	0.472	0.6474	0.058	0.005	0.0018	0.01	0.063	0.073	0.00165	0.002	0.027	0.029	490.413	0.006
2021	Light-Duty Trucks	LDT2	0.867	0.0528	0.013	0.004	0.0002	0.008	0.037	0.045	0.00015	0.002	0.016	0.018	387.3	0.009
2021	Passenger Cars	LDA	0.634	0.0336	0.01	0.003	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	284.512	0.007
2021	Light-Light Duty Trucks	LDT1	1.606	0.0912	0.03	0.003	0.0003	0.008	0.037	0.045	0.0003	0.002	0.016	0.018	329.134	0.015
2023	Heavy-Heavy Duty Trucks	HHDT		0			0			0	0			0		
2023	Medium-Heavy Duty Trucks	MHDT		0			0			0	0			0		
2023	Light-Heavy Duty Trucks	LHD2	0.405	0.5496	0.05	0.005	0.0017	0.01	0.063	0.073	0.0015	0.002	0.027	0.029	490.135	0.005
2023	Light-Duty Trucks	LDT2	0.778	0.0468	0.012	0.004	0.0002	0.008	0.037	0.045	0.00015	0.002	0.016	0.018	387.289	0.008
2023	Passenger Cars	LDA	0.59	0.0312	0.009	0.003	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	284.537	0.006
2023	Light-Light Duty Trucks	LDT1	1.379	0.078	0.025	0.003	0.0003	0.008	0.037	0.045	0.0003	0.002	0.016	0.018	329.44	0.013
2024	Heavy-Heavy Duty Trucks	HHDT		0			0			0	0			0		
2024	Medium-Heavy Duty Trucks	MHDT		0			0			0	0			0		
2024	Light-Heavy Duty Trucks	LHD2	0.379	0.5088	0.047	0.005	0.0015	0.01	0.063	0.073	0.00135	0.002	0.027	0.029	490.003	0.005
2024	Light-Duty Trucks	LDT2	0.746	0.0444	0.011	0.004	0.0002	0.008	0.037	0.045	0.00015	0.002	0.016	0.018	387.279	0.008
2024	Passenger Cars	LDA	0.571	0.0306	0.008	0.003	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	284.519	0.006
2024	Light-Light Duty Trucks	LDT1	1.281	0.072	0.023	0.003	0.0003	0.008	0.037	0.045	0.0003	0.002	0.016	0.018	329.549	0.013

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2025	Heavy-Heavy Duty Trucks	HHDT		0			0			0	0			0		
2025	Medium-Heavy Duty Trucks	MHDT		0			0			0	0			0		
2025	Light-Heavy Duty Trucks	LHD2	0.356	0.4626	0.043	0.005	0.0015	0.01	0.063	0.073	0.00135	0.002	0.027	0.029	490.009	0.004
2025	Light-Duty Trucks	LDT2	0.72	0.0426	0.011	0.004	0.0002	0.008	0.037	0.045	0.00015	0.002	0.016	0.018	387.271	0.008
2025	Passenger Cars	LDA	0.559	0.03	0.008	0.003	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	284.513	0.006
2025	Light-Light Duty Trucks	LDT1	1.194	0.0666	0.021	0.003	0.0003	0.008	0.037	0.045	0.0003	0.002	0.016	0.018	329.648	0.012
2026	Heavy-Heavy Duty Trucks	HHDT		0			0			0	0			0		
2026	Medium-Heavy Duty Trucks	MHDT		0			0			0	0			0		
2026	Light-Heavy Duty Trucks	LHD2	0.339	0.4284	0.041	0.005	0.0014	0.01	0.063	0.073	0.0012	0.002	0.027	0.029	489.951	0.004
2026	Light-Duty Trucks	LDT2	0.697	0.0408	0.01	0.004	0.0002	0.008	0.037	0.045	0.00015	0.002	0.016	0.018	387.259	0.008
2026	Passenger Cars	LDA	0.549	0.0294	0.008	0.003	0.001	0.008	0.037	0.045	0.001	0.002	0.016	0.018	284.523	0.006
2026	Light-Light Duty Trucks	LDT1	1.115	0.0618	0.019	0.003	0.0003	0.008	0.037	0.045	0.0003	0.002	0.016	0.018	329.767	0.011
2030	Heavy-Heavy Duty Trucks	HHDT	0.63	2.5266	0.133	0.016	0.0066	0.036	0.062	0.098	0.00615	0.009	0.026	0.035	1516.31	
2030	Medium-Heavy Duty Trucks	MHDT	0.318	0.60984	0.0774	0.011	0.0046	0.012	0.13	0.142	0.00423	0.003	0.056	0.059	975.233	
2030	Light-Heavy Duty Trucks	LHD2	0.292	0.3228	0.033	0.005	0.0012	0.01	0.063	0.073	0.00105	0.002	0.027	0.029	489.772	0.003
2030	Light-Duty Trucks	LDT2	0.642	0.0366	0.009	0.004	0.0003	0.008	0.037	0.045	0.00015	0.002	0.016	0.018	387.202	0.007
2030	Passenger Cars	LDA	0.522	0.0276	0.007	0.003	0.002	0.008	0.037	0.045	0.001	0.002	0.016	0.018	284.52	0.006
2030	Light-Light Duty Trucks	LDT1	0.856	0.0456	0.013	0.003	0.0003	0.008	0.037	0.045	0.0003	0.002	0.016	0.018	330.227	0.009



