Air Quality Impact Analysis

Tulare County Compost and Biomass Facility

(A collaborative effort between the County of Tulare and Harvest Power)

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EXECUTIVE SUMMARY

Insight Environmental Consultants has completed an Air Quality Impact Analysis (AQIA) for the modification and expansion of the Tulare County Compost and Biomass, Inc. facility located on Road 140 in Tulare County, California. Modifications to the facility will consist of addition of a dry anaerobic digestion facility and compressed natural gas fueling and an increase in the allowable tonnages of materials to be held on-site for processing.

This AQIA was prepared pursuant to the San Joaquin Valley Unified Air Pollution Control District's (SJVAPCD) *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI), *January 10, 2002 Revision* and the California Environmental Quality Act (CEQA). Based on our evaluation, the proposed project would not result in *a significant impact* to the San Joaquin Valley Air Basin.

TOTAL PROJECT EMISSIONS

Emissions Source	Pollutant (tons/year)					
	ROG	**NOx**	**CO***	**SOx***	**PM_{10}**	**$PM_{2.5}$***
Baseline						
Direct Exhaust Emissions	1.37	9.60	6.21	0.01	0.65	0.65
Indirect Exhaust Emissions	0.03	3.51	0.23	0.00	0.04	0.02
Fugitive Dust Emissions	-	-	-	-	0.41	0.04
Area Source Emission	0.01	0.00	0.00	0.00	0.00	0.00
Stationary Source Emission[1]	768.94	-	-	-	0.16	-
Baseline Total	**770.34**	**13.11**	**6.45**	**0.01**	**1.26**	**0.71**
Project Emissions						
Direct Exhaust Emissions	1.53	10.80	6.91	0.01	0.72	0.72
Indirect Exhaust Emissions	0.04	5.96	0.34	0.00	0.08	0.03
Fugitive Dust Emissions	-	-	-	-	0.70	0.07
Area Source Emission	0.01	0.00	0.00	0.00	0.00	0.00
Stationary Source Emission[1]	804.54	-	-	-	0.17	-
Project Total	**806.12**	**16.76**	**7.25**	**0.01**	**1.65**	**0.82**
Total Incremental Increase Long-Term Emissions (Including Stationary Source Fugitive Emissions)[2]	**35.77**	**3.56**	**0.81**	**0.00**	**0.39**	**0.11**
Total Incremental Increase Long-Term Emissions (Excluding Stationary Source Fugitive Emissions)[2]	**0.17**	**3.56**	**0.81**	**0.00**	**0.38**	**0.11**
SJVAPCD Threshold	10	10	NA	NA	15	NA
Is Threshold Exceeded After Mitigation?	**No**	**No**	-	-	**No**	**-**

NOTES:
[1] This emissions are under control and enforcement of the SJVAPCD and are fugitive in nature.
[2] Numbers may not add due to rounding by the CalEEMod and EMFAC2011.
* The SJVAPCD has not established significance thresholds for CO, SOx or $PM_{2.5}$.

TOTAL CONSTRUCTION EMISSIONS

Emissions Source	Pollutant (tons/year)					
	ROG	**NOx**	**CO***	**SOx***	**PM_{10}**	**$PM_{2.5}$***
Unmitigated Emissions						
Construction Emissions – 2013	0.70	4.64	3.29	0.01	0.34	0.31
Construction Emissions – 2014	1.56	2.14	9.03	0.00	0.23	0.23
SJVAPCD Annual Threshold	10	10	NA	NA	15	NA
Is Threshold Exceeded Before Mitigation?	**No**	**No**	-	-	**No**	-
Mitigated Emissions						
Construction Emissions – 2013	0.70	4.64	3.29	0.01	0.33	0.30
Construction Emissions – 2014	1.56	2.14	9.03	0.00	0.23	0.23
SJVAPCD Annual Threshold	10	10	NA	NA	15	NA
Is Threshold Exceeded After Mitigation?	**No**	**No**	-	-	**No**	-

NOTES:
* The SJVAPCD has not established significance thresholds for CO, SOx or $PM_{2.5}$.

