APPENDIX M GREENHOUSE GAS EMISSIONS TECHNICAL REPORT

El Monte Sand Mining Project

Draft Greenhouse Gas Emissions Technical Report

Project # PDS2015-MUP-98-014W2/PDS2015-RP-15-001;
Record ID #: PDS2015-MUP-98-014W2; PDS2014-RP-15-001;
Environmental Log #: PDS2015-ER-98-14-016B

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Glossary of Terms and Acronyms

A	AB	Assembly Bill
	AR4	Fourth Assessment Report
B	bgs	Below ground surface
C	CAA	Clean Air Act
	CalGreen	California Green Building Standards Code
	CARB	California Air Resources Board
	CAT	Climate Action Team
	CCAT	California Climate Action Team
	CH_4	Methane
	CO_2	Carbon dioxide
	CO_2e	Carbon dioxide equivalents
G	GHG	Greenhouse Gas
	GWP	Global Warming Potential
H	HFCs	Hydroflorocarbons
I	IPCC	Intergovernmental Panel on Climate Change
K	KWh	Kilowatt hours
L	LCFS	Low Carbon Fuel Standard
M	MMT	Million Metric Tons
	MPO	Metropolitan planning organization
	MT	Metric Tons
N	N_2O	Nitrous Oxide
	NAAQS	National Ambient Air Quality Standards
O	OPR	Office of Planning and Research
P	PFCs	perfluorocarbons
R	RTP	Regional transportation plan
S	SAR	Second Assessment Report
	SB	Senate Bill
	SCAG	Southern California Association of Governments
	SCS	Sustainable communities strategies
	SDAPCD	San Diego County Air Pollution Control District
U	USEPA	United States Environmental Protection Agency

El Monte Sand Mining Project

Draft Greenhouse Gas Emissions Technical Report

Executive Summary

The purpose of this Greenhouse Gas Emissions Technical Report is to evaluate the potential short- and long-term greenhouse gas impacts resulting from implementation of the proposed El Monte Sand Mining Project (project). The project would extract 12.5 million tons of mineral resources, then reclaim and restore the site for undeveloped open space/recreational use.

The County's *Guidelines for Determining Significance and Report Format and Content Requirements – Climate Change* (County, 2013) were the previous guidelines for determining significance for GHG emissions with respect to CEQA; however, these guidelines have been revoked and therefore are not applicable to the determination of significance for the project. In the absence of adopted guidance, the County recommends the use of the industrial source threshold developed by the South Coast Air Quality Management District (SCAQMD) for this project.

The SCAQMD has adopted an annual screening level threshold of 10,000 MT CO_2e for industrial projects for which the SCAQMD is the Lead Agency or has discretionary approval (SCAQMD, 2008). The SCAQMD, in accordance with CEQA Guidelines Section 15064.7, adopted its annual threshold for industrial sources under a public review process as part of stakeholder working group meetings that were open to the public and based on substantial evidence. The SCAQMD's 10,000 MT CO_2e per year threshold applies to a project's annual long-term GHG emissions. The proposed project would generate GHG emissions over a 12-year period during the mining process with some residual emissions associated with reclamation activities that would extend four years after mining. Project GHG emissions would cease after mining and reclamation activities are complete. In contrast, typical land use development projects or stationary source facilities would continue to emit GHG emissions well beyond the time frame of the proposed project. Therefore, the SCAQMD's 10,000 MT CO_2e per year threshold is considered to be an appropriate threshold for this project, but also conservative and environmentally protective given that the lifetime of the project is limited to 12 years of mining with reclamation extending an additional four years.

Project construction and operational activities would emit GHGs as a result of equipment exhaust from haul trucks, vendor and worker vehicles, and off-road construction equipment. Additionally, GHG emissions would be generated indirectly through the consumption of electricity, water use, and waste generation. Because of the nature of the operational activities and the overlap between the initial construction and project operations, all emissions are analyzed as if they were operational emissions.

The GHG analysis determined that the project would generate total annual GHG emissions less than the County's recommended industrial source significance threshold. The implementation of the project would logically make locally mined aggregate available to customers for projects in the County, replacing the costlier import of aggregate from facilities as far away as Irwindale, California, Thermal, California, and Ensenada, Mexico (CalCIMA, 2015). Therefore, vehicle miles traveled (VMT) to supply aggregate to development and infrastructure projects within the County would be reduced compared to current practices. This in turn would reduce GHG emissions from haul trucks. Mineral extraction, such as that proposed with the operation of the El Monte Sand Mine, is undertaken to meet the variable demands of the building industry. The approval of a new source of raw material does not increase demand. Nonetheless, the approval of this project is considered additive to the County's and region's mineral extraction operations, and the Project's GHG analysis did not quantitatively consider the reduction in VMT in the analysis of GHG emissions. Because the project's GHG emissions would not exceed the threshold, it is concluded the project would have a less than significant impact on the environment.

With respect to the Project's support of applicable plans, policies or regulations adopted for the purpose of reducing GHG emissions, qualitative consideration of the reduction in VMT is appropriate. As discussed above, locating a source of raw materials in closer proximity to the places the material is needed, would reduce VMT and the resultant mobile source emissions within the County. Thus, the project would not conflict with applicable plans, policies or regulations adopted for the purpose of reducing GHG emissions.

Design Considerations

No design considerations are included for the project.

Mitigation Measures

No mitigation is required for this project.

1. Introduction

The El Monte Sand Mining Project (project) is proposed by the El Monte Nature Preserve, L.L.C. (Proponent) to extract 12.5-million tons of mineral resources within the El Monte Valley. The 16-year project would include mineral extraction and reclamation, staging areas, trails, and fuel modification areas over approximately 262 acres (243 acres within the mining footprint) of an approximately 479.5-acre site which is zoned for extractive use. After the completion of mining, the project site would be reclaimed and restored for an end use of undeveloped open space with an open water pond and recreational trails.

1.1 Purpose of the Report

This technical report has been prepared to support the County of San Diego's (County) environmental review process and provide information regarding potential greenhouse gas (GHG) emissions associated with project approval. This report provides background information on GHG emissions and evaluates potential impacts associated with the project's GHG contributions.

1.2 Project Location and Description

The site is situated within the San Diego River watershed and in the floodplain of the San Diego River. The San Diego River flows through the central part of the properties. The project is parallel to both El Monte and Willow Roads in Lakeside, CA. The project site is located approximately 1.5 miles east of where the San Diego River is crossed by Highway 67 and is 4.8 miles west of the El Capitan Reservoir dam. **Figure 1** and **Figure 2** show the Regional Location and the area affected by the project, respectively.

Access to the project site is located 0.5 miles northeast of the intersection of El Monte Road and Lake Jennings Project Road. Project traffic would use El Monte Road which is also the primary route to the Van Ommering Dairy Farm, El Monte County Park, and El Capitan Reservoir. Residential properties located within the project vicinity use both El Monte and Willow Roads to access their properties.

As stated previously, the project would extract 12.5 million tons of mineral resources, then reclaim and restore the site for undeveloped open space/recreational use. The mining process would be completed in four phases over a 12-year period. As mining is completed in phases, the disturbed areas previously mined would be progressively reclaimed starting in year four of the project. Reclaimed areas would be restored to an end use of undeveloped open space and recreational trail easements. Reclamation is anticipated to extend four years past the end of mining, giving the project a total lifetime of 16 years.

Activities associated with the project include an aggregate processing facility, a permanent and mobile processing plant, storage container, weight scales, and modular scale house. There are currently no plans to have need of or operate a batch plant or rock crushing facilities and the mining operations would not require blasting activities. The project would have a Reclamation Plan boundary of 479.5 acres which includes the disturbed areas, the golf course ponds, the 50-foot setback from El Monte Road and Willow Road and a 300-foot setback from the eastern parcel line of APN 391-071-04 and Dairy Road. The project would eliminate the approved golf course

use and would include the backfill of the onsite pond. The footprint of the project and areas of disturbance are shown in Figure 2. Figure 3 shows the project phasing.

1.2.1 Mining Operations

Onsite mining and plant operations would occur between 7:00 am and 5:00 pm Monday through Friday. Aggregate transport would be conducted between 7:00 am and 5:00 pm Monday through Friday as well as 7:00 am to 1:00 pm on Saturdays. The site would remain closed on Sundays and holidays. During maximum production, the site would generate 157 one-way truck trips. Maximum excavation would extend to a depth of 36 to 41 feet. Excavation activities would result in a pad approximately 10 feet below ground surface (bgs) to set up the processing wash plant. Earthen berms would be placed along the top of the plant area to screen it from the surrounding land uses. A two lane access road, which connects to the haul road, would also be established at 10 - 12 feet bgs to accommodate the loading of haul trucks from the processing plant area. The roads would also be screened from offsite land uses by earthen berms. A grade control or drop structure would be constructed across the floodway at the east end of the project site to prevent channel erosion during times of water flow. The following sections outline the anticipated activities during each project phase. **Table 1** gives an overview of the project timeline.

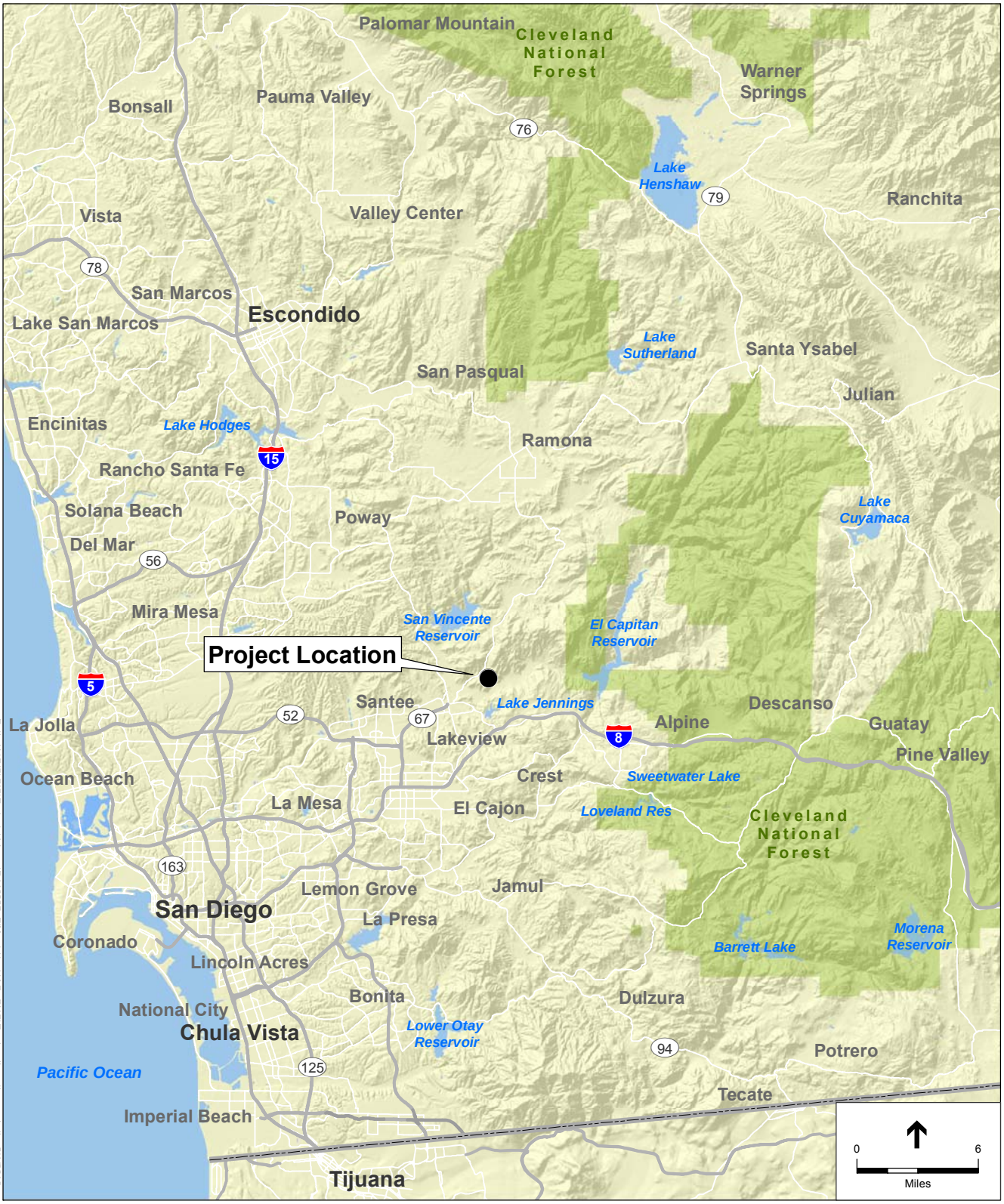
Site Preparation

Site preparation would include the construction of the drop structure, access road, processing area pad, and screening berms.

Phase 1

The first phase would continue for four years on an area of approximately 93 acres. Mining operations would begin at the far eastern end of the project site. Wheeled front-end loaders would be used to remove material to approximately 36 to 41 feet bgs (4 feet above the water table).

As a portion of the wash fines produced from the processing plant would be used to refill a large depression created by the abandoned golf course project. This depression is located east of the extraction area and east of Dairy Road. It is anticipated that 450,000 tons of wash fines would be needed to backfill this depression.