Chiquita Canyon Landfill EIR

lbs/VMT

1gram = 0.0022046 lbs

Year		Vehicle Category		CO	NOx	ROG	SOx	PM <sub>10</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sup>2.5</sup>	CO2	CH4
				lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	(Fugitive)	(Fugitive)	lb/VMT	lb/VMT	
2014	2014Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0	0	0	0	0	0	0	0	0	0
2014	2014Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0	0	0	0	0	0	0	0	0	0
2014	2014Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0022465	0.0040851	0.000223	1.1E-05	3.75E-05	0.000161	3.31E-05	6.39E-05	1.084921	2.43E-05
2014	2014Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0035957	0.0004145	7.72E-05	8.82E-06	4.41E-06	9.92E-05	2.2E-06	3.97E-05	0.854113	3.53E-05
2014	2014Passenger Cars	Passenger Cars	LDA	0.0025507	0.0002271	6.39E-05	6.61E-06	4.41E-06	9.92E-05	2.2E-06	3.97E-05	0.625824	2.43E-05
2014	2014Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0064374	0.0006173	0.000172	6.61E-06	8.82E-06	9.92E-05	6.61E-06	3.97E-05	0.721649	5.51E-05
2015	2015Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0.0012509	0.0260111	0.000231	3.7E-05	0.000155	0.000215	0.000143	7.82E-05	3.731821	0
2015	2015Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0.001046	0.0113155	0.00024	2.37E-05	0.000156	0.000314	0.000143	0.00013	2.368276	0
2015	2015Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0019908	0.0037522	0.000203	1.1E-05	3.53E-05	0.000161	3.09E-05	6.39E-05	1.083596	2.2E-05
2015	2015Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0032452	0.0003682	6.61E-05	8.82E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.854027	3.09E-05
2015	2015Passenger Cars	Passenger Cars	LDA	0.0022796	0.0002028	5.29E-05	6.61E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.626139	2.2E-05
2015	2015Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0058598	0.0005622	0.000148	6.61E-06	8.82E-06	9.92E-05	6.61E-06	3.97E-05	0.722271	5.07E-05
2016	2016Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0.001261	0.024341	0.000236	3.75E-05	0.00015	0.000216	0.000137	7.72E-05	3.682057	0
2016	2016Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0.0009387	0.0098845	0.000219	2.43E-05	0.000136	0.000313	0.000126	0.00013	2.339832	0
2016	2016Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0017681	0.0035185	0.00019	1.1E-05	3.31E-05	0.000161	3.09E-05	6.39E-05	1.083435	1.98E-05
2016	2016Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0029299	0.0003241	5.73E-05	8.82E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.853956	2.87E-05
2016	2016Passenger Cars	Passenger Cars	LDA	0.0020547	0.0001808	4.41E-05	6.61E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.626404	1.98E-05
2016	2016Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0053131	0.0005093	0.000123	6.61E-06	6.61E-06	9.92E-05	6.61E-06	3.97E-05	0.722977	4.63E-05
2021	2021Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0.0013338	0.0172775	0.000267	3.75E-05	0.000123	0.000216	0.000115	7.72E-05	3.388558	0