LEVEL OF SIGNIFICANCE

The proposed project will have short-term air quality impacts due to fugitive dust during grading and facility construction as well as vehicular emissions associated with the equipment used in the construction activities. Both of these impacts will be mitigated to the greatest extent possible and will *remain less than significant.*

The proposed project in conjunction with other past, present and foreseeable future projects will result in cumulative long-term impacts to air quality. The SJVAB's cumulative air quality impacts would remain significant without this project since the air basin is currently considered to be in non-attainment for certain criteria pollutants. The proposed project's incremental contribution to these impacts will be mitigated to the extent feasible and may be considered to pose *a less than significant contribution to the cumulative impacts to air quality in the SJVAB*.

The proposed project in conjunction with other past, present and foreseeable future projects will result in cumulative long-term impacts to global climate change. The proposed project's incremental contribution to these impacts will be mitigated to the extent feasible and will *remain less than significant*.

1.0 INTRODUCTION

The proposed project will be located at the 35-acre Tulare County Compost and Biomass, Inc. (TCCB) facility near the City of Tulare, California. The project site is located within the unincorporated portion of Tulare County, California and will be a single phase development project. This assessment examines the impacts to air quality posed by this project to the San Joaquin Valley Air Basin.

2.0 GENERAL PROJECT DESCRIPTION

The proposed project provides for the modification of the TCCB facility consisting of the addition of a dry anaerobic digestion facility and compressed natural gas fueling facility and an increase in the allowable tonnages of materials to be held on-site for processing. The 35-acre facility is located at 24487 Road 140 east of Mooney Boulevard between Avenue 240 to the south and Avenue 248 to the north in an unincorporated potion of Tulare County. **Figure 2-1** provides the general location of the proposed project.