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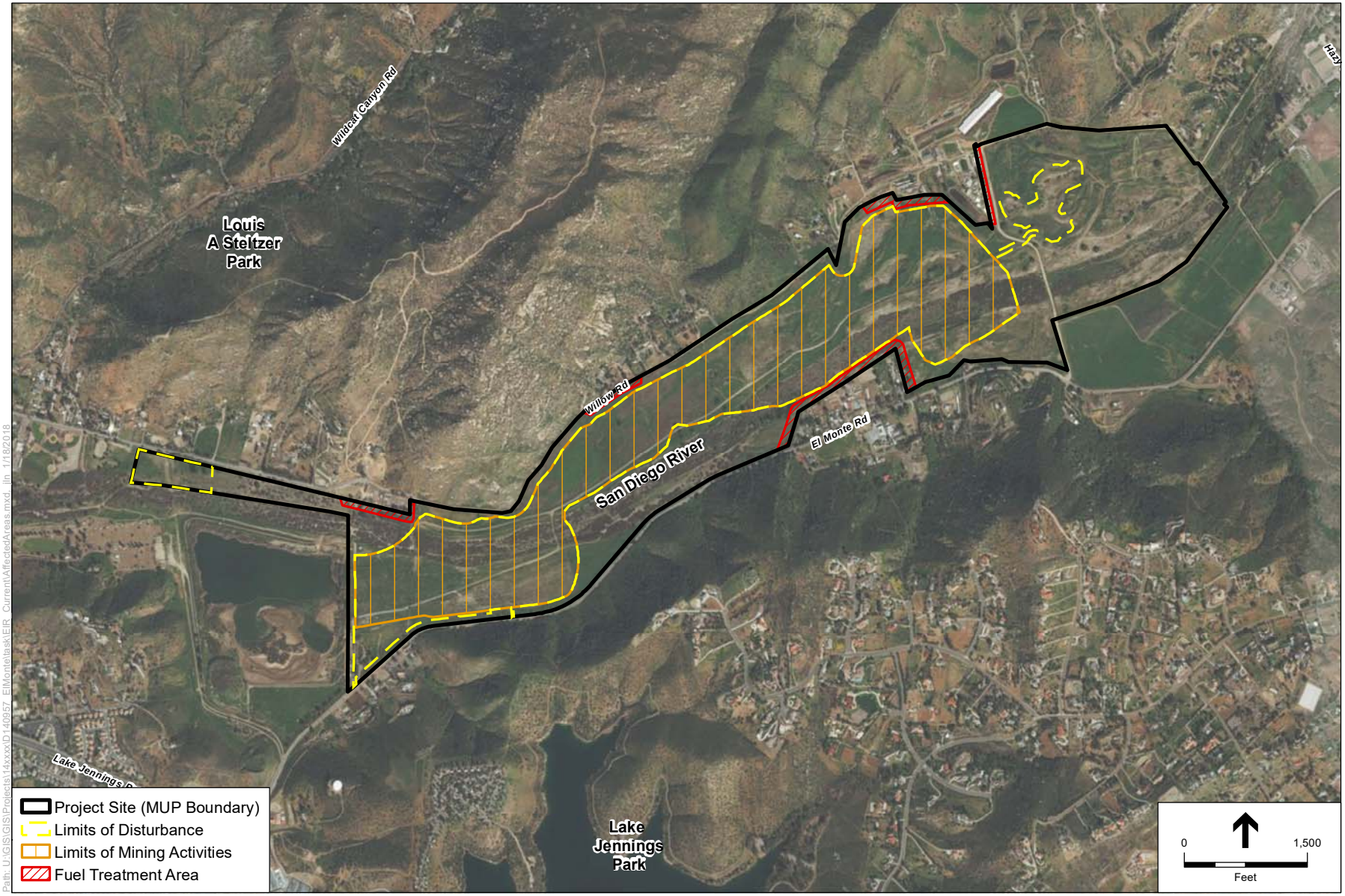
SOURCE: ESRI; SanGIS 2015

El Monte Sand Mining . 140957

Figure 1

Regional Location



SOURCE: ESRI

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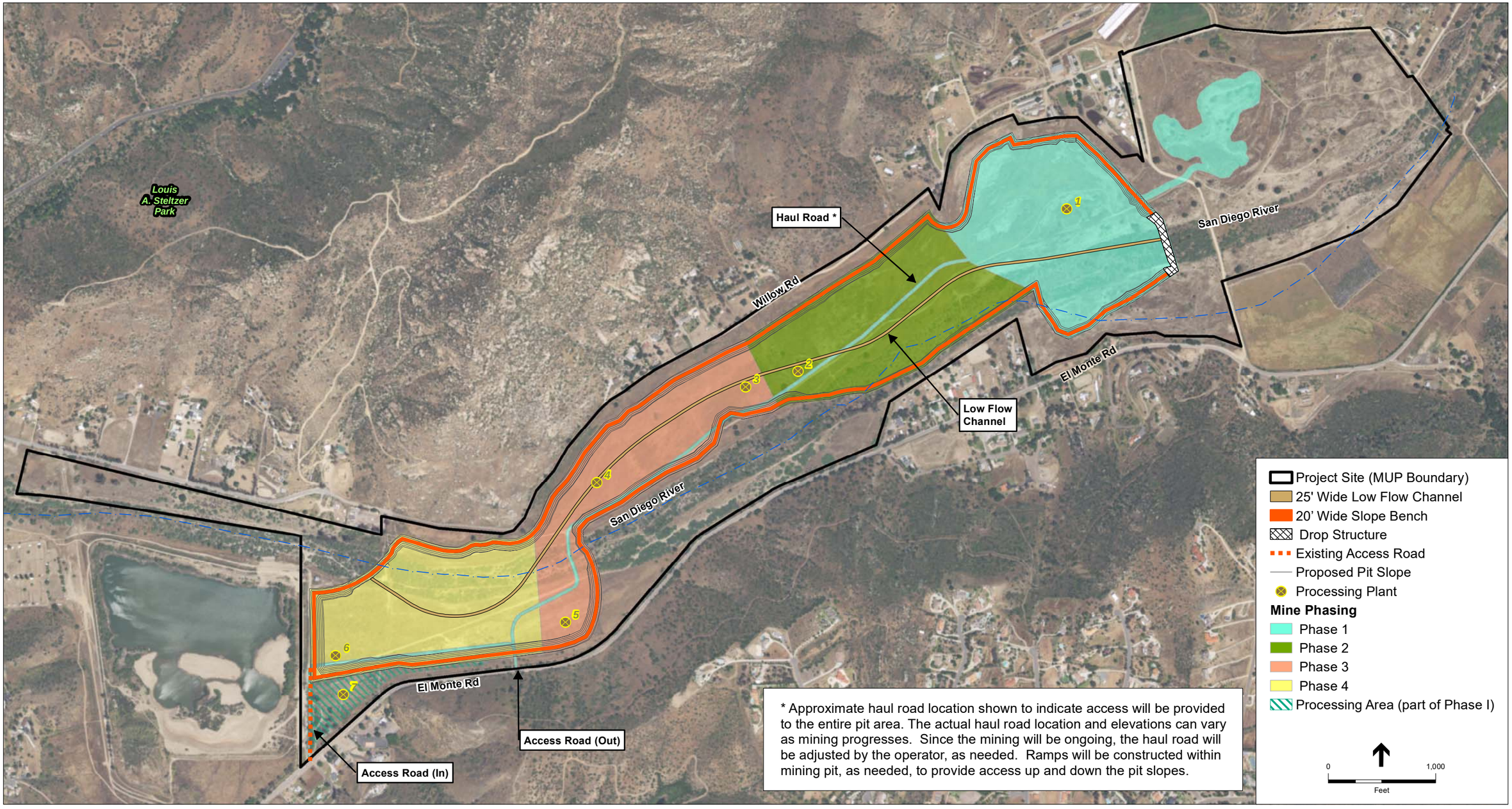
Figure 2

El Monte Sand Mining Area Affected by the Project



SOURCE: NAIP 2014; EnviroMine March 11, 2016; SanGIS 2016

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Figure 3
Phasing Plan

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Once the depression is filled, wash fines would be directed through a series of settling basins near the processing plant area. The settling basins would be used to collect wash fines which would be sold as a soil amendment or incorporated into the surface of areas to be reclaimed. When used onsite, the fines would be spread evenly and incorporated into the surface in preparation for planting. A haul truck or loaders would be used to transport wash fines in the pit area. The settling ponds would be moved westward with the processing plant.

TABLE 1
MINING AND RECLAMATION PHASING AND ACREAGE WITHIN MINING FOOTPRINT

Phase	Area of Disturbance* (acres)	Mining Duration (Years)	Initiation Year	Completion Year
Mining 1	93	4	2019	2023
Reclamation 1	93	4	2023	2027
Mining 2	52	3	2023	2026
Reclamation 2	52	4	2026	2030
Mining 3	48	3	2026	2029
Reclamation 3	48	4	2029	2033
Mining 4	50	2	2029	2031
Reclamation 4	50	4	2031	2035
Total	**243**	**16**	**—**	**—**

* Rounded to the nearest acre, including mining area, trails, and staging areas.

SOURCE: EnviroMine, Inc., 2016a.

Phase 2

Phase 2 mining would continue for three years. Phase 2 would mine an estimated 52 acres and would mimic the extraction process from Phase 1. The maximum depth of this phase is also anticipated to be 36 to 41 feet bgs.

Reclamation of the Phase 1 area is estimated to last approximately four years. Reclamation would include establishing final slopes, incorporation of any accumulated wash fines and topsoil, revegetation using native species, weed control and monitoring of established vegetation.

Phase 3

Phase 3 would continue for three years. Phase 3 would mine an estimated 48 acres and would mimic the extraction processes from Phases 1 and 2. During Phase 3 the processing plant would be moved to the south of the channel, closer to the current operations. Reclamation of Phase 2 would continue for four years. Reclamation of Phase 2 would be similar to that of Phase 1. Monitoring of Phase 1 would continue throughout Phase 3 activities.

Phase 4

Phase 4 would continue for two years. Phase 4 would mine an estimated 50 acres and would mimic the extraction processes from the previous phases. Once the extraction operations have finished, all equipment and temporary structures would be removed from the project site. The remaining access roads and operational areas of disturbance would be graded to final reclamation contours and then revegetated. Reclamation of Phase 3 would continue for four years. Reclamation of Phase 3 would be similar to that of Phase 1 and 2. Monitoring of Phases 1 and 2 would continue throughout Phase 4 activities.

1.2.2 Reclamation

By the end of mining operations, it is estimated that 80 percent of the disturbed lands would be reclaimed resulting in approximately 20 acres of disturbed lands that would still need to be graded and revegetated. Reclamation of Phase 4 would continue for four years. Monitoring of the reclaimed areas in phases 1 through 3 would continue through reclamation of Phase 4. Monitoring would continue annually until the performance standards for the vegetative cover are achieved.

Table 2 presents the mobile equipment that would be used during the mining and reclamation phases.

TABLE 2
PROJECT MOBILE EQUIPMENT

Type/Model	Make	No.	Purpose	Daily Usage
Loader – 988	CAT	1	Mineral excavation above water table	10 hrs
Loader – 980	CAT	2	Mineral excavation above water table, plant and truck loading	10 hrs
Dragline – 190D	Northwest	1	Mineral excavation below water table	10 hrs
Water Truck	Peterbilt	1	General dust suppression	10 hrs
Grader – 12	CAT	1	On-site road maintenance, finish grading	5 hrs
Dozer – D9	CAT	1	Reclamation – rough grading	5 hrs
Haul Truck 769	CAT	1	Onsite transportation of fill	7.5 hrs
420 Excavator	Doosan	1	Mineral extraction	5 hrs
Fuel Tank	Trailer	1	3,500 gallon mobile fuel trailer	10 hrs
Pick-up truck	Ford	1	Transportation for site supervisor, QC	10 miles/day

SOURCE: EnviroMine Inc., 2015a,2016a.

1.2.3 Plant Operations

The permanent processing wash plant and onsite roadways would be established to an approximate depth of 10 to 12 feet bgs to reduce visual and noise impacts to the surrounding land uses. Initial site development would involve the establishment of a sub-grade processing plant in the southwestern portion of the project site that would remain in this area for the duration of the mining phases (Phase 1 through 4). Additionally, the proposed project would include a portable

processing plant that would be moved westward as mining proceeds to the west. For the purpose of this analysis, it is assumed that the permanent processing plant and mobile processing plant would include similar equipment, for a conservative analysis. The plants would consist of an aggregate processing and washing facility, a portable water tank, and all support structures.

1.2.4 Aggregate Processing Plant

The plant can process 577 tons per hour and would operate 10 hours per day, five days per week. Front-end-loaders would be used to load excavated materials into the washing and screening plant. The plant would wash and screen material into construction grade aggregate material, primarily sand and some gravel. Processed aggregate would be separated and stockpiled near the plant. Finished product would be loaded onto customer trucks using a front-end-loader for transport offsite. All processed materials would be sold or used in reclamation and restoration activities, no waste materials would be generated by the mining process. **Table 3** lists the equipment to be used in the processing plants. All equipment would be permitted, as appropriate through the San Diego County Air Pollution Control District (SDAPCD).

TABLE 3
PROCESS PLANT EQUIPMENT

Type/Model	No.	Purpose	Daily Usage
Wash Plant			
Double Deck Dry Screen	1	Aggregate sizing	10 hrs
Triple Deck Wet Screen	1	Sand Washing	10 hrs
Conveyor Stackers	4	Aggregate Movement	10 hrs
Radial Stacker	1	Aggregate Stacking into Stockpiles	10 hrs
Water Pump	3	Aggregate washing & Dust control	10 hrs
Feeder	1	Aggregate feeder	10 hrs
Twin Screw	1	Sand washer	10 hrs
Scales	1	Truck weighing	10 hrs
Ancillary Structures			
70-ft Truck Scale	1	Truck weighing	10 hrs
30 Ft. Mobile Modular	1	Scale Office	10 hrs
30 Ft. Storage Container	2	Small equipment storage	N/A

SOURCE: EnviroMine Inc., 2015a, 2016a.

1.2.5 Office, Equipment Maintenance, and Utilities

An office and scale booths would be constructed from mobile, modular units to serve the site. No permanent structures would be constructed as part of the project. Equipment maintenance would be conducted in the plant area following all environmental regulation. Storage of small equipment and tools would be in metal cargo containers located at the plant site.

There would be eight full-time employees for the operation of the mobile equipment (mining and reclamation) as well as the plant operations. Onsite operations would generate solid waste and would also result in water and electrical consumption.

There would be no processing waste generated as part of the operation. Therefore, all generated waste would be domestic refuse generated from employee lunches and some general office type waste. Solid waste shall be collected in onsite trash bins and removed by a refuse disposal company. It is estimated that waste generation would be between 50 to 75 pounds (lbs) per week, or between approximately 1.25 and 2 tons per year. This would result in between 19 and 30 tons over the lifetime of the project (EnviroMine Inc., 2015b).

Dust suppression would be conducted for all operating areas including material stockpiles, unpaved areas within the mining areas, the processing plant and access roads. Other watering needs include the surface watering of outgoing loads and water for the processing plant. Restrooms would be portable units that would not require water use or a sewer connection.

Water for processing, dust control, and irrigation would be supplied by Helix Water District. Water usage is dependent on production volume; however, at full production it is estimated that 68 acre-feet of water would be used annually for processing. Water for dust suppression is estimated to require an additional 20 acre-feet of water annually. If irrigation is needed, sprinkles would be used. Irrigation would only be used during periods of extended dryness. Irrigation of the landscaped earthen berm near the entrance and as supplemental water on revegetated areas is also estimated to utilize approximately 12 acre-feet per year. Total water consumption on the project is estimated at 100 acre-feet per year.[1]

Electricity would be used for the operation of the processing plant equipment as well as the operation of the scale and onsite office. Electricity would be provided by San Diego Gas & Electric through overhead transmission lines. These lines would connect to temporary power poles which would connect to the plant location. Project activities are estimated to require approximately 4,801 kilowatt hours (KWh) per day or 1,504,102 KWh annually (EnviroMine Inc., 2015b).