**Chiquita Canyon Landfill EIR**

2021	2021Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0.0007244	0.0041349	0.000175	2.43E-05	7.14E-05	0.000313	6.53E-05	0.00013	2.162865	0
2021	2021Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0010406	0.0023788	0.000128	1.1E-05	2.65E-05	0.000161	2.43E-05	6.39E-05	1.081164	1.32E-05
2021	2021Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0019114	0.000194	2.87E-05	8.82E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.853842	1.98E-05
2021	2021Passenger Cars	Passenger Cars	LDA	0.0013977	0.0001235	2.2E-05	6.61E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.627235	1.54E-05
2021	2021Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0035406	0.0003351	6.61E-05	6.61E-06	4.41E-06	9.92E-05	4.41E-06	3.97E-05	0.725609	3.31E-05
2023	2023Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0	0	0	0	0	0	0	0	0	0
2023	2023Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0	0	0	0	0	0	0	0	0	0
2023	2023Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0008929	0.0020194	0.00011	1.1E-05	2.43E-05	0.000161	2.2E-05	6.39E-05	1.080552	1.1E-05
2023	2023Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0017152	0.000172	2.65E-05	8.82E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.853817	1.76E-05
2023	2023Passenger Cars	Passenger Cars	LDA	0.0013007	0.0001146	1.98E-05	6.61E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.62729	1.32E-05
2023	2023Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0030401	0.0002866	5.51E-05	6.61E-06	4.41E-06	9.92E-05	4.41E-06	3.97E-05	0.726283	2.87E-05
2024	2024Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0	0	0	0	0	0	0	0	0	0
2024	2024Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0	0	0	0	0	0	0	0	0	0
2024	2024Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0008355	0.0018695	0.000104	1.1E-05	2.2E-05	0.000161	1.98E-05	6.39E-05	1.080261	1.1E-05
2024	2024Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0016446	0.0001631	2.43E-05	8.82E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.853795	1.76E-05
2024	2024Passenger Cars	Passenger Cars	LDA	0.0012588	0.0001124	1.76E-05	6.61E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.627251	1.32E-05
2024	2024Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0028241	0.0002646	5.07E-05	6.61E-06	4.41E-06	9.92E-05	4.41E-06	3.97E-05	0.726524	2.87E-05
2025	2025Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0	0	0	0	0	0	0	0	0	0
2025	2025Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0	0	0	0	0	0	0	0	0	0
2025	2025Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0007848	0.0016997	9.48E-05	1.1E-05	2.2E-05	0.000161	1.98E-05	6.39E-05	1.080274	8.82E-06
2025	2025Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0015873	0.0001565	2.43E-05	8.82E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.853778	1.76E-05
2025	2025Passenger Cars	Passenger Cars	LDA	0.0012324	0.0001102	1.76E-05	6.61E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.627237	1.32E-05
2025	2025Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0026323	0.0002447	4.63E-05	6.61E-06	4.41E-06	9.92E-05	4.41E-06	3.97E-05	0.726742	2.65E-05
2026	2026Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0	0	0	0	0	0	0	0	0	0
2026	2026Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0	0	0	0	0	0	0	0	0	0
2026	2026Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0007474	0.0015741	9.04E-05	1.1E-05	1.98E-05	0.000161	1.76E-05	6.39E-05	1.080146	8.82E-06
2026	2026Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0015366	0.0001499	2.2E-05	8.82E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.853751	1.76E-05
2026	2026Passenger Cars	Passenger Cars	LDA	0.0012103	0.000108	1.76E-05	6.61E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.627259	1.32E-05
2026	2026Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0024581	0.0002271	4.19E-05	6.61E-06	4.41E-06	9.92E-05	4.41E-06	3.97E-05	0.727004	2.43E-05
2030	2030Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0.0013889	0.0092836	0.000293	3.53E-05	9.7E-05	0.000216	9.04E-05	7.72E-05	3.342857	0
2030	2030Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0.0007011	0.0022408	0.000171	2.43E-05	6.75E-05	0.000313	6.22E-05	0.00013	2.149999	0
2030	2030Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0006437	0.0011861	7.28E-05	1.1E-05	1.76E-05	0.000161	1.54E-05	6.39E-05	1.079751	6.61E-06
2030	2030Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0014154	0.0001345	1.98E-05	8.82E-06	4.41E-06	9.92E-05	2.2E-06	3.97E-05	0.853626	1.54E-05
2030	2030Passenger Cars	Passenger Cars	LDA	0.0011508	0.0001014	1.54E-05	6.61E-06	4.41E-06	9.92E-05	2.2E-06	3.97E-05	0.627253	1.32E-05
2030	2030Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0018871	0.0001675	2.87E-05	6.61E-06	4.41E-06	9.92E-05	4.41E-06	3.97E-05	0.728018	1.98E-05