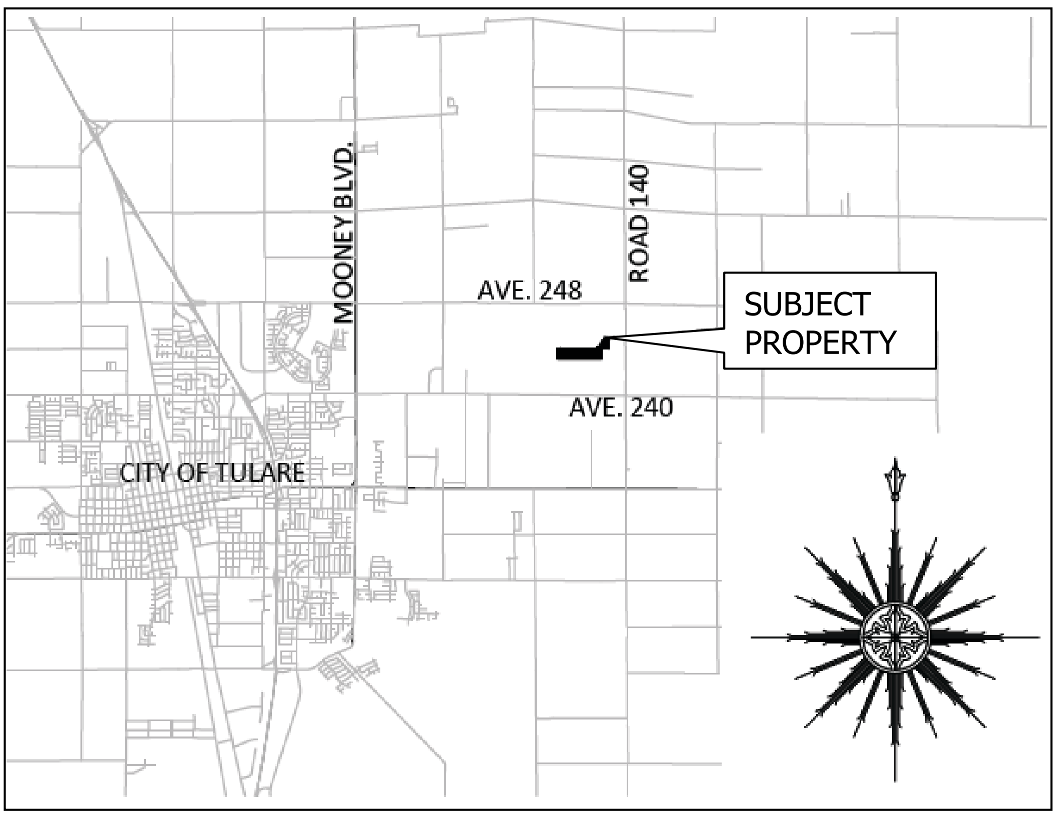

Figure 2-1 Project Location

The proposed project will be located approximately 4.5 miles northeast of Tulare's City Center and 6.8 miles south east of Visalia's City Center.

3.0 BACKGROUND OF AIR QUALITY STANDARDS

Protection of the public health is maintained through the attainment and maintenance of standards for ambient concentrations of various compounds in the atmosphere and the enforcement of emissions limits for individual stationary sources. The Federal Clean Air Act requires that the U.S. Environmental Protection Agency (EPA) establish National Ambient Air Quality Standards (NAAQS) to protect the health, safety, and welfare of the public. NAAQS have been established for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), suspended particulate matter (PM_{10}), and lead (Pb). California has also adopted ambient air quality standards (CAAQS) for these "criteria" air pollutants that are more stringent than the corresponding NAAQS along with standards for hydrogen sulfide (H_2S), vinyl chloride (chloroethene) and visibility reducing particles. The Clean Air Act Amendments of 1977 required states to identify areas that were in non-attainment of the NAAQS and to develop State Implementation Plans (SIP's) containing strategies to bring these non-attainment areas into compliance. Current ambient air quality standards and the current designation/classification for both Federal and State standards are presented in **Section 4.0** below with additional details provided in **Attachments A, B, C** and **D**.

Responsibility for regulation of air quality in California lies with the California Air Resources Board (CARB), the multi-county Air Quality Management Districts, and single-county Air Pollution Control Districts, with oversight responsibility held by the EPA. The CARB is responsible for regulation of mobile source emissions, establishment of state ambient air quality standards, research and development, and oversight and coordination of the activities of the regional and local air quality agencies. The regional and local air quality agencies are primarily responsible for regulating stationary source emissions and for monitoring ambient pollutant concentrations. The CARB also classifies air basins, or portions thereof, as “unclassified”, “attainment” or “non-attainment” with respect to the Federal standards based on air quality monitoring data.

4.0 EXISTING SETTING

The project area is located in the San Joaquin Valley Air Basin (Basin) and Tulare County which is included among the eight counties that comprise the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD acts as the regulatory agency for air pollution control in the Basin and is the local agency empowered to regulate air pollutant emissions for the plan area. **Figure 4-1** depicts the project location, and a one-mile radius.