1.2.6 Traffic

Project traffic is divided into categories: light and heavy-duty vehicle traffic. Light vehicle traffic includes vehicles that would be used for employee commutes and visitors and include cars, light duty trucks (i.e. two axel trucks, such as pick-up trucks), and small service vehicles. On site heavy vehicle traffic would include off-road haul trucks, front-end-loaders, dozers and other earth-moving equipment and supply trucks, service trucks and on-highway trucks carrying loads of construction aggregate, fuel, parts, etc. on public roads. Heavy-duty trucks have three or more axles. **Table 4** provides the estimated traffic counts for the project based on 157 one-way truck trips during a maximum construction day.

[1] Note that the project analysis was based on a previous estimation of 156 acre-feet per year being consumed. The subsequent reduction to 132 acre-feet per year will reduce emissions slightly from what is discussed in this report. Therefore, the analysis represents a worst-case scenario.

TABLE 4
ESTIMATED DAILY TRAFFIC COUNTS

Type	Purpose	Tons/load	One-Way Trips	Round Trips
Heavy Traffic	Aggregate Transport	27	157	314
Heavy Traffic	Vendor Trips[1]	N/A[2]	2	4
Light Traffic	Employee commute & Visitors	N/A	12	24

[1.] Vendor trips include fuel delivery, service visits and supply delivery.
[2.] N/A = Not Applicable

SOURCE: EnviroMine Inc., 2015a, 2016a.

The implementation of the project would logically make locally mined aggregate available to customers for projects in the County, replacing the costlier import of aggregate from facilities as far away as Irwindale, California, Thermal, California, and Ensenada, Mexico (CalCIMA, 2015). Therefore, vehicle miles traveled (VMT) to supply aggregate to development and infrastructure projects within the County would be reduced compared to current practice. This in turn would reduce GHG emissions from haul trucks. Mineral extraction is undertaken to meet the variable demands of the building industry. The approval of a new source of raw material does not increase demand. Nonetheless, the approval of this project is considered additive to the County's and region's mineral extraction operations, and the Project's GHG analysis did not quantitatively consider the reduction in VMT in the analysis of GHG emissions. However, with respect to the Project's support of applicable plans, policies or regulations adopted for the purpose of reducing GHG emissions, qualitative consideration of the reduction in VMT is appropriate.

2. Environmental Setting

Gases that trap heat in the atmosphere are called GHGs. The major concern with GHGs is that increases in their concentrations are causing global climate change. Global climate change is a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature. The overwhelming majority of the scientific community agree that there is a direct link between increased emissions of GHGs and long term global temperature increases.

The principal GHGs analyzed by the project are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Because different types of GHGs have different warming potentials and CO_2 is the most common reference gas for climate change, GHG emissions are often quantified and reported as CO_2 equivalents (CO_2e). Methane, while comprising a small fraction of the total GHGs emitted annually world-wide, is a much more potent GHG with 25 times the global warming potential as CO_2. Therefore, the emission of one metric ton (MT) of Methane could be reported as an emission of 25 MT of CO_2e. Large emissions are reported in million metric tons (MMT) of CO_2e.[2]

[2] A metric ton is 1,000 kilograms; it is equal to approximately 1.1 U.S. tons and approximately 2,204.6 pounds.

Some of the potential effects in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more forest fires, and more drought years (CARB, 2009). Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects (IPCC, 2001):

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;
- Reduced diurnal temperature range over most land areas;
- Increase of heat index over land areas; and
- More intense precipitation events.

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term may be great.

California produced 459 $MMTCO_2e$ emissions in 2012 (CARB, 2014a). Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2012, accounting for 36 percent of total GHG emissions in the state (CARB, 2014a). This sector was followed by the electric power sector (including both in-state and out-of-state sources) (21 percent) and the industrial sector (19 percent) (CARB, 2014a).

The County of San Diego's (County) GHG emissions were approximately 34 $MTCO_2e$ in 2005 (County, 2013). Transportation is the largest GHG emissions source at 58 percent. The energy sector accounted for approximately 24 percent of total GHG emissions with the remaining 18 percent from agriculture, solid waste, wastewater and other sources.

3. Regulatory Setting

3.1 Federal

The principal air quality regulatory mechanism at the federal level is the Clean Air Act (CAA) and in particular, the 1990 amendments to the CAA and the National Ambient Air Quality Standards (NAAQS) that it establishes. The federal CAA does not specifically regulate GHG emissions; however, the U.S. Supreme Court has determined that GHGs are pollutants that can be regulated under the federal CAA. There are currently no federal regulations that set ambient air quality standards for GHGs.

Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by the United States Environmental Protection Agency (USEPA) and the National Highway Traffic Safety Administration (NHTSA). Phase 1 of the Greenhouse Gas Emissions and Fuel Efficiency

Standards for Medium- and Heavy-Duty Engines and Vehicles apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018 and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type. The USEPA and NHTSA also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type.

3.2 State

Executive Order S-3-05

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which set forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

California Global Warming Solutions Act

California Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006, codified into law in Health and Safety Code (HSC) Division 25.5, requires California Air Resources Board (CARB) to establish a statewide GHG emissions cap for 2020 based on 1990 emission levels. AB 32 required CARB to adopt and enforce programs and regulations that identify and require selected sectors or categories of emitters of GHGs to report and verify their statewide GHG emissions. In December 2007 CARB adopted 427 $MMTCO_2e$ as the statewide GHG emissions limit equivalent to the statewide levels for 1990. This is approximately 28 percent below forecasted 2020 "business-as-usual" emissions of 596 $MMTCO_2e$, and about 10 percent below average annual GHG emissions estimated during the period of 2002 through 2004 (CARB, 2009).

CARB published the Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration in September 2007 (CARB, 2007). CARB adopted nine Early Action Measures for implementation, including Ship Electrification at Ports, Reduction of High Global-Warming-Potential Gases in Consumer Products, Heavy-Duty Vehicle Greenhouse Gas Emission Reduction (Aerodynamic Efficiency), Reduction of Perfluorocarbons from Semiconductor Manufacturing, Improved Landfill Gas Capture, Reduction of Hydrofluorocarbon-134a from Do-It-Yourself Motor Vehicle Servicing, Sulfur Hexaflouride Reductions from the Non-Electric Sector, a Tire Inflation Program, and a Low Carbon Fuel Standard.

By January 1, 2011, CARB was required to adopt rules and regulations (which were to become operative January 1, 2012), to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 permitted the use of market-based compliance mechanisms to achieve those reductions. AB 32 also required CARB to monitor compliance with and enforce

any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism that it had adopted.

As of January 1, 2012, the GHG emissions limits and reduction measures adopted in 2011 by CARB became enforceable. In designing emission reduction measures, CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic co-benefits for California, and complement the state's efforts to improve air quality.

In 2016, Senate Bill (SB) 32 and its companion bill AB 197 were signed into law by the Governor. SB 32 and AB 197 amends HSC Division 25.5 and establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and includes provisions to ensure the benefits of state climate policies reach into disadvantaged communities.

Climate Change Scoping Plan

In December 2008, CARB approved the AB 32 Scoping Plan outlining the state's strategy to achieve the 2020 GHG emissions limit (CARB, 2009). This Scoping Plan, developed by CARB in coordination with the Climate Action Team (CAT), proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify California's energy sources, save energy, create new jobs, and enhance public health.

As required by AB 32, the Scoping Plan must be updated at least every five years to evaluate the mix of AB 32 policies to ensure that California is on track to meet the targets set out in the legislation. In October 2013, a draft Update to the initial Scoping Plan was developed by CARB in collaboration with the California Climate Action Team (CCAT). The draft Update builds upon the initial Scoping Plan with new strategies and expanded measures, and identifies opportunities to leverage existing and new funds to drive GHG emission reductions through strategic planning and targeted program investments. The draft Update to the initial Scoping Plan was presented to CARB's Board for discussion at its February 20, 2014 meeting. Subsequently, the first update to the AB 32 Scoping Plan was approved on May 22, 2014 by CARB.

As part of the proposed update to the Scoping Plan, the emissions reductions required to meet the 2020 statewide GHG emissions limit were further adjusted. The primary reason for adjusting the 2020 statewide emissions limit was based on the fact that the original Scoping Plan relied on the Intergovernmental Panel on Climate Change's (IPCC) 1996 Second Assessment Report (SAR) to assign the global warming potentials (GWPs) of greenhouse gases. Recently, in accordance the United Nations Framework Convention on Climate Change (UNFCCC), international climate agencies have agreed to begin using the scientifically updated GWP values in the IPCC's Fourth Assessment Report (AR4) that was released in 2007. Because CARB has begun to transition to the use of the AR4 100-year GWPs in its climate change programs, CARB recalculated the Scoping Plan's 1990 GHG emissions level with the AR4 GWPs. As the recalculation resulted in 431 $MMTCO_2e$, the 2020 GHG emissions limit established in response to AB 32 is now slightly higher than the 427 $MMTCO_2e$ in the initial Scoping Plan. Considering that the proposed update also adjusted the 2020 BAU forecast of GHG emissions to 509 $MMTCO_2e$, a 15 percent

reduction below the estimated BAU levels was determined to be necessary to return to 1990 levels by 2020 (CARB, 2014b).

Pursuant to SB 32 and AB 197, CARB is in the process of preparing the second update to the Climate Change Scoping Plan to reflect the 2030 target established in SB 32 and AB 197. The 2017 Scoping Plan Update discusses a Proposed Scenario and four alternatives. CARB states that the Proposed Scenario "is the clear choice to achieve the State's climate and clean air goals" (CARB 2017). Under the Proposed Scenario, the majority of the reductions would result from continuation of the Cap-and-Trade regulation. Additional reductions are achieved from requiring 20 percent reduction of GHG emissions from the refinery sector, electricity sector standards (i.e., utility providers to supply 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the Low Carbon Fuel Standard (LCFS), implementing the short-lived GHG strategy (e.g., hydrofluorocarbons), and implementing the mobile source strategy and sustainable freight action plan. The alternatives are designed to consider various combinations of these programs as well as consideration of a carbon tax in the event the Cap-and-Trade regulation is not continued. However, in July 2017, the California Legislature voted to extend the Cap-and-Trade regulation to 2030.

Executive Order S-1-07

Executive Order S-1-07, which was signed by Governor Schwarzenegger in 2007, proclaims that the transportation sector is the main source of GHG emissions in California. It establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least 10 percent by 2020. As a result of this order, CARB approved a proposed regulation to implement the low carbon fuel standard (LCFS) on April 23, 2009, which will reduce GHG emissions from the transportation sector in California by about 16 MMT in 2020. The LCFS is designed to reduce California's dependence on petroleum, create a lasting market for clean transportation technology, and stimulate the production and use of alternative, low-carbon fuels in California. The LCFS is designed to provide a durable framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011.

Senate Bill 375

SB 375, which establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions, was adopted by the state on September 30, 2008. On September 23, 2010, CARB adopted the vehicular GHG emissions reduction targets that had been developed in consultation with the metropolitan planning organizations (MPOs); the targets require a 7 to 8 percent reduction by 2020 and between 13 to 16 percent reduction by 2035 for each MPO. SB 375 recognizes the importance of achieving significant GHG reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs, such as the San Diego Association of Governments (SANDAG) will work with local jurisdictions in the development of sustainable communities' strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces GHG emissions while meeting housing needs and other regional planning objectives. SANDAG's reduction target for per capita vehicular emissions is seven

percent by 2020 and 13 percent by 2035 from a base year of 2005 (CARB 2010). The MPOs prepared their first SCS according to their respective regional transportation plan (RTP) update schedule with the SCAG RTP/SCS adopted on April 4, 2012.

Senate Bill 97

Senate Bill (SB) 97, enacted in August 2007, required the Office of Planning and Research (OPR) to develop guidelines for the mitigation of GHG emissions, or the effects related to releases of GHG emissions. On April 13, 2009, the OPR submitted proposed amendments to the Natural Resources Agency in accordance with SB 97 regarding analysis and mitigation of GHG emissions. As directed by SB 97, the Natural Resources Agency adopted Amendments to the CEQA Guidelines for greenhouse gas emissions on December 30, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

California Green Building Standard Code

In January 2010, the State of California adopted the 2010 California Green Building Standards Code (CALGreen), which became effective in January 2011. Building off of the initial 2008 California Green Building Code, the 2010 CALGreen Code represents a more stringent building code that requires, at a minimum, that new buildings and renovations in California meet certain sustainability and ecological standards. The 2010 CALGreen Code has mandatory Green Building provisions for all new residential buildings that are three stories or fewer (including hotels and motels) and all new non-residential buildings of any size that are not additions to existing buildings.

In early 2013 the California Building Standards Commission adopted the 2013 California Building Standards Code that also included the latest 2013 CALGreen Code, which became effective on January 1, 2014. The mandatory provisions of the code are anticipated to reduce 3 MMT of GHG emissions by 2020, reduce water use by 20 percent or more, and divert 50 percent of construction waste from landfills. The 2013 California Energy Code (Title 24, Part 6), which is also part of the CALGreen Code (Title 24, Part 11, Chapter 5.2), became effective on July 1, 2014.

3.3 Regional

3.3.1 Sustainable Communities Strategies

SANDAG adopted the 2015 SCS in October 2015, which builds on the previous 2011 SCS and directs investments within existing urbanized areas in order to encourage growth within existing higher density urban boundaries and discourage urban and suburban sprawl. Elements of the 2011 SCS that have been implemented include the completion of bike and pedestrian projects and the expansion of transit with new rapid bus service. The goals of the 2015 SCS include increasing the number of homes and jobs near transit, reducing transit travel time, and achieve economic benefits due to reduced congestion and the construction of transportation infrastructure. Implementation of the 2015 SCS is projected to reduce roadway congestion during peak travel times by nearly half, from 9.1 percent in the No Build alternative to 5.1 percent under the Plan.

Key measures to achieve these reductions include development of Managed Lane networks that will serve many modes of transportation and that could help smooth the flow of traffic between passenger vehicles and freight trucks and other vehicles that transport goods throughout the region. SANDAG's quantification of GHG emissions reductions from the 2015 SCS indicates that the plan would result in per capita emissions reductions of 15 percent by 2020 and 21 percent by 2035 from a base year of 2005. CARB prepared a technical evaluation of SANDAG's adopted 2015 SCS, which affirms that the SCS, if implemented, would meet the CARB-adopted per capita GHG emissions reduction targets for SANDAG of 7 percent reduction in 2020 and 13 percent reduction in 2035 from a base year of 2005 (CARB 2015).