**lbs/VMT**

1gram = 0.0022046 lbs

Chiquita Canyon Landfill EIR

Year		Vehicle Category		CO	NOx	ROG	SOx	PM <sub>10</sub>	PM <sub>10</sub> (Fugitive)	PM <sub>2.5</sub>	PM <sup>2.5</sup> (Fugitive)	CO2	CH4
				lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT	lb/VMT
2014	2014Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0	0	0	0	0	0	0	0	0	0
2014	2014Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0	0	0	0	0	0	0	0	0	0
2014	2014Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0022465	0.0024511	0.000223	1.1E-05	5.62E-06	0.000161	4.96E-06	6.39E-05	1.084921	2.43E-05
2014	2014Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0035957	0.0002487	7.72E-05	8.82E-06	6.61E-07	9.92E-05	3.31E-07	3.97E-05	0.854113	3.53E-05
2014	2014Passenger Cars	Passenger Cars	LDA	0.0025507	0.0001362	6.39E-05	6.61E-06	4.41E-06	9.92E-05	2.2E-06	3.97E-05	0.625824	2.43E-05
2014	2014Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0064374	0.0003704	0.000172	6.61E-06	1.32E-06	9.92E-05	9.92E-07	3.97E-05	0.721649	5.51E-05
2015	2015Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0.0012509	0.0156066	0.000231	3.7E-05	2.33E-05	0.000215	2.15E-05	7.82E-05	3.731821	0
2015	2015Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0.001046	0.0067893	0.00024	2.37E-05	2.34E-05	0.000314	2.15E-05	0.00013	2.368276	0
2015	2015Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0019908	0.0022513	0.000203	1.1E-05	5.29E-06	0.000161	4.63E-06	6.39E-05	1.083596	2.2E-05
2015	2015Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0032452	0.0002209	6.61E-05	8.82E-06	3.31E-07	9.92E-05	3.31E-07	3.97E-05	0.854027	3.09E-05
2015	2015Passenger Cars	Passenger Cars	LDA	0.0022796	0.0001217	5.29E-05	6.61E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.626139	2.2E-05
2015	2015Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0058598	0.0003373	0.000148	6.61E-06	1.32E-06	9.92E-05	9.92E-07	3.97E-05	0.722271	5.07E-05
2016	2016Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0.001261	0.0146046	0.000236	3.75E-05	2.25E-05	0.000216	2.05E-05	7.72E-05	3.682057	0
2016	2016Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0.0009387	0.0059307	0.000219	2.43E-05	2.04E-05	0.000313	1.88E-05	0.00013	2.339832	0
2016	2016Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0017681	0.0021111	0.00019	1.1E-05	4.96E-06	0.000161	4.63E-06	6.39E-05	1.083435	1.98E-05
2016	2016Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0029299	0.0001944	5.73E-05	8.82E-06	3.31E-07	9.92E-05	3.31E-07	3.97E-05	0.853956	2.87E-05
2016	2016Passenger Cars	Passenger Cars	LDA	0.0020547	0.0001085	4.41E-05	6.61E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.626404	1.98E-05
2016	2016Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0053131	0.0003056	0.000123	6.61E-06	9.92E-07	9.92E-05	9.92E-07	3.97E-05	0.722977	4.63E-05
2021	2021Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0.0013338	0.0103665	0.000267	3.75E-05	1.85E-05	0.000216	1.72E-05	7.72E-05	3.388558	0
2021	2021Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0.0007244	0.002481	0.000175	2.43E-05	1.07E-05	0.000313	9.79E-06	0.00013	2.162865	0
2021	2021Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0010406	0.0014273	0.000128	1.1E-05	3.97E-06	0.000161	3.64E-06	6.39E-05	1.081164	1.32E-05
2021	2021Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0019114	0.0001164	2.87E-05	8.82E-06	3.31E-07	9.92E-05	3.31E-07	3.97E-05	0.853842	1.98E-05
2021	2021Passenger Cars	Passenger Cars	LDA	0.0013977	7.407E-05	2.2E-05	6.61E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.627235	1.54E-05
2021	2021Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0035406	0.0002011	6.61E-05	6.61E-06	6.61E-07	9.92E-05	6.61E-07	3.97E-05	0.725609	3.31E-05
2023	2023Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0	0	0	0	0	0	0	0	0	0
2023	2023Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0	0	0	0	0	0	0	0	0	0
2023	2023Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0008929	0.0012116	0.00011	1.1E-05	3.64E-06	0.000161	3.31E-06	6.39E-05	1.080552	1.1E-05
2023	2023Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0017152	0.0001032	2.65E-05	8.82E-06	3.31E-07	9.92E-05	3.31E-07	3.97E-05	0.853817	1.76E-05
2023	2023Passenger Cars	Passenger Cars	LDA	0.0013007	6.878E-05	1.98E-05	6.61E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.62729	1.32E-05
2023	2023Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0030401	0.000172	5.51E-05	6.61E-06	6.61E-07	9.92E-05	6.61E-07	3.97E-05	0.726283	2.87E-05
2024	2024Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0	0	0	0	0	0	0	0	0	0
2024	2024Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0	0	0	0	0	0	0	0	0	0
2024	2024Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0008355	0.0011217	0.000104	1.1E-05	3.31E-06	0.000161	2.98E-06	6.39E-05	1.080261	1.1E-05
2024	2024Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0016446	9.788E-05	2.43E-05	8.82E-06	3.31E-07	9.92E-05	3.31E-07	3.97E-05	0.853795	1.76E-05
2024	2024Passenger Cars	Passenger Cars	LDA	0.0012588	6.746E-05	1.76E-05	6.61E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.627251	1.32E-05
2024	2024Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0028241	0.0001587	5.07E-05	6.61E-06	6.61E-07	9.92E-05	6.61E-07	3.97E-05	0.726524	2.87E-05