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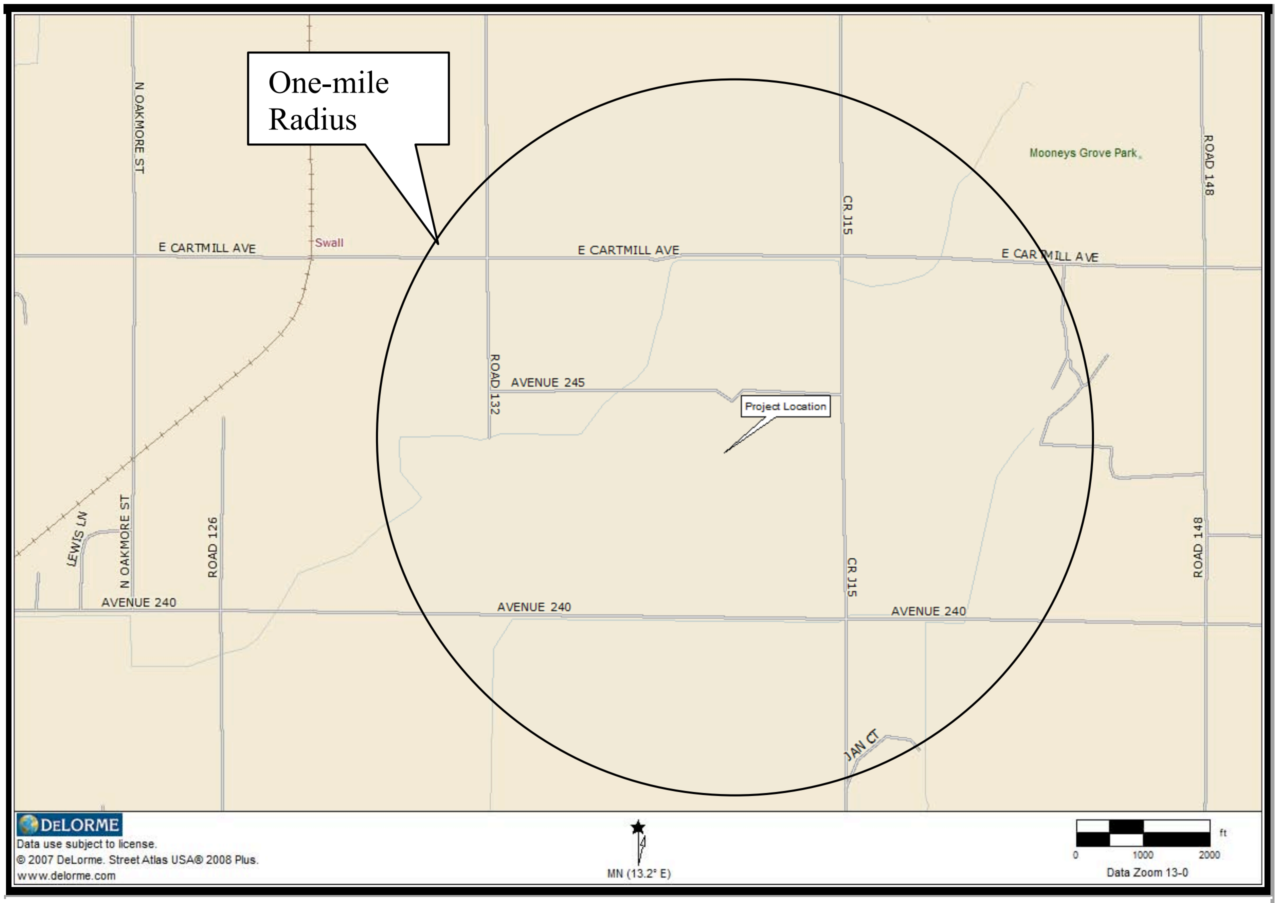

Figure 4-1 Project Vicinity / One-Mile Radius

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Figure 4-2 below depicts the project site's topography based on United States Geological Survey maps.