San Diego County Strategic Energy Plan

The County has adopted a Strategic Energy Plan to provide a comprehensive roadmap for achieving the County's sustainability goals in the areas of energy conservation, energy efficiency, renewable energy, sustainability programs, water conservation and reduced emissions. Through the Strategic Energy Plan, Board of Supervisor Policies, County Administrative Manual and General Plan, San Diego has adopted numerous environmental goals and policies, including:

- Green Energy
- Water Efficiency
- Waste Reduction
- Green Building
- Clean Vehicles

San Diego County General Plan

The County's General Plan (March 2011) contains numerous policies in the Land Use, Mobility, Conservation and Open Space, and Housing Elements to address climate change. Suggested policies address the following major strategies in the General Plan:

- Reduce vehicle trips generated, gasoline/energy consumption, and GHGs.
- Reduce non-renewable electrical and natural gas energy consumption and generation (energy efficiency).
- Increase generation and use of renewable energy sources.
- Reduce water consumption.
- Reduce and maximize reuse of solid wastes.
- Maximize preservation of open spaces, natural areas, and agricultural lands.
- Reduce risk from wildfire, flooding, and other hazards resulting from climate change.
- Conserve and improve water supply due to shortage from climate change.
- Promote agricultural lands for local food production.

4. Guidelines for Determining Significance

This section describes the impact analysis relating to GHG emissions for the project. It describes the methods and applicable thresholds used to determine the impacts of the project.

The following GHG significance thresholds that are used in this report are also based on the criteria provided in Appendix G of the CEQA Guidelines. Implementation of the project would result in a significant GHG-related impact if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

As stated in Appendix G of the *CEQA Guidelines*, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. In the absence of adopted guidance, the County recommends the use of the industrial source threshold developed by the South Coast Air Quality Management District (SCAQMD) for this project.

The SCAQMD has adopted an annual screening level threshold of 10,000 MT CO_2e for industrial projects for which the SCAQMD is the Lead Agency or has discretionary approval (SCAQMD, 2008). The SCAQMD, in accordance with CEQA Guidelines Section 15064.7, adopted its annual threshold for industrial sources under a public review process as part of stakeholder working group meetings that were open to the public and based on substantial evidence. The intent of the threshold is to capture 90 percent of total emissions from all new or modified industrial and stationary source sector projects subject to a CEQA analysis where the SCAQMD is the lead agency. Data collected by the SCAQMD from its Annual Emissions Reporting (AER) Program indicates that a 90 percent capture rate would cover a substantial portion of future project emissions and would exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions (SCAQMD 2008). The SCAQMD estimates that these small projects will in aggregate contribute less than one percent of the future 2050 statewide GHG emissions target.

The SCAQMD's 10,000 MT CO_2e per year threshold applies to a project's annual long-term GHG emissions. The proposed project would generate the majority of its GHG emissions over a 12-year period during the mining process. As discussed previously, the disturbed areas previously mined would be progressively reclaimed. Reclamation is anticipated to extend four years past the end of mining; however, GHG emissions associated with reclamation activities would be much less than during active mining. Project GHG emissions would cease after mining and reclamation activities are complete. In contrast, typical land use development projects or stationary source facilities would continue to emit GHG emissions well beyond the time frame of the proposed project. Therefore, the SCAQMD's 10,000 MT CO_2e per year threshold is considered to be an appropriate threshold for this project, but also conservative and

environmentally protective given that the lifetime of the project is limited to 12 years of mining with reclamation extending an additional four years.

As the SCAQMD's adopted mass emission threshold is appropriate for the project type, the 10,000 MT CO_2e threshold will be used with respect to determining project significance under Guideline 1.

For Guideline 2 a project is determined to be less than significant if it does not conflict existing plans or policies implemented for the reduction of GHG emissions.

5. Impact Analysis

Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The project would generate GHG emissions from a variety of sources. First, GHG emissions would be generated during construction and operation of the project. Construction and operational emissions are based on mining equipment and plant operations including the operation of the onsite modular building and scales as well as vehicle travel. Indirect source emissions generated by the project include electrical consumption and solid waste disposal. Mobile (direct) sources of air pollutants associated with the project would consist of motor vehicles trips generated by employees and patrons of the proposed aggregate mine.

5.1 Methodology

5.1.1 Construction Impacts

Phase 1 would include the construction of the drop structure, access road, processing area pad, and screening berms. However, this construction activity would occur at the same time as the initial mining operations. Because the construction activities would not require additional equipment than would be operated during maximum mining activities and would occur simultaneously with the operational emissions, construction emissions embedded in the operational emissions and are not considered separately in this analysis.

5.1.2 Operational Impacts

Long-term (i.e., operational) emissions of GHGs associated with the project, including mobile- and area-source emissions, were quantified using the CalEEMod computer model. For on-site equipment, emissions were calculated based on anticipated electrical consumption of that equipment. Area-source emissions, which are widely distributed and made of many small emissions sources (e.g., building heating and cooling units, landscaping equipment, consumer products, painting operations, etc.) are considered where appropriate. As heating and air conditioning would be electrically operated, these emissions are included in electrical consumption emissions. The project would have minimal landscaping of the earthen berm near the entrance and as such, routine use of fossil-fueled landscaping equipment is not expected. There would be no painting activities associated with the operation of the project. Mass mobile-source emissions were modeled based on the daily vehicle trips that would result from the project.

The long-term operational emissions were then compared with the applicable County thresholds for determination of significance. A summary of modeling assumptions is provided below, detailed modeling assumptions and output files are provided in Appendices A and B.

1. Table 4, in Section 1 above, details the daily project trip counts provided by the proponent for aggregate transport, vendor trips, and employee commute and visitors. VMT length for vendor trips, employee and visitor commutes are based on CalEEMod default values. Trip lengths for aggregate transport were increased from the CalEEMod default of 20 to 30 miles per trip to approximate the average one way trip length within the County for the delivery of aggregate to project sites.[3] Vehicle fleet composition is based on the CalEEMod fleet mixes for San Diego County. Pavley and the LCFS are included in the CalEEMod modeling.
2. Landscaping emissions are not calculated since the project includes minimal landscaping of the earthen berm near the entrance but no routine use of fossil-fueled landscaping equipment.
3. Natural gas emissions are not calculated since the project includes no natural gas use.
4. Electrical use assumes 1,504,102 KWh (4,801 KWh daily) per year as provided by the project applicant. The intensity factors for CO_2, CH_4, and N_2O are the default CalEEMod factors provided for San Diego Gas & Electric. The electrical use is for the operation of the office, truck scales, and plant equipment.
5. Waste generation was provided by the project applicant. Waste for the 8 full-time workers is anticipated to be from lunches and minor office debris. There is no processing waste. Waste for the project would be a maximum of 2 tons per year. All other components of calculating emissions from waste generation/disposal used CalEEMod defaults for San Diego County.
6. Wastewater generation was not calculated as the onsite restrooms are portable and there is no connection to the sewer system with this project.
7. Water use includes process water, dust control and occasional irrigation for the minimal landscaping and reclamation activities only. All water would be outdoors as there are no restroom facilities or onsite potable water sources. All drinking water would be provided by a private vendor.

5.2 Emissions Quantification

The proposed project would generate GHG emissions from a variety of sources during construction and operation of the proposed project. Site preparation would include the construction of the drop structure (channel erosion barrier), access road, processing area pad, and screening berms. The drop structure would be located approximately 300 feet west of Dairy Road, and would consist of grouted rip rap approximately 2.7 feet thick. Cut slopes would be mined at a constant 3H:1V (horizontal:vertical) slope. Site preparation activity would also include the establishment of a sub-grade processing plant pad 10 feet below the existing ground surface (bgs) and a sub-grade haul road approximately 10 to12 feet bgs. Earthen berms would be constructed around the top sides of the plant pad area and along both sides and parallel to the road

[3] Average trip length assumes that aggregate would be obtained from the closest source and that the majority of development would be west of the project site. Therefore, distances to the north, east, and south were derived as the ½ way point between the project site and the closest existing mine (as determined from the San Diego Chapter of the California Construction and Industrial Materials Association [CalCIMA, 2015]). To the west, Imperial Beach and San Diego were used as distance estimates. For projects more central to the County, the CalEEMod default distance of 20 miles was used.

to screen the equipment and operation from public view. This construction activity would occur at the same time as the initial mining operations would begin. Because the construction activities would not require additional equipment and the GHG emissions and would occur simultaneously with the operational GHG emissions, construction GHG emissions are conservatively embedded within the operational GHG emissions analysis and are not considered as a separate distinct phase in this analysis.

Construction and operational emissions are based on mining equipment and plant operations including the operation of the onsite modular building and scales as well as vehicle travel. Indirect source emissions generated by the proposed project include electrical consumption and solid waste disposal. Mobile (direct) sources of air pollutants associated with the proposed project would consist of motor vehicles trips generated by employees and patrons of the proposed aggregate mine.

The implementation of the proposed project would make locally mined aggregate available to customers for projects in the County, replacing the costlier import of sand and aggregate from facilities as far away as Irwindale, California; Thermal, California; and Ensenada, Mexico (CalCIMA 2015). According to a 2012 report by the California Geologic Survey (CGS), "In the last decade, the highest prices [sic] aggregate in the state have been in the San Diego area, where PCC-grade sand is in short supply" (CGS 2012). Therefore, VMT to supply aggregate to development and infrastructure projects within the County would likely be reduced, compared to current practice and would reduce GHG emissions from haul trucks. Mineral extraction is undertaken to meet the variable demands of the building industry and the approval of a new source of raw material does not increase demand; nonetheless, the approval of the proposed project is considered additive to the County's and region's mineral extraction operations, and the proposed project's GHG analysis did not quantitatively consider the reduction in VMT in the analysis of GHG emissions. Therefore, the haul truck mobile source GHG emissions are considered a conservative high-end estimate of the emissions. However, with respect to the proposed project's support of applicable plans, policies or regulations adopted for the purpose of reducing GHG emissions, qualitative consideration of the reduction in VMT is appropriate.

The estimated GHG emissions resulting from project operations are shown in **Table 5**. The operation of the mining activities, including the plant operation, water consumption, and off-road mining equipment, as well as the area source emissions, mobile source emissions (employee, vender, and haul truck), and waste emissions were estimated to provide total project emissions. Total project emissions are compared to the annual industrial project screening threshold of 10,000 MT CO_2e.

TABLE 5
ESTIMATED OPERATIONS-RELATED GHG EMISSIONS

Emission Source	Estimated Emissions CO_2e (MT/yr)
Area Source[a]:	0
Electricity:	987
Mobile (Vendor):	11
Mobile (Worker)	23
Waste:	1
Water:	220
Process Emissions:	1,223
Mobile (Haul Trucks)	4,149
Total Project Emissions	**6,614**
Mass Emissions Threshold	10,000

CO_2e= carbon dioxide equivalent; MT/yr = metric tons per year. Columns may not add directly due to rounding.

a. Area sources represent consumer products that would be associated with the everyday operation of the mine, specifically the mining, reclamation and scale.

SOURCE: ESA 2018.

6. Impact Summary

With the implementation of the project, the total emissions from mining, inclusive of stationary sources, off-road sources and on-road vehicles, would be approximately 6,614 MT CO_2e annually, as shown in Table 5.

As shown in Table 5, the total emissions of 6,6143 would not exceed the annual industrial source threshold of 10,000 MT CO_2e and impacts are concluded to be less than significant. If consideration of VMT reductions were quantified, the net emissions would be even lower.

7. Plan, Policy, Regulatory Conflicts

Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The project is not a typical development project and therefore does not comply directly with the CARB Scoping Plan. However, inherent in the plan is the overall goal of reducing GHG emissions within the State and within individual regions. One of the goals of the project is to reduce the import of aggregate from outside the County. This would reduce GHG emissions by reducing vehicle miles traveled with respect to not implementing the project and continuing to import from other areas outside the County. Haul truck emissions make up approximately 75 percent of overall emissions. Currently, sand and aggregate is being transported into San Diego County from as far as way as Irwindale, California, Thermal, California, and Ensenada, Mexico

(CalCIMA, 2015) resulting in an average haul distance of up to 90 miles. According to a 2012 report, the CGS has confirmed that the San Diego area is in short supply of PCC-grade sand (CGS 2012). By implementing the project, average haul distance would be reduced to approximately 30 miles.[4] This would reduction in vehicle miles traveled from haul trucks would result in a substantial (56 to 67 percent) reduction in haul truck emissions (See Appendix A of this Technical Report). Therefore, the overall reduction in emissions achieved from reducing vehicle miles traveled would be consistent with CARB Scoping Plan goals of reducing emissions within the County.

According to the 2017 Scoping Plan Update (not yet adopted by CARB as of August 2017), reductions needed to achieve the 2030 target are expected to be achieved by targeting specific emission sectors, including those sectors that are not directly controlled or influenced by the project, but nonetheless contribute to project-related GHG emissions. For instance, the project itself is not subject to the Cap-and-Trade regulation; however, project-related emissions would decline pursuant to the regulation as transportation fuel producers are themselves subject to Cap-and-Trade regulation and the LCFS (emissions reductions from the LCFS are from the fuel production side and not from end-user combustion). The project would not interfere with implementation of the 2017 Scoping Plan Update or strategies that would be implemented under the Scoping Plan to achieve the State's 2030 GHG reduction target.

Furthermore, the project would not conflict with the SCS. The key goal of the SCS is to achieve per capita GHG emissions reduction targets through integrated land use and transportation strategies. The focus of these reductions is on transportation and land use strategies that influence vehicle travel. As discussed above, the project would be estimated to reduce vehicle miles traveled from haul trucks supplying sand and aggregate within the County by a substantial (approximately 56 to 67 percent) amount, which exceeds the SB 375 requirement for SANDAG (7 percent by 2020 and 13 percent by 2035). Therefore, the project would not conflict with the achievement of SB 375 goals and impacts would be less than significant.

8. Mitigation Measures and Design Considerations

8.1 Design Considerations

There are no design considerations included for the project.

8.2 Mitigation Measures

There is no mitigation required for the project.

[4] Reduction in haul truck emissions was determined based on the difference in vehicle miles traveled currently to get aggregate from the current aggregate mines and the vehicle miles traveled anticipated from the location of the project within the central portion of San Diego County. The determination of reduction in vehicle miles traveled is detailed in Appendix A.

9. Residual Impacts and Conclusions

The project would result in emissions of GHGs throughout the life of the project. As specifically designed, the project would not exceed the thresholds for GHG emissions and would result in a less than significant impact with respect to the generation of GHGs. Additionally, the objective of the project is to reduce dependence on imported aggregates. By the location of the project being within the County, the total trip distance for new development projects would be reduced from between an average distance of 90 miles to an average distance of 30 miles. As discussed, the project would be consistent with the overarching goals of the CARB Scoping Plan. Therefore, the project would have less than significant impacts with respect to consistency with applicable plans and policies for the reduction of GHGs. As summarized in **Table 6**, the project impacts would all be less than cumulatively considerable and no mitigation is required.