## Chiquita Canyon Landfill EIR

2025	2025Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0	0	0	0	0	0	0	0	0	0
2025	2025Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0	0	0	0	0	0	0	0	0	0
2025	2025Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0007848	0.0010198	9.48E-05	1.1E-05	3.31E-06	0.000161	2.98E-06	6.39E-05	1.080274	8.82E-06
2025	2025Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0015873	9.392E-05	2.43E-05	8.82E-06	3.31E-07	9.92E-05	3.31E-07	3.97E-05	0.853778	1.76E-05
2025	2025Passenger Cars	Passenger Cars	LDA	0.0012324	6.614E-05	1.76E-05	6.61E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.627237	1.32E-05
2025	2025Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0026323	0.0001468	4.63E-05	6.61E-06	6.61E-07	9.92E-05	6.61E-07	3.97E-05	0.726742	2.65E-05
2026	2026Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0	0	0	0	0	0	0	0	0	0
2026	2026Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0	0	0	0	0	0	0	0	0	0
2026	2026Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0007474	0.0009445	9.04E-05	1.1E-05	2.98E-06	0.000161	2.65E-06	6.39E-05	1.080146	8.82E-06
2026	2026Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0015366	8.995E-05	2.2E-05	8.82E-06	3.31E-07	9.92E-05	3.31E-07	3.97E-05	0.853751	1.76E-05
2026	2026Passenger Cars	Passenger Cars	LDA	0.0012103	6.482E-05	1.76E-05	6.61E-06	2.2E-06	9.92E-05	2.2E-06	3.97E-05	0.627259	1.32E-05
2026	2026Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0024581	0.0001362	4.19E-05	6.61E-06	6.61E-07	9.92E-05	6.61E-07	3.97E-05	0.727004	2.43E-05
2030	2030Heavy-Heavy Duty Trucks	Heavy-Heavy Duty Trucks	HHDT	0.0013889	0.0055701	0.000293	3.53E-05	1.46E-05	0.000216	1.36E-05	7.72E-05	3.342857	0
2030	2030Medium-Heavy Duty Trucks	Medium-Heavy Duty Trucks	MHDT	0.0007011	0.0013445	0.000171	2.43E-05	1.01E-05	0.000313	9.33E-06	0.00013	2.149999	0
2030	2030Light-Heavy Duty Trucks	Light-Heavy Duty Trucks	LHD2	0.0006437	0.0007116	7.28E-05	1.1E-05	2.65E-06	0.000161	2.31E-06	6.39E-05	1.079751	6.61E-06
2030	2030Light-Duty Trucks	Light-Duty Trucks	LDT2	0.0014154	8.069E-05	1.98E-05	8.82E-06	6.61E-07	9.92E-05	3.31E-07	3.97E-05	0.853626	1.54E-05
2030	2030Passenger Cars	Passenger Cars	LDA	0.0011508	6.085E-05	1.54E-05	6.61E-06	4.41E-06	9.92E-05	2.2E-06	3.97E-05	0.627253	1.32E-05
2030	2030Light-Light Duty Trucks	Light-Light Duty Trucks	LDT1	0.0018871	0.0001005	2.87E-05	6.61E-06	6.61E-07	9.92E-05	6.61E-07	3.97E-05	0.728018	1.98E-05