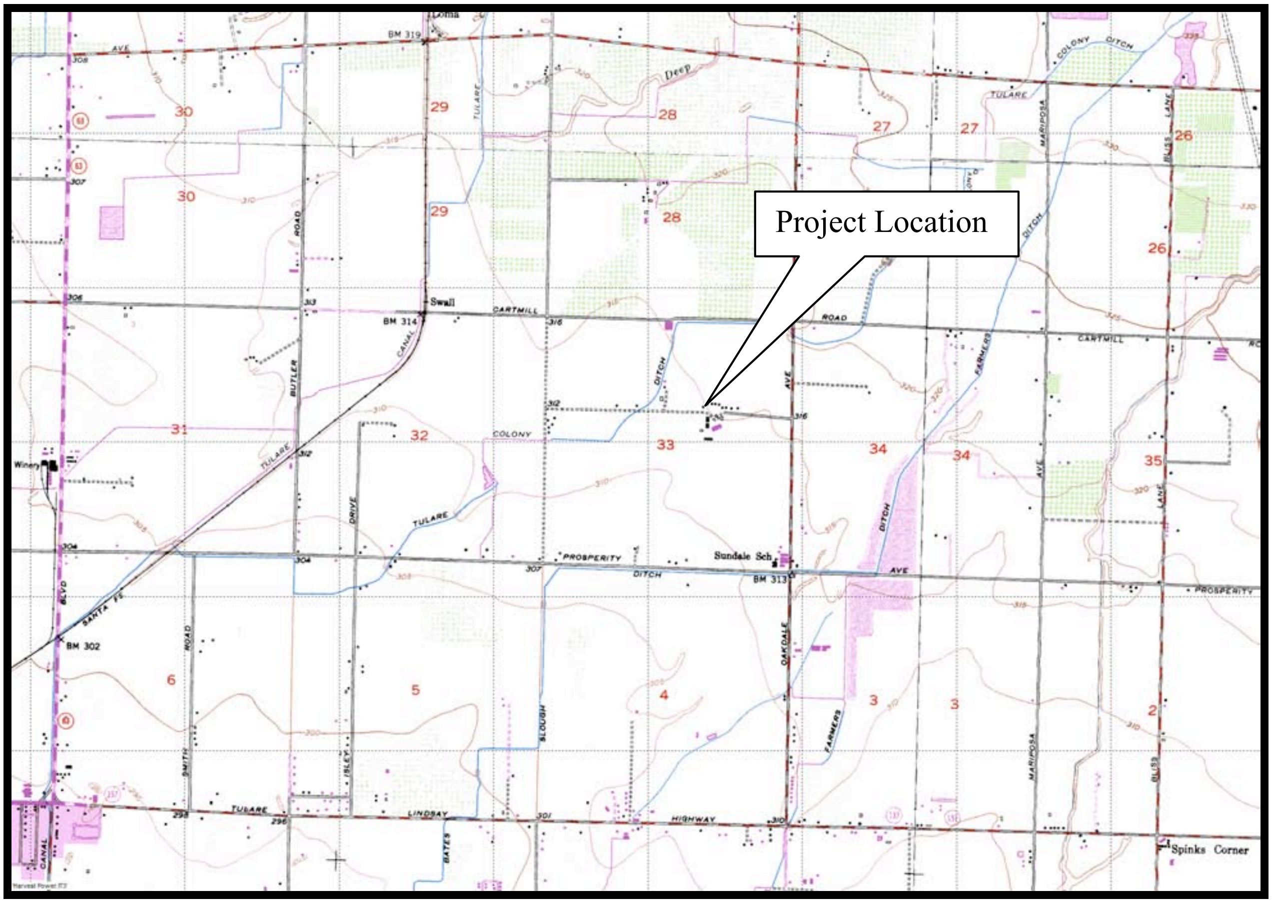

Figure 4-2 - USGS Topographical Map – Tulare, CA

The project site is located at an elevation of approximately 315' above mean sea level. Currently the project site is the existing composting facility. The project site has agriculture land to the north, south, east and west.

Under the provisions of the Federal Clean Air Act, the San Joaquin Valley Air Basin has been classified as non-attainment, attainment, unclassified/attainment or unclassified under the established Federal and State standards. **Table 4-1** provides the San Joaquin Valley Air Basin's designation and classification based on the various criteria pollutants under both state and federal standards. **Table 4-2** provides the Federal and California Air Quality Standards.

Table 4-1 - SJVAB ATTAINMENT STATUS		
Pollutant	**Federal Standards**[a]	**State Standards**[b]
Ozone, 1 hour	No Federal Standard[f]	Nonattainment/Severe
Ozone, 8 hour	Nonattainment/Extreme[e]	Nonattainment
PM_{10}	Attainment[c]	Nonattainment
$PM_{2.5}$	Nonattainment[d]	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur dioxide	Attainment/Unclassified	Attainment
Lead (Particulate)	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing particulates	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

[a] See 40 CFR Part 81
[b] See CCR Title 17 Sections 60200-60210
[c] On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.
[d] The Valley is designated nonattainment for the 1997 PM 2.5 NAAQS. EPA designated the Valley as nonattainment for the 2006 PM 2.5 NAAQS on November 13, 2009. (effective December 14,2009)
[e] Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved the Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).
[f] Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked in the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.
Sources: SJVAPCD 2008