TABLE 6
IMPACT SUMMARY

Impact		Impact Level	Type of Impact	Design Criteria	Mitigation Measures	Significance after Mitigation
6.	Generation of Greenhouse Gases	LTS	N/A	N/A	N/A	N/A
7.	Consistency with Plans	LTS	N/A	N/A	N/A	N/A

SOURCE: ESA 2018.

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APPENDIX A

GHG Assumptions & Emissions Calculations

El Monte Mining and Reclemation Project
Assumptions

CalEEMod Inputs that are not modeling defaults:

Project Location:	County	
	San Diego	
Climate Zone:	13	
Operational Year:	2016-2019	Phase 1
	2019-2024	Phase 2
	2024-2028	Phase 3
	2028-2031	Phase 4
	2013-2035	Phase 5 (Reclamation)
	2020	Operational Emissions for Electric/Water/Solid Waste
Utility Company:	San Diego Gas and Electric	

Land Use Type:

Phase 1 - Mining Only			
Industrial	59	acres	General Light Industrial*
Phase 2 - Mining and Reclamation			
Parking	115	acres	Other non-asphalt surfaces
Phase 3 - Mining and Reclamation			
Parking	104	acres	Other non-asphalt surfaces
Phase 4 - Mining and Reclamation			
Parking	84	acres	Other non-asphalt surfaces
Phase 5 - Reclamation Only			
Parking	36	acres	Other non-asphalt surfaces

Note: General light industrial is used (assuming 1,000 sqft building) in order to allow for CalEEMod to accurately calculate emissions from electric use. Using other non-building type land uses result in no emissions estimates for electrical use. Parking is used when there are no operational/building type emissions to be modeled.

Mining Operations Schedule:

Phase	Area (acres)	Duration (Years)	Initiation Year	Completion Year
Mining 1	48	3	2016	2019
Mining 2	56	5	2019	2024
Reclamation 1	48	4	2019	2023
Mining 3	48	4	2024	2028
Reclamation 2	56	4	2024	2028
Mining 4	36	3	2028	2031
Reclamation 3	48	4	2028	2032
Reclamation 4	36	4	2031	2035

CONSTRUCTION INFORMATION

While there is temporary construction to develop the pad, berms and channel barrier, these operations would occur at the same time as the initial mining and would not require the operation of additional equipment. Therefore, construction emissions are modeled as part of operational activities.

El Monte Mining and Reclemation Project
Assumptions

Overall Construction/Operation Mobile Equipment List

Purpose	Type/Model	#	Daily usage
Mineral excavation above water table	Loader – 988	1	10 hrs
Mineral excavation above water table, plant and truck loading	Loader – 980	2	10 hrs
Mineral excavation below water table	Dragline – 190D	1	10 hrs
General dust suppression	Water Truck	1	10 hrs
On-site road maintenance, finish grading	Grader – 12	1	5 hrs
Reclamation – rough grading	Dozer – D9	1	5 hrs
Onsite transportation of fill	Haul Truck 769	1	7.5 hrs
Mineral extraction	420 Excavator	1	5 hrs
3,500 gallon mobile fuel trailer	Fuel Tank	1	10 hrs
Transportation for site supervisor, QC	Pick-up truck	1	10 miles/day

PROJECT OPERATIONAL INFORMATION

Operational Equipment (Modeled under "Construction Phasing")

*All operations are modeled as 2016 year in order to maintain consistent fleet mix throughout operational activities. It is anticipated that unless equipment needs to be replaced the same equipment will be used onsite throughout the entier 19 year project life. Therefore the emissions factors for a typical 2016 (year operations will start) construction fleet is used to estimate worst-case emissions.

Aggregate Export

1,000,000 cubic yards per year
1,500,000 tons per year

Phase 1 Equipment List

Type/Model	#	HP	Daily usage	CalEEMod Designation
420 Excavator	1	293	5 hrs	Excavator
Grader – 12	1	179	5 hrs	Grader
Water Truck	1	330	10 hrs	Offhighway Truck
Haul Truck 769	1	450	7.5 hrs	Offhighway Truck
Pick-up truck	1	440	1 hr	Other construction Equipment
Loader – 980	2	260	10 hrs	Tractor/loader/backhoe
Loader – 988	1	501	10 hrs	Tractor/loader/backhoe
Fuel Tank	1	N/A	10 hrs	(not self moving no emissions)

*Dragline is not used because when water table is reached 2 of the loaders would not be operational.

*Dozer is not used because no reclamation is occurring at this time.

Phase 2,3, and 4 - Mining and Reclamation Equipment List

Type/Model	#	HP	Daily usage	CalEEMod Designation
420 Excavator	1	293	5 hrs	Excavator
Grader – 12	1	179	5 hrs	Grader
Water Truck	1	330	10 hrs	Offhighway Truck
Haul Truck 769	1	450	7.5 hrs	Offhighway Truck
Pick-up truck	1	440	10 miles/day	Other construction Equipment
Dragline – 190D	1	328	10 hrs	Other material handling Equipment
Dozer – D9	1	436	5 hrs	Dozer
Loader – 988	1	501	10 hrs	Tractor/loader/backhoe
Loader – 980	2	260	10 hrs	Tractor/loader/backhoe
Fuel Tank	1	N/A	10 hrs	(not self moving no emissions)

El Monte Mining and Reclemation Project
Assumptions

Phase 5 - Final Reclamation Equipment List

Type/Model	#	HP	Daily usage	CalEEMod Designation
Grader – 12	1	179	5 hrs	Grader
Water Truck	1	330	10 hrs	Offhighway Truck
Pick-up truck	1	440	10 miles/day	Other construction Equipment
Dozer – D9	1	436	5 hrs	Dozer
Fuel Tank	1	N/A	10 hrs	(not self moving no emissions)

Operational Mobile Sources

Trip Rate: *(Included in the construction phasing information in CalEEMod)*

Estimated Daily Traffic Counts

Type	Purpose	Tons/load	One way trips	Round Trips
Heavy Traffic	Aggregate Transport	25	231	462
Heavy Traffic	Vendor Trips[1]	N/A[2]	2	4
Light Traffic	Employee commute & Visitors	N/A	12	24

[1] Vendor trips include fuel delivery, service visits and supply delivery.

[2] N/A = Not Applicable

Source: EnviroMine Inc., 2015a.

1,500,000	tons per year	
60,000	loads per year	120,000 trips per year
180,000	loads in phase 1 (3 years)	360,000 trips per phase
300,000	loads in phase 2 (5 years)	600,000 trips per phase
240,000	Loads in phase 3 (4 years)	480,000 trips per phase
180,000	loads in phase 4 (3 years)	360,000 trips per phase

Trip length 30 miles Assumes majority of the development occurs in the western portion of the County, and aggregate would be acquired from closest operating mine.

Location	*Miles* [1]	*Miles* [2]
Northwest (Lake Elsinore)	71	35.5
North (Lake Elsinore)	71	35.5
North East (Thermal)	125	62.5
Southeast (Ocotillo)	69	34.5
South (Campo)	39	19.5
Southwest (Imperial Beach)	28	28
West (San Diego)	21	21
Central (Default trip)	20	20

[1] Distance between Lakeside and eixisting aggregate area/City to the west. Existing Aggregate locations taken from CalCIMA San Diego Chapter. http://calcimasandiego.org/

[2] 1/2 way point between existing aggregate mine and Lakeside. Assumes use of closest mine. Or distance to City.

El Monte Mining and Reclemation Project
Assumptions

Energy Use:

Natural Gas:	None	
Electric:	All Process Plant Equipment is electric	
	4,801	KWh daily
	1,504,102	KWh annually
	25493.25424	KWh annually per acre
	1504.102	KWh/ ksf

Water/Wastewater:

Process Water	126	acre-feet	annually
Dust Suppression	30	acre feet	annually
Waste water	None	No sewer connection	
gallons/year	50,832,823.37		

Solid Waste Generation:

Tons per week	75
Tons per year	2

El Monte Mining and Reclamation Project
Revisions to Project Assumptions

Subsequent to the original analysis the project description has changed to include the following revisions. The amount of material extraction as well as the lengh of the extraction activities have been reduced as well as the number of daily haul trips (as detailed in the table below). In addition, a permanent processing plant has been added to the project and will operate in conjunction with the mobile onsite processing plant.

The analysis has been modified to reduce the emissions estimates by percentages associated with the reduction in sand and haul truck usage and to double emissions associated with the processing plant to include the addition of a similar sized permanent plant.

The health risk assumptions are not recalculated because the reduction in material production and haul trips would not be sufficient to reduce unmitigated emissions to a less than significant level. With the mitigation implemented the original analysis was reduced to below risk thresholds. Therefore, revisions to health risk are qualitatively addressed.

PROJECT DESCRIPTION, ORIGINAL VERSUS REVISED

	Original	Revised	Proportion change
Acreage affected			
Sand extraction (M cu yds)	12	6.9	43%
Sand extraction (M sh tons)	18	10.3	43%
Extraction time period (yrs)	15	12	
Total time period	19	16	
Max annual production (M sh tons)		1.1	
Max daily production (cu yds)	1,000,000	733,000	27%
Average truck trip, RT (mi)	30	21	30%
Vol material per truck load (sh tons)		27	
Truck trips/day One way	231	157	32%
Truck trips/day RT	462	314	32%
Truck miles/day		3297	
working days/yr	260	260	
Truck miles/yr		857220	

CORRECTIONS PER CLIENT TO - Table 4, AQ

Estimated Daily Traffic Counts -	one way	RT
Vendor trips	2	4
Employee trips	12	24

REVISIONS TO PROJECT EMISSIONS -operating

consider vendor/employees trips

[1]vendor and employee trips are less than 1% of the total trips. Emissions are considerably less from LD vehicles than from HD trucks.

Onsite Production

[2] An permenant processing plant is being added to the site operations in addition to the mobile plant. Because the plant is electric the only emissions are fugitive dust emissions.

Deduction for fewer haul trips

[3] HD Truck haul trips at the mine and associated off road emissions comprise the predominant volume of emissions.

[4] New Proj Descr is based on a 32% reduction in aggreg truck haul trips (due to less total aggreg mining) and no impact upon reclamation equipment use, other onsite vehicles or worker commute and vendor trips.

[5] Total volume of minerals to be extracted was reduced overall by 42% and avg daily production by 27%. Trucks hauling more aggreg per load due to use of lighter weight trailers; however overall load is the same.

[6] Therefore as a conservative estimate the following reductions were made:

a: Haul truck emissions were reduced by 32%

b: Non-processing plant fugitive dust emisisons were reduced by 27%

c: Fugitive dust emissions for processing plant were doubled.

d: Energy emissions from the operation of the processing plant are doubled.

e: Water consumption from the operation of the processing plant are doubled.

El Monte Mining and Reclemation Project
GHG Summary Emissions

Unmitigate GHG Construction Emissions

While there is temporary construction to develop the pad, berms and channel barrier, these operations would occur at the same time as the initial mining and would not require the operation of additional equipment. Therefore, construction emissions are modeled as part of operational activities.

Unmitigated GHG Operational Emissions

	CO_2e
	MT/year
Area	0.00
Energy	986.60
Mobile (Vendor)	11.26
Mobile (Worker)	23.44
Waste	1.01
Water	220.40
Processing Emissions	1,223.25
Mobile (Haul Trucks)	4,148.69
Total Project Emissions	6,614.65
Threshold:	10,000.00
Exceed Threshold?	No

El Monte Mining and Reclemation Project

GHG Emissions from CalEEMod

Proposed Project - Unmitigated

	CO_2	CH_4	CH_4 (CO_2e)	N_2O	N_2O (CO_2e)	CO_2e	Revised CO_2e[3]
	MT/year Annual Unmitigated Building/Processing Plant Emissions						
Area	2.00E-05	0.00E+00	0	0.00E+00	0	0.00	0.00
Energy	491.59	1.98E-02	0.495	4.09E-03	1.21882	493.30	986.60
Mobile[1]	11.26	9.00E-05	0.00225	0.00E+00	0	11.26	11.26
Mobile[2]	23.41	1.24E-03	0.031	0.00E+00	0	23.44	23.44
Waste	0.41	0.024	0.6	0.00E+00	0	1.01	1.01
Water	184.57	7.43E-03	0.18575	1.54E-03	0.45892	185.21	220.40
Total						714.22	1,242.71
	Processing Emissions (Mining/Reclamation)						
Phase 1	980.50	2.96E-01	7.395	0.00E+00	0	987.90	
Phase 2	1,558.10	4.70E-01	11.75	0.00E+00	0	1,569.85	
Phase 3	1,558.10	0.47	11.75	0.00E+00	0	1,569.85	
Phase 4	1,558.10	0.47	11.75	0.00E+00	0	1,569.85	
Phase 5	357.29	0.1078	2.695	0.00E+00	0	359.99	
Average Annual	1,214.10	0.37				1,223.25	1,223.25
	Processing Emissions (Haul Trucks)						
Phase 1	6,099.94	4.26E-02	1.065	0.00E+00	0	6,101.01	
Phase 2	6,099.94	4.26E-02	1.065	0.00E+00	0	6,101.01	
Phase 3	6,099.94	0.04	1.065	0.00E+00	0	6,101.01	
Phase 4	6,099.94	0.04	1.065	0.00E+00	0	6,101.01	
Phase 5			0	0.00E+00	0	0.00	
Average Annual	6,099.94	0.04				6,101.01	4,148.69
Annual Project Emissions						8,038.48	6,614.65
Project Threshold						10,000.00	10,000.00
Significant?						No	No

[1] Mobile Source 1 = annual emissions from vendor trips to the project site.

[2] Mobile sSource 2 = annual emissions from worker trips and visitors to the project site.

[3] Emissions Updates based on the revised project description.

a) Haul truck emissions were reduced by 32%

b) Emissions for the 2nd processing plant added.

b1) Electricity doubled to account for the operation of the 2nd plant.

b2) Water increased by 19% of total for dust suppression at second plant.

Mitigation Required No

Reduction in VMT from Existing aggregate sites:

Assumptions:

1 According to the California Construcing and Industrial Materials associateion. Currently aggregate is being transported into San Diego County from as far a way as Irwindale, CA and Thermal, CA. This results in one way trip distances of between 59 and 125 miles. Average trip distance using the 4 closest sites is approximately 79.25 miles and using all 8 sites is 98.5 miles.

	Distance (Miles)[1,2]		Distance (Miles)[3]	
Average:	***79.25***	***98.50***	***68.00***	***89.88***
Campo	59	59	39	39
Lake Elsinore	74	74	71	71
Ocotillo	89	89	69	69
Corona	95	95	93	93
Rialto		103	101	101
Enscenada		118		98
Irwindale		125		123
Thermal		125		125

[1] Aggregate Origins taken from Cal CIMA.