# Chiquita Canyon Landfill EIR

## EMFAC2011 Idling Emission Rates for HHDT, South Coast Air Basin; Annual Average

	CO	NOx	ROG	SOx	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	CH <sub>4</sub>
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
2015	0.075983	0.141229	0.013973	0.000148	0.000591031	0.000544	15.1172408	0
2016	0.074277	0.128781	0.01328	0.000148	0.000324965	0.000299	14.99248558	0
2021	0.087178	0.095813	0.015478	0.000148	0.000250771	0.000231	13.96953045	0
2030	0.091341	0.086164	0.016195	0.000148	0.000239527	0.00022	13.96140275	0

Note: EMFAC does not predict methane emissions from idling.

Conversion gram/lb: 1 gram = 0.002205 lb



**Chiquita Canyon Landfill EIR**  
**Fugitive PM<sub>10</sub> Emission Factors for Roads**

**Assumptions:**

Assume PM<sub>10</sub> control efficiencies are the same for PM<sub>2.5</sub>

**Fugitive Emissions Used in Analysis <sup>1</sup>**

**Trucks:**

	Uncontrolled / Unmitigated Fugitive Emission Factors (lb/VMT)				Controlled Fugitive Emission Factors (lb/VMT)			
	Onsite PM <sub>10</sub>	Offsite PM <sub>10</sub>	Onsite PM <sub>2.5</sub>	Offsite PM <sub>2.5</sub>	Onsite PM <sub>10</sub>	Offsite PM <sub>10</sub>	Onsite PM <sub>2.5</sub>	Offsite PM <sub>2.5</sub>
<b>Paved Roads</b>	2.42E-01	9.04E-03	5.93E-02	2.22E-03	2.42E-02	9.04E-04	5.93E-03	2.22E-04
<b>Unpaved Roads</b>	1.11	NA	0.11	NA	1.11E-01	NA	1.11E-02	NA

**Control Measures:**

Measure	Control Efficiency	Applicable Source	Reference
25-foot-long gravel trackout apron, paved roads cleaned 3x daily using a SCAQMD-approved street sweeper.	90%	Paved Roads	Western Regional Air Partnership Fugitive Dust Handbook, Table 3-7; SCAQMD CEQA Handbook, Table XI-C.
Watering 2x daily, use of dust palliatives, paving as much as possible, and limiting the maximum vehicle speed to 15 miles per hour.	90%	Unpaved Roads	Western Regional Air Partnership Fugitive Dust Handbook, Table 6-6; SCAQMD CEQA Handbook, Table XI-D.

**Chiquita Canyon Landfill EIR**  
**Fugitive PM<sub>10</sub> Emission Factors for Roads**

**Emission Factor Calculations**

**Travel On Paved Roads <sup>2</sup>**

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

Parameter	Description	Value
k	Constant used to calculate PM <sub>10</sub>	0.0022
k	Constant used to calculate PM <sub>2.5</sub>	0.00054
P	Number of Days > 0.01 in. Precipitation (Annual Ave. for SCAB) <sup>4</sup> :	34
N	Number of Days in Averaging Period:	365
SL (Paved Roads)	Silt Loading (g/m2) <sup>5</sup>	7.4
	Onsite SL (Paved Roads)	0.2
	Offsite SL (Paved Roads)	

**Vehicle Travel on Unpaved Surfaces at Industrial Sites<sup>3</sup>**

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

Parameter	Description	Value
s	Silt Loading (g/m2) <sup>6</sup>	4.0
P	Number of Days > 0.01 in. Precipitation (Annual Ave. for SCAB) <sup>4</sup> :	34
	Constants: PM <sub>10</sub>	Constants: PM <sub>2.5</sub>
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) <sup>7</sup>	Fugitive Emission Factors on Paved Roads (lb/VMT)			
			Onsite PM <sub>10</sub>	Offsite PM <sub>10</sub>	Onsite PM <sub>2.5</sub>	Offsite PM <sub>2.5</sub>
LDA	0.94	0.08	1.24E-02	4.65E-04	3.05E-03	1.14E-04
HHDT	23.25	0.65	3.29E-01	1.23E-02	8.07E-02	3.02E-03
MHDT	11.75	0.14	1.64E-01	6.13E-03	4.02E-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	8.26E-02	3.09E-03	2.03E-02	7.58E-04
LDT1	4.63	0.02	6.33E-02	2.37E-03	1.55E-02	5.81E-04
Average	17.19	-	2.42E-01	9.04E-03	5.93E-02	0.00221814

Fugitive Emission Factors on Unpaved Roads (lb/VMT)	
Onsite PM <sub>10</sub>	Onsite PM <sub>2.5</sub>
0.30	0.03
1.27	0.13
0.94	0.09
0.46	0.05
0.69	0.07
0.61	0.06
1.11	0.11



**Chiquita Canyon Landfill EIR**  
**Fugitive PM<sub>10</sub> Emission Factors for Roads**

Vehicle Class	Vehicle Weight Class (lbs) <sup>8</sup>		Median Weight (lbs)	Median Weight (tons)	
	Low	High			
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) <sup>5</sup> :	0.6	0.2	0.06	.03 / 0.015 limited	

<sup>1</sup>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.

<sup>2</sup>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.

<sup>3</sup>Emission factors were calculated using EPA AP-42 13.2.2, equations 1a and 2.

<sup>4</sup>Average SCAB precipitation conditions were taken from SCAQMD CEQA Handbook, Table A9-9-D-4.

<sup>5</sup>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.

<sup>6</sup>Silt content was obtained from SCAQMD CEQA Handbook, Table A9-9 in order to account for the gravel roads

<sup>7</sup>Based on the existing fleet mix and the addition of vehicles from the proposed project.

<sup>8</sup>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).



**Air Quality Appendix H3  
Carbon Storage Analysis**

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## SCS ENGINEERS

June 2, 2014  
File No. 01204123.11

Mr. Tom Reilly  
Waste Connections, Inc.  
1385 Promontory Point Drive  
El Dorado Hills, CA 95762

**Subject: Carbon Storage in Chiquita Canyon Landfill**

Dear Mr. Reilly:

SCS Engineers (SCS) understands that Waste Connections, Inc. (WCI) is planning to increase the capacity of the Chiquita Canyon Landfill (CCL). This increase will result in a change in the amount of carbon stored in the CCL. To quantify the mass of the carbon stored in the CCL and the equivalent mass of the carbon dioxide (CO<sub>2</sub>e), SCS has utilized the Solid Waste Industry for Climate Solutions (SWICS) methodology, available at ([http://www.scsengineers.com/Papers/Sullivan\\_SWICS\\_White\\_Paper\\_Version\\_2.2\\_Final.pdf](http://www.scsengineers.com/Papers/Sullivan_SWICS_White_Paper_Version_2.2_Final.pdf)). The mass of carbon stored is expressed in metric tons (MT) of CO<sub>2</sub>e, which is the most common unit used to quantify greenhouse gas (GHG) impacts.