[2] Mileage taken from Mapquest.com based on a location approximate location of the center of San Diego County at Four Corners.

[3] Distance from Lakefield, CA (from Mapquest.com)

Source: http://calcimasandiego.org/

2 Implementation of the mine would result in an average one way trip distance of between 21 and 25 miles. (mileage estimated from Mapquest.com)

VMT Reduction from local mine:

(assumes 30 miles to site and lowest estimate of mileage to existing aggregate site via Mapquest.com)

	Mileage			% Reduction
	Site	No Site	Difference	
4 closest sites:	30	68	38	56.30%
All sites:	30	90	60	66.94%

CO_2e Emissions from Haul Trucks without implementation of the Project.

	CO_2	CH_4	CH_4 (CO_2e)	N_2O	N_2O (CO_2e)	CO_2e
4 Closest Sites:	13,706.17	0.0928	2.32	0.00E+00	0	13,708.49
All Sites:	18,109.77	0.1219	3.0475	0.00E+00	0	18,112.82

Percent Reduction with Project

	Sites	
	4 closest	**All**
W/Project:	6,101.01	6,101.01
W/O Project:	13,708.49	18,112.82
% Reduction:	55.49%	66.32%

APPENDIX B

CalEEMod Output

Appendix B - Unmitigated CalEEMod Output

El Monte Mining and Reclamation - Operations of Phase 1

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	1.00	1000sqft	48.00	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - *General Light industrial is used to calculate emissions from electrical/water/solid waste.

Construction Phase - Based on project specific data

Off-road Equipment - Based on project specific information

Trips and VMT - based on project specific information

Grading - based on project specific excavation of 1 million cubic yards per year

Vehicle Trips - No operational vehicle trips not acounted for in "construction" phasing

Area Coating - No painting of modular building

Landscape Equipment - no landscaping

Energy Use - based on project information

Water And Wastewater - based on process and dust control water. No sewer usage

Solid Waste - based on project specific information

Construction Off-road Equipment Mitigation - Based on dust suppression requirements

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	1500	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	110.00	261.00
tblEnergyUse	LightingElect	3.25	0.00
tblEnergyUse	NT24E	4.27	1,504.20
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.48	0.00
tblEnergyUse	T24NG	4.54	0.00
tblGrading	AcresOfGrading	81.56	275.00
tblGrading	MaterialExported	0.00	1,000,000.00
tblLandUse	LotAcreage	0.02	48.00
tblOffRoadEquipment	HorsePower	162.00	293.00
tblOffRoadEquipment	HorsePower	174.00	179.00

tblOffRoadEquipment	HorsePower	97.00	260.00
tblOffRoadEquipment	HorsePower	97.00	501.00
tblOffRoadEquipment	HorsePower	400.00	330.00
tblOffRoadEquipment	HorsePower	400.00	450.00
tblOffRoadEquipment	HorsePower	171.00	440.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblSolidWaste	SolidWasteGenerationRate	1.24	2.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripNumber	125,000.00	120,000.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	20.00	24.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	IndoorWaterUseRate	231,250.00	0.00
tblWater	OutdoorWaterUseRate	0.00	50,832,823.37

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	2.2682	33.9738	20.2766	0.0775	1.7796	0.6472	2.4268	0.4552	0.5954	1.0506	0.0000	7,115.1161	7,115.1161	0.3397	0.0000	7,122.2489
Total	**2.2682**	**33.9738**	**20.2766**	**0.0775**	**1.7796**	**0.6472**	**2.4268**	**0.4552**	**0.5954**	**1.0506**	**0.0000**	**7,115.1161**	**7,115.1161**	**0.3397**	**0.0000**	**7,122.2489**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	2.2682	33.9738	20.2766	0.0775	1.6559	0.6472	2.3031	0.4401	0.5954	1.0355	0.0000	7,115.1149	7,115.1149	0.3397	0.0000	7,122.2477
Total	**2.2682**	**33.9738**	**20.2766**	**0.0775**	**1.6559**	**0.6472**	**2.3031**	**0.4401**	**0.5954**	**1.0355**	**0.0000**	**7,115.1149**	**7,115.1149**	**0.3397**	**0.0000**	**7,122.2477**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**6.95**	**0.00**	**5.10**	**3.32**	**0.00**	**1.44**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.9100e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	491.5858	491.5858	0.0198	4.0900e-003	493.2703
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.4060	0.0000	0.4060	0.0240	0.0000	0.9098
Water						0.0000	0.0000		0.0000	0.0000	0.0000	184.5661	184.5661	7.4300e-003	1.5400e-003	185.1986
Total	**3.9100e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4060**	**676.1519**	**676.5579**	**0.0512**	**5.6300e-003**	**679.3788**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.9100e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	491.5858	491.5858	0.0198	4.0900e-003	493.2703
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.4060	0.0000	0.4060	0.0240	0.0000	0.9098
Water						0.0000	0.0000		0.0000	0.0000	0.0000	184.5661	184.5661	7.4300e-003	1.5400e-003	185.1986
Total	**3.9100e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4060**	**676.1519**	**676.5579**	**0.0512**	**5.6300e-003**	**679.3788**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2016	12/30/2016	5	261	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	5.00	293	0.38
Grading	Graders	1	5.00	179	0.41
Grading	Off-Highway Trucks	1	10.00	330	0.38
Grading	Off-Highway Trucks	1	7.50	450	0.38
Grading	Other Construction Equipment	1	1.00	440	0.42
Grading	Tractors/Loaders/Backhoes	2	10.00	260	0.37
Grading	Tractors/Loaders/Backhoes	1	10.00	501	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	24.00	4.00	120,000.00	10.80	7.30	30.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2161	0.0000	0.2161	0.0264	0.0000	0.0264	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6662	8.4609	3.7306	0.0104		0.3029	0.3029		0.2787	0.2787	0.0000	980.5037	980.5037	0.2958	0.0000	986.7145
Total	**0.6662**	**8.4609**	**3.7306**	**0.0104**	**0.2161**	**0.3029**	**0.5190**	**0.0264**	**0.2787**	**0.3051**	**0.0000**	**980.5037**	**980.5037**	**0.2958**	**0.0000**	**986.7145**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5854	25.4477	16.3393	0.0667	1.5350	0.3433	1.8783	0.4212	0.3158	0.7370	0.0000	6,099.9447	6,099.9447	0.0426	0.0000	6,100.8388
Vendor	5.9400e-003	0.0510	0.0715	1.2000e-004	3.4000e-003	7.5000e-004	4.1500e-003	9.7000e-004	6.9000e-004	1.6600e-003	0.0000	11.2620	11.2620	9.0000e-005	0.0000	11.2638
Worker	0.0107	0.0142	0.1353	3.1000e-004	0.0251	1.9000e-004	0.0253	6.6700e-003	1.8000e-004	6.8500e-003	0.0000	23.4058	23.4058	1.2400e-003	0.0000	23.4317
Total	**1.6020**	**25.5129**	**16.5460**	**0.0671**	**1.5635**	**0.3443**	**1.9078**	**0.4288**	**0.3167**	**0.7455**	**0.0000**	**6,134.6124**	**6,134.6124**	**0.0439**	**0.0000**	**6,135.5344**

3.2 Grading - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0924	0.0000	0.0924	0.0113	0.0000	0.0113	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6662	8.4609	3.7306	0.0104		0.3029	0.3029		0.2787	0.2787	0.0000	980.5025	980.5025	0.2958	0.0000	986.7133
Total	**0.6662**	**8.4609**	**3.7306**	**0.0104**	**0.0924**	**0.3029**	**0.3953**	**0.0113**	**0.2787**	**0.2900**	**0.0000**	**980.5025**	**980.5025**	**0.2958**	**0.0000**	**986.7133**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5854	25.4477	16.3393	0.0667	1.5350	0.3433	1.8783	0.4212	0.3158	0.7370	0.0000	6,099.9447	6,099.9447	0.0426	0.0000	6,100.8388
Vendor	5.9400e-003	0.0510	0.0715	1.2000e-004	3.4000e-003	7.5000e-004	4.1500e-003	9.7000e-004	6.9000e-004	1.6600e-003	0.0000	11.2620	11.2620	9.0000e-005	0.0000	11.2638
Worker	0.0107	0.0142	0.1353	3.1000e-004	0.0251	1.9000e-004	0.0253	6.6700e-003	1.8000e-004	6.8500e-003	0.0000	23.4058	23.4058	1.2400e-003	0.0000	23.4317
Total	**1.6020**	**25.5129**	**16.5460**	**0.0671**	**1.5635**	**0.3443**	**1.9078**	**0.4288**	**0.3167**	**0.7455**	**0.0000**	**6,134.6124**	**6,134.6124**	**0.0439**	**0.0000**	**6,135.5344**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.513300	0.073549	0.191092	0.130830	0.036094	0.005140	0.012550	0.022916	0.001871	0.002062	0.006564	0.000586	0.003446

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	491.5858	491.5858	0.0198	4.0900e-003	493.2703
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	491.5858	491.5858	0.0198	4.0900e-003	493.2703
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.5042e+006	491.5858	0.0198	4.0900e-003	493.2703
Total		**491.5858**	**0.0198**	**4.0900e-003**	**493.2703**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.5042e+006	491.5858	0.0198	4.0900e-003	493.2703
Total		**491.5858**	**0.0198**	**4.0900e-003**	**493.2703**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.9100e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	3.9100e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**3.9100e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**3.9100e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	184.5661	7.4300e-003	1.5400e-003	185.1986
Unmitigated	184.5661	7.4300e-003	1.5400e-003	185.1986

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 50.8328	184.5661	7.4300e-003	1.5400e-003	185.1986
Total		**184.5661**	**7.4300e-003**	**1.5400e-003**	**185.1986**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 50.8328	184.5661	7.4300e-003	1.5400e-003	185.1986
Total		**184.5661**	**7.4300e-003**	**1.5400e-003**	**185.1986**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.4060	0.0240	0.0000	0.9098
Unmitigated	0.4060	0.0240	0.0000	0.9098

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	2	0.4060	0.0240	0.0000	0.9098
Total		**0.4060**	**0.0240**	**0.0000**	**0.9098**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	2	0.4060	0.0240	0.0000	0.9098
Total		**0.4060**	**0.0240**	**0.0000**	**0.9098**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

El Monte Mining and Reclamation - Operations of Phases 2,3 &4

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	115.00	Acre	115.00	5,009,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Operational activities only associated with "Construction" materials

Construction Phase - Based on project specific data

Off-road Equipment - Based on project specific information

Trips and VMT - based on project specific information

Grading - based on project specific excavation of 1 million cubic yards per year

Vehicle Trips - No operational vehicle trips not acounted for in "construction" phasing

Area Coating - No painting of modular building

Landscape Equipment - no landscaping

Energy Use - based on project information

Water And Wastewater - based on process and dust control water. No sewer usage

Solid Waste - based on project specific information

Construction Off-road Equipment Mitigation - Based on dust suppression requirements

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	310.00	261.00
tblConstructionPhase	PhaseEndDate	12/30/2016	12/31/2016
tblGrading	AcresOfGrading	81.56	775.00
tblGrading	MaterialExported	0.00	1,000,000.00
tblOffRoadEquipment	HorsePower	162.00	293.00
tblOffRoadEquipment	HorsePower	174.00	179.00
tblOffRoadEquipment	HorsePower	255.00	436.00
tblOffRoadEquipment	HorsePower	97.00	501.00
tblOffRoadEquipment	HorsePower	97.00	560.00
tblOffRoadEquipment	HorsePower	400.00	330.00
tblOffRoadEquipment	HorsePower	400.00	450.00
tblOffRoadEquipment	HorsePower	171.00	440.00
tblOffRoadEquipment	HorsePower	167.00	328.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripNumber	125,000.00	120,000.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	25.00	24.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	2.7635	40.1368	23.4522	0.0837	2.5359	0.8956	3.4315	0.7538	0.8239	1.5778	0.0000	7,692.7140	7,692.7140	0.5139	0.0000	7,703.5055
Total	**2.7635**	**40.1368**	**23.4522**	**0.0837**	**2.5359**	**0.8956**	**3.4315**	**0.7538**	**0.8239**	**1.5778**	**0.0000**	**7,692.7140**	**7,692.7140**	**0.5139**	**0.0000**	**7,703.5055**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	2.7635	40.1368	23.4522	0.0837	1.9792	0.8956	2.8748	0.5678	0.8239	1.3917	0.0000	7,692.7122	7,692.7122	0.5139	0.0000	7,703.5037
Total	**2.7635**	**40.1368**	**23.4522**	**0.0837**	**1.9792**	**0.8956**	**2.8748**	**0.5678**	**0.8239**	**1.3917**	**0.0000**	**7,692.7122**	**7,692.7122**	**0.5139**	**0.0000**	**7,703.5037**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**21.95**	**0.00**	**16.22**	**24.68**	**0.00**	**11.79**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2016	12/31/2016	5	261	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 775