SCS has evaluated the carbon storage under two scenarios. The first scenario assumes that waste is placed in the landfill at the maximum permitted disposal rate of 12,000 tons per day (tpd) or 3,120,000 tons per year (tpy) (Scenario 1). The second scenario assumes that waste placement increases from 6,000 tpd (1,560,000 tpy) to 12,000 tpd (3,120,000 tpy), continuing until the landfill reaches capacity (Scenario 2). Scenario 2 evaluates the average annual disposal rate for waste disposed under the proposed expansion, or 2,958,113 tpy.

The average waste composition for landfills in California derived from the California Integrated Waste Management Board (CIWMB, now CalRecycle) was used when calculating the carbon storage factor (CSF) for CCL. **Table 1** shows the information needed to determine the CSF, including the fraction of each waste component, the estimated moisture content, the carbon storage factor, and the carbon storage factor by waste type.

**Table 1 - Carbon Storage Factor Determination**

Waste Type	Fraction of California Waste Stream	Moisture Content	Carbon Storage Factor (dry kg C/dry kg waste)	Carbon Storage Factor (MT C/wet ton)
Newspapers	1%	6%	0.42	0.395
Office Paper	2%	6%	0.05	0.047
Mixed Paper	3%	6%	0.24	0.226
Magazines/Catalogs	1%	6%	0.27	0.254
Cardboard/Kraft Paper	5%	5%	0.26	0.247
Remainder/Comp Paper	5%	6%	0.25	0.235
Textiles	2%	10%	0.01	0.009
Wood	1%	20%	0.38	0.304
Food Waste	16%	70%	0.08	0.024
Yard Trimmings	6%	60%	0.34	0.136
Misc. Organics	8%	50%	0.27	0.135
Other waste	50%	NA	NA	0
Composite CSF				0.0645

NA = not applicable (not used in calculations)

The waste placement, amount of carbon stored, and the CO<sub>2</sub>e for each year of the landfill expansion are shown in **Table 2**. Based on the analysis completed, the proposed expansion of the CCL will result in the following amounts of carbon storage:

- Maximum annual carbon storage: 738,386 MTCO<sub>2</sub>e
- Average annual carbon storage: 696,703 MTCO<sub>2</sub>e
- Total carbon storage over remaining life of landfill: 21,597,781 MTCO<sub>2</sub>e



**Table 2 - Carbon Storage in CCL**

Year	Waste Placed	Carbon Stored	CO2e Stored
	tpy	Mg	MT
1	1,671,429	107,783	395,564
2	1,894,286	122,154	448,306
3	2,117,143	136,525	501,047
4	2,340,000	150,896	553,789
5	2,562,857	165,267	606,531
6	2,785,714	179,638	659,273
7	3,008,571	194,009	712,015
8	3,120,000	201,195	738,386
9	3,120,000	201,195	738,386
10	3,120,000	201,195	738,386
11	3,120,000	201,195	738,386
12	3,120,000	201,195	738,386
13	3,120,000	201,195	738,386
14	3,120,000	201,195	738,386
15	3,120,000	201,195	738,386
16	3,120,000	201,195	738,386
17	3,120,000	201,195	738,386
18	3,120,000	201,195	738,386
19	3,120,000	201,195	738,386
20	3,120,000	201,195	738,386
21	3,120,000	201,195	738,386
22	3,120,000	201,195	738,386
23	3,120,000	201,195	738,386
24	3,120,000	201,195	738,386
25	3,120,000	201,195	738,386
26	3,120,000	201,195	738,386
27	3,120,000	201,195	738,386
28	3,120,000	201,195	738,386
29	3,120,000	201,195	738,386
30	3,120,000	201,195	738,386
31	3,120,000	201,195	738,386
TOTAL	91,260,000	5,884,954	21,597,781
AVERAGE	2,943,871	189,837	696,703
MAXIMUM	3,120,000	201,195	738,386



A comprehensive description of the methodology is available in the SWICS document.

If you have any questions please do not hesitate to contact the undersigned at 916-361-1297.

Sincerely,



John Henkelman  
Senior Project Professional  
**SCS Engineers**



Patrick S. Sullivan  
Senior Vice President  
**SCS Engineers**