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	5.00	293	0.38
Grading	Graders	1	5.00	179	0.41
Grading	Off-Highway Trucks	1	10.00	330	0.38
Grading	Off-Highway Trucks	1	7.50	450	0.38
Grading	Other Construction Equipment	1	1.00	440	0.42
Grading	Other Material Handling Equipment	1	10.00	328	0.40
Grading	Rubber Tired Dozers	1	5.00	436	0.40
Grading	Tractors/Loaders/Backhoes	1	10.00	501	0.37
Grading	Tractors/Loaders/Backhoes	2	10.00	560	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	10	24.00	4.00	120,000.00	10.80	7.30	30.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.9724	0.0000	0.9724	0.3250	0.0000	0.3250	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1614	14.6239	6.9062	0.0165		0.5514	0.5514		0.5072	0.5072	0.0000	1,558.1016	1,558.1016	0.4700	0.0000	1,567.9712
Total	**1.1614**	**14.6239**	**6.9062**	**0.0165**	**0.9724**	**0.5514**	**1.5237**	**0.3250**	**0.5072**	**0.8322**	**0.0000**	**1,558.1016**	**1,558.1016**	**0.4700**	**0.0000**	**1,567.9712**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5854	25.4477	16.3393	0.0667	1.5350	0.3433	1.8783	0.4212	0.3158	0.7370	0.0000	6,099.9447	6,099.9447	0.0426	0.0000	6,100.8388
Vendor	5.9400e-003	0.0510	0.0715	1.2000e-004	3.4000e-003	7.5000e-004	4.1500e-003	9.7000e-004	6.9000e-004	1.6600e-003	0.0000	11.2620	11.2620	9.0000e-005	0.0000	11.2638
Worker	0.0107	0.0142	0.1353	3.1000e-004	0.0251	1.9000e-004	0.0253	6.6700e-003	1.8000e-004	6.8500e-003	0.0000	23.4058	23.4058	1.2400e-003	0.0000	23.4317
Total	**1.6020**	**25.5129**	**16.5460**	**0.0671**	**1.5635**	**0.3443**	**1.9078**	**0.4288**	**0.3167**	**0.7455**	**0.0000**	**6,134.6124**	**6,134.6124**	**0.0439**	**0.0000**	**6,135.5344**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4157	0.0000	0.4157	0.1389	0.0000	0.1389	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1614	14.6239	6.9062	0.0165		0.5514	0.5514		0.5072	0.5072	0.0000	1,558.0998	1,558.0998	0.4700	0.0000	1,567.9693
Total	**1.1614**	**14.6239**	**6.9062**	**0.0165**	**0.4157**	**0.5514**	**0.9670**	**0.1389**	**0.5072**	**0.6462**	**0.0000**	**1,558.0998**	**1,558.0998**	**0.4700**	**0.0000**	**1,567.9693**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5854	25.4477	16.3393	0.0667	1.5350	0.3433	1.8783	0.4212	0.3158	0.7370	0.0000	6,099.9447	6,099.9447	0.0426	0.0000	6,100.8388
Vendor	5.9400e-003	0.0510	0.0715	1.2000e-004	3.4000e-003	7.5000e-004	4.1500e-003	9.7000e-004	6.9000e-004	1.6600e-003	0.0000	11.2620	11.2620	9.0000e-005	0.0000	11.2638
Worker	0.0107	0.0142	0.1353	3.1000e-004	0.0251	1.9000e-004	0.0253	6.6700e-003	1.8000e-004	6.8500e-003	0.0000	23.4058	23.4058	1.2400e-003	0.0000	23.4317
Total	**1.6020**	**25.5129**	**16.5460**	**0.0671**	**1.5635**	**0.3443**	**1.9078**	**0.4288**	**0.3167**	**0.7455**	**0.0000**	**6,134.6124**	**6,134.6124**	**0.0439**	**0.0000**	**6,135.5344**

El Monte Mining and Reclamation - Operations of Phases 5 (Reclamation Only)

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	36.00	Acre	36.00	1,568,160.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Operational activities only associated with "Construction" materials

Construction Phase - Based on project specific data

Off-road Equipment - Based on project specific information

Trips and VMT - based on project specific information

Grading - based on project specific excavation of 1 million cubic yards per year

Vehicle Trips - No operational vehicle trips not acounted for in "construction" phasing

Consumer Products - no area operations

Area Coating - No painting of modular building

Landscape Equipment - no landscaping

Energy Use - based on project information

Water And Wastewater - based on process and dust control water. No sewer usage

Solid Waste - based on project specific information

Construction Off-road Equipment Mitigation - Based on dust suppression requirements

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	2352240	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	75.00	261.00
tblConsumerProducts	ROG_EF	2.14E-05	1E-06
tblGrading	AcresOfGrading	81.56	187.50
tblOffRoadEquipment	HorsePower	174.00	179.00
tblOffRoadEquipment	HorsePower	255.00	436.00
tblOffRoadEquipment	HorsePower	400.00	330.00
tblOffRoadEquipment	HorsePower	171.00	440.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	10.00	24.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					

2016	0.3745	4.2753	2.6246	4.2200e-003	0.6191	0.1735	0.7926	0.2884	0.1596	0.4480	0.0000	391.9592	391.9592	0.1091	0.0000	394.2502
Total	**0.3745**	**4.2753**	**2.6246**	**4.2200e-003**	**0.6191**	**0.1735**	**0.7926**	**0.2884**	**0.1596**	**0.4480**	**0.0000**	**391.9592**	**391.9592**	**0.1091**	**0.0000**	**394.2502**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.3745	4.2752	2.6246	4.2200e-003	0.2810	0.1735	0.4545	0.1277	0.1596	0.2873	0.0000	391.9587	391.9587	0.1091	0.0000	394.2498
Total	**0.3745**	**4.2752**	**2.6246**	**4.2200e-003**	**0.2810**	**0.1735**	**0.4545**	**0.1277**	**0.1596**	**0.2873**	**0.0000**	**391.9587**	**391.9587**	**0.1091**	**0.0000**	**394.2498**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**54.61**	**0.00**	**42.66**	**55.73**	**0.00**	**35.88**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2016	12/30/2016	5	261	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Graders	1	5.00	179	0.41
Grading	Off-Highway Trucks	1	10.00	330	0.38
Grading	Other Construction Equipment	1	1.00	440	0.42
Grading	Rubber Tired Dozers	1	5.00	436	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	24.00	4.00	0.00	10.80	7.30	30.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5906	0.0000	0.5906	0.2807	0.0000	0.2807	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.3578	4.2101	2.4179	3.7900e-003		0.1725	0.1725		0.1587	0.1587	0.0000	357.2914	357.2914	0.1078	0.0000	359.5546
Total	**0.3578**	**4.2101**	**2.4179**	**3.7900e-003**	**0.5906**	**0.1725**	**0.7631**	**0.2807**	**0.1587**	**0.4395**	**0.0000**	**357.2914**	**357.2914**	**0.1078**	**0.0000**	**359.5546**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.9400e-003	0.0510	0.0715	1.2000e-004	3.4000e-003	7.5000e-004	4.1500e-003	9.7000e-004	6.9000e-004	1.6600e-003	0.0000	11.2620	11.2620	9.0000e-005	0.0000	11.2638
Worker	0.0107	0.0142	0.1353	3.1000e-004	0.0251	1.9000e-004	0.0253	6.6700e-003	1.8000e-004	6.8500e-003	0.0000	23.4058	23.4058	1.2400e-003	0.0000	23.4317
Total	**0.0167**	**0.0652**	**0.2067**	**4.3000e-004**	**0.0285**	**9.4000e-004**	**0.0295**	**7.6400e-003**	**8.7000e-004**	**8.5100e-003**	**0.0000**	**34.6677**	**34.6677**	**1.3300e-003**	**0.0000**	**34.6956**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2525	0.0000	0.2525	0.1200	0.0000	0.1200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3578	4.2101	2.4179	3.7900e-003		0.1725	0.1725		0.1587	0.1587	0.0000	357.2910	357.2910	0.1078	0.0000	359.5542
Total	**0.3578**	**4.2101**	**2.4179**	**3.7900e-003**	**0.2525**	**0.1725**	**0.4250**	**0.1200**	**0.1587**	**0.2787**	**0.0000**	**357.2910**	**357.2910**	**0.1078**	**0.0000**	**359.5542**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.9400e-003	0.0510	0.0715	1.2000e-004	3.4000e-003	7.5000e-004	4.1500e-003	9.7000e-004	6.9000e-004	1.6600e-003	0.0000	11.2620	11.2620	9.0000e-005	0.0000	11.2638
Worker	0.0107	0.0142	0.1353	3.1000e-004	0.0251	1.9000e-004	0.0253	6.6700e-003	1.8000e-004	6.8500e-003	0.0000	23.4058	23.4058	1.2400e-003	0.0000	23.4317
Total	**0.0167**	**0.0652**	**0.2067**	**4.3000e-004**	**0.0285**	**9.4000e-004**	**0.0295**	**7.6400e-003**	**8.7000e-004**	**8.5100e-003**	**0.0000**	**34.6677**	**34.6677**	**1.3300e-003**	**0.0000**	**34.6956**

Appendix B - Mitigated CalEEMod Output

El Monte Mining and Reclamation - Mitigated Operations of Phase 1

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	1.00	1000sqft	48.00	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - *General Light industrial is used to calculate emissions from electrical/water/solid waste.

Construction Phase - Based on project specific data

Off-road Equipment - Based on project specific information

Trips and VMT - based on project specific information

Grading - based on project specific excavation of 1 million cubic yards per year

Vehicle Trips - No operational vehicle trips not acounted for in "construction" phasing

Area Coating - No painting of modular building

Landscape Equipment - no landscaping

Energy Use - based on project information

Water And Wastewater - based on process and dust control water. No sewer usage

Solid Waste - based on project specific information

Construction Off-road Equipment Mitigation - Based on dust suppression requirements

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	1500	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	110.00	261.00
tblEnergyUse	LightingElect	3.25	0.00

tblEnergyUse	NT24E	4.27	1,504.20
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.48	0.00
tblEnergyUse	T24NG	4.54	0.00
tblGrading	AcresOfGrading	81.56	275.00
tblGrading	MaterialExported	0.00	1,000,000.00
tblLandUse	LotAcreage	0.02	48.00
tblOffRoadEquipment	HorsePower	162.00	293.00
tblOffRoadEquipment	HorsePower	174.00	179.00
tblOffRoadEquipment	HorsePower	97.00	260.00
tblOffRoadEquipment	HorsePower	97.00	501.00
tblOffRoadEquipment	HorsePower	400.00	330.00
tblOffRoadEquipment	HorsePower	400.00	450.00
tblOffRoadEquipment	HorsePower	171.00	440.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblSolidWaste	SolidWasteGenerationRate	1.24	2.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripNumber	125,000.00	120,000.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	20.00	24.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00

tblVehicleTrips	WD_TR	6.97	0.00
tblWater	IndoorWaterUseRate	231,250.00	0.00
tblWater	OutdoorWaterUseRate	0.00	50,832,823.37

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	2.2682	33.9738	20.2766	0.0775	1.7796	0.6472	2.4268	0.4552	0.5954	1.0506	0.0000	7,115.1161	7,115.1161	0.3397	0.0000	7,122.2489
Total	**2.2682**	**33.9738**	**20.2766**	**0.0775**	**1.7796**	**0.6472**	**2.4268**	**0.4552**	**0.5954**	**1.0506**	**0.0000**	**7,115.1161**	**7,115.1161**	**0.3397**	**0.0000**	**7,122.2489**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	1.9830	30.4292	21.5600	0.0775	1.6559	0.4654	2.1212	0.4401	0.4282	0.8683	0.0000	7,115.1149	7,115.1149	0.3397	0.0000	7,122.2477
Total	**1.9830**	**30.4292**	**21.5600**	**0.0775**	**1.6559**	**0.4654**	**2.1212**	**0.4401**	**0.4282**	**0.8683**	**0.0000**	**7,115.1149**	**7,115.1149**	**0.3397**	**0.0000**	**7,122.2477**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**12.57**	**10.43**	**-6.33**	**0.00**	**6.95**	**28.10**	**12.59**	**3.32**	**28.08**	**17.35**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.9100e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	491.5858	491.5858	0.0198	4.0900e-003	493.2703
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.4060	0.0000	0.4060	0.0240	0.0000	0.9098
Water						0.0000	0.0000		0.0000	0.0000	0.0000	184.5661	184.5661	7.4300e-003	1.5400e-003	185.1986
Total	**3.9100e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4060**	**676.1519**	**676.5579**	**0.0512**	**5.6300e-003**	**679.3788**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.9100e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	491.5858	491.5858	0.0198	4.0900e-003	493.2703
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.4060	0.0000	0.4060	0.0240	0.0000	0.9098
Water						0.0000	0.0000		0.0000	0.0000	0.0000	184.5661	184.5661	7.4300e-003	1.5400e-003	185.1986
Total	**3.9100e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4060**	**676.1519**	**676.5579**	**0.0512**	**5.6300e-003**	**679.3788**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2016	12/30/2016	5	261	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	5.00	293	0.38
Grading	Graders	1	5.00	179	0.41
Grading	Off-Highway Trucks	1	10.00	330	0.38
Grading	Off-Highway Trucks	1	7.50	450	0.38
Grading	Other Construction Equipment	1	1.00	440	0.42
Grading	Tractors/Loaders/Backhoes	2	10.00	260	0.37
Grading	Tractors/Loaders/Backhoes	1	10.00	501	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	24.00	4.00	120,000.00	10.80	7.30	30.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2161	0.0000	0.2161	0.0264	0.0000	0.0264	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6662	8.4609	3.7306	0.0104		0.3029	0.3029		0.2787	0.2787	0.0000	980.5037	980.5037	0.2958	0.0000	986.7145
Total	**0.6662**	**8.4609**	**3.7306**	**0.0104**	**0.2161**	**0.3029**	**0.5190**	**0.0264**	**0.2787**	**0.3051**	**0.0000**	**980.5037**	**980.5037**	**0.2958**	**0.0000**	**986.7145**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5854	25.4477	16.3393	0.0667	1.5350	0.3433	1.8783	0.4212	0.3158	0.7370	0.0000	6,099.9447	6,099.9447	0.0426	0.0000	6,100.8388
Vendor	5.9400e-003	0.0510	0.0715	1.2000e-004	3.4000e-003	7.5000e-004	4.1500e-003	9.7000e-004	6.9000e-004	1.6600e-003	0.0000	11.2620	11.2620	9.0000e-005	0.0000	11.2638
Worker	0.0107	0.0142	0.1353	3.1000e-004	0.0251	1.9000e-004	0.0253	6.6700e-003	1.8000e-004	6.8500e-003	0.0000	23.4058	23.4058	1.2400e-003	0.0000	23.4317
Total	**1.6020**	**25.5129**	**16.5460**	**0.0671**	**1.5635**	**0.3443**	**1.9078**	**0.4288**	**0.3167**	**0.7455**	**0.0000**	**6,134.6124**	**6,134.6124**	**0.0439**	**0.0000**	**6,135.5344**

3.2 Grading - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0924	0.0000	0.0924	0.0113	0.0000	0.0113	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3810	4.9163	5.0140	0.0104		0.1211	0.1211		0.1115	0.1115	0.0000	980.5025	980.5025	0.2958	0.0000	986.7133
Total	**0.3810**	**4.9163**	**5.0140**	**0.0104**	**0.0924**	**0.1211**	**0.2135**	**0.0113**	**0.1115**	**0.1228**	**0.0000**	**980.5025**	**980.5025**	**0.2958**	**0.0000**	**986.7133**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5854	25.4477	16.3393	0.0667	1.5350	0.3433	1.8783	0.4212	0.3158	0.7370	0.0000	6,099.9447	6,099.9447	0.0426	0.0000	6,100.8388
Vendor	5.9400e-003	0.0510	0.0715	1.2000e-004	3.4000e-003	7.5000e-004	4.1500e-003	9.7000e-004	6.9000e-004	1.6600e-003	0.0000	11.2620	11.2620	9.0000e-005	0.0000	11.2638
Worker	0.0107	0.0142	0.1353	3.1000e-004	0.0251	1.9000e-004	0.0253	6.6700e-003	1.8000e-004	6.8500e-003	0.0000	23.4058	23.4058	1.2400e-003	0.0000	23.4317
Total	**1.6020**	**25.5129**	**16.5460**	**0.0671**	**1.5635**	**0.3443**	**1.9078**	**0.4288**	**0.3167**	**0.7455**	**0.0000**	**6,134.6124**	**6,134.6124**	**0.0439**	**0.0000**	**6,135.5344**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.513300	0.073549	0.191092	0.130830	0.036094	0.005140	0.012550	0.022916	0.001871	0.002062	0.006564	0.000586	0.003446

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	491.5858	491.5858	0.0198	4.0900e-003	493.2703
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	491.5858	491.5858	0.0198	4.0900e-003	493.2703
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.5042e+006	491.5858	0.0198	4.0900e-003	493.2703
Total		**491.5858**	**0.0198**	**4.0900e-003**	**493.2703**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.5042e+006	491.5858	0.0198	4.0900e-003	493.2703
Total		**491.5858**	**0.0198**	**4.0900e-003**	**493.2703**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.9100e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	3.9100e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**3.9100e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**3.9100e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	184.5661	7.4300e-003	1.5400e-003	185.1986
Unmitigated	184.5661	7.4300e-003	1.5400e-003	185.1986

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 50.8328	184.5661	7.4300e-003	1.5400e-003	185.1986
Total		**184.5661**	**7.4300e-003**	**1.5400e-003**	**185.1986**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 50.8328	184.5661	7.4300e-003	1.5400e-003	185.1986
Total		**184.5661**	**7.4300e-003**	**1.5400e-003**	**185.1986**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.4060	0.0240	0.0000	0.9098
Unmitigated	0.4060	0.0240	0.0000	0.9098

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	2	0.4060	0.0240	0.0000	0.9098
Total		**0.4060**	**0.0240**	**0.0000**	**0.9098**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	2	0.4060	0.0240	0.0000	0.9098
Total		**0.4060**	**0.0240**	**0.0000**	**0.9098**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

El Monte Mining and Reclamation - Mitigated Operations of Phases 2,3 &4

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	115.00	Acre	115.00	5,009,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Operational activities only associated with "Construction" materials

Construction Phase - Based on project specific data

Off-road Equipment - Based on project specific information

Trips and VMT - based on project specific information

Grading - based on project specific excavation of 1 million cubic yards per year

Vehicle Trips - No operational vehicle trips not acounted for in "construction" phasing

Area Coating - No painting of modular building

Landscape Equipment - no landscaping

Energy Use - based on project information

Water And Wastewater - based on process and dust control water. No sewer usage

Solid Waste - based on project specific information

Construction Off-road Equipment Mitigation - Based on dust suppression requirements

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	310.00	261.00
tblConstructionPhase	PhaseEndDate	12/30/2016	12/31/2016
tblGrading	AcresOfGrading	81.56	775.00
tblGrading	MaterialExported	0.00	1,000,000.00
tblOffRoadEquipment	HorsePower	162.00	293.00
tblOffRoadEquipment	HorsePower	174.00	179.00
tblOffRoadEquipment	HorsePower	255.00	436.00
tblOffRoadEquipment	HorsePower	97.00	501.00
tblOffRoadEquipment	HorsePower	97.00	560.00
tblOffRoadEquipment	HorsePower	400.00	330.00
tblOffRoadEquipment	HorsePower	400.00	450.00
tblOffRoadEquipment	HorsePower	171.00	440.00

tblOffRoadEquipment	HorsePower	167.00	328.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripNumber	125,000.00	120,000.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	25.00	24.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	2.7635	40.1368	23.4522	0.0837	2.5359	0.8956	3.4315	0.7538	0.8239	1.5778	0.0000	7,692.7140	7,692.7140	0.5139	0.0000	7,703.5055
Total	**2.7635**	**40.1368**	**23.4522**	**0.0837**	**2.5359**	**0.8956**	**3.4315**	**0.7538**	**0.8239**	**1.5778**	**0.0000**	**7,692.7140**	**7,692.7140**	**0.5139**	**0.0000**	**7,703.5055**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	2.0844	32.0637	24.8543	0.0837	1.9792	0.4669	2.4461	0.5678	0.4297	0.9975	0.0000	7,692.7122	7,692.7122	0.5139	0.0000	7,703.5037
Total	**2.0844**	**32.0637**	**24.8543**	**0.0837**	**1.9792**	**0.4669**	**2.4461**	**0.5678**	**0.4297**	**0.9975**	**0.0000**	**7,692.7122**	**7,692.7122**	**0.5139**	**0.0000**	**7,703.5037**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**24.57**	**20.11**	**-5.98**	**0.00**	**21.95**	**47.87**	**28.72**	**24.68**	**47.84**	**36.78**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2016	12/31/2016	5	261	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 775

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	5.00	293	0.38
Grading	Graders	1	5.00	179	0.41
Grading	Off-Highway Trucks	1	10.00	330	0.38

Grading	Off-Highway Trucks	1	7.50	450	0.38
Grading	Other Construction Equipment	1	1.00	440	0.42
Grading	Other Material Handling Equipment	1	10.00	328	0.40
Grading	Rubber Tired Dozers	1	5.00	436	0.40
Grading	Tractors/Loaders/Backhoes	1	10.00	501	0.37
Grading	Tractors/Loaders/Backhoes	2	10.00	560	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	10	24.00	4.00	120,000.00	10.80	7.30	30.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.9724	0.0000	0.9724	0.3250	0.0000	0.3250	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	1.1614	14.6239	6.9062	0.0165		0.5514	0.5514		0.5072	0.5072	0.0000	1,558.1016	1,558.1016	0.4700	0.0000	1,567.9712
Total	**1.1614**	**14.6239**	**6.9062**	**0.0165**	**0.9724**	**0.5514**	**1.5237**	**0.3250**	**0.5072**	**0.8322**	**0.0000**	**1,558.1016**	**1,558.1016**	**0.4700**	**0.0000**	**1,567.9712**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5854	25.4477	16.3393	0.0667	1.5350	0.3433	1.8783	0.4212	0.3158	0.7370	0.0000	6,099.9447	6,099.9447	0.0426	0.0000	6,100.8388
Vendor	5.9400e-003	0.0510	0.0715	1.2000e-004	3.4000e-003	7.5000e-004	4.1500e-003	9.7000e-004	6.9000e-004	1.6600e-003	0.0000	11.2620	11.2620	9.0000e-005	0.0000	11.2638
Worker	0.0107	0.0142	0.1353	3.1000e-004	0.0251	1.9000e-004	0.0253	6.6700e-003	1.8000e-004	6.8500e-003	0.0000	23.4058	23.4058	1.2400e-003	0.0000	23.4317
Total	**1.6020**	**25.5129**	**16.5460**	**0.0671**	**1.5635**	**0.3443**	**1.9078**	**0.4288**	**0.3167**	**0.7455**	**0.0000**	**6,134.6124**	**6,134.6124**	**0.0439**	**0.0000**	**6,135.5344**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4157	0.0000	0.4157	0.1389	0.0000	0.1389	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4823	6.5508	8.3083	0.0165		0.1226	0.1226		0.1130	0.1130	0.0000	1,558.0998	1,558.0998	0.4700	0.0000	1,567.9693
Total	**0.4823**	**6.5508**	**8.3083**	**0.0165**	**0.4157**	**0.1226**	**0.5383**	**0.1389**	**0.1130**	**0.2520**	**0.0000**	**1,558.0998**	**1,558.0998**	**0.4700**	**0.0000**	**1,567.9693**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5854	25.4477	16.3393	0.0667	1.5350	0.3433	1.8783	0.4212	0.3158	0.7370	0.0000	6,099.9447	6,099.9447	0.0426	0.0000	6,100.8388
Vendor	5.9400e-003	0.0510	0.0715	1.2000e-004	3.4000e-003	7.5000e-004	4.1500e-003	9.7000e-004	6.9000e-004	1.6600e-003	0.0000	11.2620	11.2620	9.0000e-005	0.0000	11.2638
Worker	0.0107	0.0142	0.1353	3.1000e-004	0.0251	1.9000e-004	0.0253	6.6700e-003	1.8000e-004	6.8500e-003	0.0000	23.4058	23.4058	1.2400e-003	0.0000	23.4317
Total	**1.6020**	**25.5129**	**16.5460**	**0.0671**	**1.5635**	**0.3443**	**1.9078**	**0.4288**	**0.3167**	**0.7455**	**0.0000**	**6,134.6124**	**6,134.6124**	**0.0439**	**0.0000**	**6,135.5344**

Appendix B - Out of County Aggregate Mine Haul Emissions

El Monte Mining and Reclamation - GHG emissions from 68 mile site distance

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	1.00	1000sqft	59.00	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Estimating the GHG emissions for trips to the next 4 closest mines if the project is not implemented

Land Use - *General Light industrial is used to calculate emissions from electrical/water/solid waste.

Construction Phase - Based on project specific data

Off-road Equipment - Based on project specific information

Trips and VMT - based on project specific information

Grading - based on project specific excavation of 1 million cubic yards per year

Vehicle Trips - No operational vehicle trips not acounted for in "construction" phasing

Area Coating - No painting of modular building

Landscape Equipment - no landscaping

Energy Use - based on project information

Water And Wastewater - based on process and dust control water. No sewer usage

Solid Waste - based on project specific information

Construction Off-road Equipment Mitigation - Based on dust suppression requirements

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	1500	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	110.00	261.00
tblEnergyUse	LightingElect	3.25	0.00
tblEnergyUse	NT24E	4.27	1,504.20
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.48	0.00
tblEnergyUse	T24NG	4.54	0.00
tblGrading	AcresOfGrading	81.56	275.00
tblGrading	MaterialExported	0.00	1,000,000.00
tblLandUse	LotAcreage	0.02	59.00
tblOffRoadEquipment	HorsePower	162.00	293.00
tblOffRoadEquipment	HorsePower	174.00	179.00
tblOffRoadEquipment	HorsePower	97.00	260.00
tblOffRoadEquipment	HorsePower	97.00	501.00
tblOffRoadEquipment	HorsePower	400.00	330.00
tblOffRoadEquipment	HorsePower	400.00	450.00
tblOffRoadEquipment	HorsePower	171.00	440.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblSolidWaste	SolidWasteGenerationRate	1.24	2.00
tblTripsAndVMT	HaulingTripLength	20.00	68.00

tblTripsAndVMT	HaulingTripNumber	125,000.00	120,000.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	20.00	24.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	IndoorWaterUseRate	231,250.00	0.00
tblWater	OutdoorWaterUseRate	0.00	50,832,823.37

2.0 Emissions Summary

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2016	12/30/2016	5	261	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	5.00	293	0.38
Grading	Graders	1	5.00	179	0.41
Grading	Off-Highway Trucks	1	10.00	330	0.38
Grading	Off-Highway Trucks	1	7.50	450	0.38
Grading	Other Construction Equipment	1	1.00	440	0.42
Grading	Tractors/Loaders/Backhoes	2	10.00	260	0.37

Grading	Tractors/Loaders/Backhoes	1	10.00	501	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	24.00	4.00	120,000.00	10.80	7.30	68.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2016

Unmitigated Construction On-Site

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	13,706.1694	13,706.1694	0.0928	0.0000	13,708.1187
Vendor											0.0000	11.2620	11.2620	9.0000e-005	0.0000	11.2638
Worker											0.0000	23.4058	23.4058	1.2400e-003	0.0000	23.4317

Total											**0.0000**	**13,740.8372**	**13,740.8372**	**0.0942**	**0.0000**	**13,742.8143**

Mitigated Construction On-Site

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	13,706.1694	13,706.1694	0.0928	0.0000	13,708.1187
Vendor											0.0000	11.2620	11.2620	9.0000e-005	0.0000	11.2638
Worker											0.0000	23.4058	23.4058	1.2400e-003	0.0000	23.4317
Total											**0.0000**	**13,740.8372**	**13,740.8372**	**0.0942**	**0.0000**	**13,742.8143**

El Monte Mining and Reclamation - GHG emissions from 90 mile site distance

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	1.00	1000sqft	59.00	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Estimating the GHG emissions for trips to the All area mines if the project is not implemented

Land Use - *General Light industrial is used to calculate emissions from electrical/water/solid waste.

Construction Phase - Based on project specific data

Off-road Equipment - Based on project specific information

Trips and VMT - based on project specific information

Grading - based on project specific excavation of 1 million cubic yards per year

Vehicle Trips - No operational vehicle trips not acounted for in "construction" phasing

Area Coating - No painting of modular building

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Water And Wastewater - based on process and dust control water. No sewer usage

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Construction Off-road Equipment Mitigation - Based on dust suppression requirements

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tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	110.00	261.00
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tblEnergyUse	NT24E	4.27	1,504.20
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.48	0.00
tblEnergyUse	T24NG	4.54	0.00
tblGrading	AcresOfGrading	81.56	275.00
tblGrading	MaterialExported	0.00	1,000,000.00
tblLandUse	LotAcreage	0.02	59.00
tblOffRoadEquipment	HorsePower	162.00	293.00
tblOffRoadEquipment	HorsePower	174.00	179.00
tblOffRoadEquipment	HorsePower	97.00	260.00
tblOffRoadEquipment	HorsePower	97.00	501.00
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tblOffRoadEquipment	HorsePower	400.00	450.00
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tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblSolidWaste	SolidWasteGenerationRate	1.24	2.00
tblTripsAndVMT	HaulingTripLength	20.00	90.00

tblTripsAndVMT	HaulingTripNumber	125,000.00	120,000.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	20.00	24.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	IndoorWaterUseRate	231,250.00	0.00
tblWater	OutdoorWaterUseRate	0.00	50,832,823.37

2.0 Emissions Summary

3.0 Construction Detail

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
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Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

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Grading	Graders	1	5.00	179	0.41
Grading	Off-Highway Trucks	1	10.00	330	0.38
Grading	Off-Highway Trucks	1	7.50	450	0.38
Grading	Other Construction Equipment	1	1.00	440	0.42
Grading	Tractors/Loaders/Backhoes	2	10.00	260	0.37

Grading	Tractors/Loaders/Backhoes	1	10.00	501	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	24.00	4.00	120,000.00	10.80	7.30	90.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2016

Unmitigated Construction On-Site

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	18,109.7733	18,109.7733	0.1219	0.0000	18,112.3334
Vendor											0.0000	11.2620	11.2620	9.0000e-005	0.0000	11.2638
Worker											0.0000	23.4058	23.4058	1.2400e-003	0.0000	23.4317
Total											**0.0000**	**18,144.4410**	**18,144.4410**	**0.1232**	**0.0000**	**18,147.0290**

Mitigated Construction On-Site

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	18,109.7733	18,109.7733	0.1219	0.0000	18,112.3334
Vendor											0.0000	11.2620	11.2620	9.0000e-005	0.0000	11.2638
Worker											0.0000	23.4058	23.4058	1.2400e-003	0.0000	23.4317
Total											**0.0000**	**18,144.4410**	**18,144.4410**	**0.1232**	**0.0000**	**18,147.0290**