Table 4-2 - Federal & California Standards[1]

		Federal Standards	California Standards
Pollutant	**Averaging Time**	**Concentration**	
Ozone	8 Hour	0.075 ppm (147 µg/m³)[d]	0.070 ppm (137 µg/m³)
	1 Hour	[a]	0.09 ppm (180 µg/m³)
Carbon Monoxide	8 Hour	9 ppm (10 mg/m³)	9.0 ppm (10 mg/m³)
	1 Hour	35 ppm (40 mg/m³)	20 ppm (23 mg/m³)
Nitrogen Dioxide	Annual Average	0.053 ppm (100 µg/m³)	0.030 ppm (56 µg/m³)
	1 Hour	100 ppb (188 µg/m³)	0.18 ppm (338 µg/m³)
Sulfur Dioxide	Annual Average	0.03 ppm (80 µg/m³)	
	24 Hour	0.14 ppm (365 µg/m³)	0.04 ppm (105 µg/m³)
	1 Hour		0.25 ppm (655 µg/m³)
Particulate Matter (PM10)	Annual Arithmetic Mean	[c]	20 µg/m³
	24 Hour	150 µg/m³	50 µg/m³
Fine Particulate Matter (PM2.5)[b]	Annual Arithmetic Mean	15 µg/m³	12 µg/m³
	24 Hour	35 µg/m³	
Sulfates	24 Hour		25 µg/m³
Lead[e]	Calendar Quarter	0.15 µg/m³	
	30 Day Average		1.5 µg/m³
Hydrogen Sulfide	1 Hour		0.03 ppm (42 µg/m³)
Vinyl Chloride (chloroethene)	24 Hour		0.010 ppm (26 µg/m³)
Visibility Reducing particles	8 Hour (1000 to 1800 PST)		[f]

ppm = parts per million mg/m3 = milligrams per cubic meter µg/m ³= micrograms per cubic meter

[a] 1-Hour ozone standard revoked effective June 15, 2005.
[b] The 1997 PM 2.5 standards were replaced by the 2006 PM 2.5 standards, effective December 18, 2006. The 2008 PM 2.5 Plan due to EPA in April 2008 addresses attainment of the 1997 PM 2.5 standards. For this reason, the District continues to list the 1997 24-hour PM 2.5 standard.
[c] Annual PM 10 standard revoked effective December 18, 2006.
[d] EPA finalized the revised (2008) 8-hour ozone standard of 0.075 ppm on March 27, 2008. The 1997 8-hour ozone standard of 0.08 ppm has not been revoked. In the January 19, 2010 Federal Register, EPA proposed to revise the 2008 ozone NAAQS of 0.075 ppm to a NAAQS range of 0.060 to 0.070 ppm. EPA expects to finalize the revised NAAQS, which will replace the 0.075 ppm NAAQS, by July 29, 2011.
[e] On October 15, 2008, EPA strengthened the lead standard.
[f] Statewide Visibility Reducing Particle Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

[1] http://www.valleyair.org/aqinfo/attainment.htm

The project location has been designated as unclassified/attainment for the National Ambient Air Quality Standards (NAAQS) for CO, NOx, and SO_2. The project location has been designated as non-attainment/extreme for the O_3 eight-hour average standard, attainment for the PM_{10} standard and non-attainment for the $PM_{2.5}$ standard. A Federal designation for lead has not been made and NAAQS do not exist for O_3 (1-hour average), hydrogen sulfide (H_2S), vinyl chloride, sulfates or visibility reducing particles.

The project location has been designated as non-attainment/severe with the state one hour standard for O_3, non-attainment for the O_3 eight-hour average standard, PM_{10} standard and $PM_{2.5}$, unclassified for H_2S and visibility reducing particles, attainment/unclassified for CO, and attainment for all other compounds for which a state standard exists.

The SJVAPCD along with the CARB operates an air quality monitoring network that provides information on average concentrations of those pollutants for which state or Federal agencies have established ambient air quality standards. Information from the various monitoring stations is available from the agency web sites. A map of the various monitoring stations in the San Joaquin Valley is provided below.

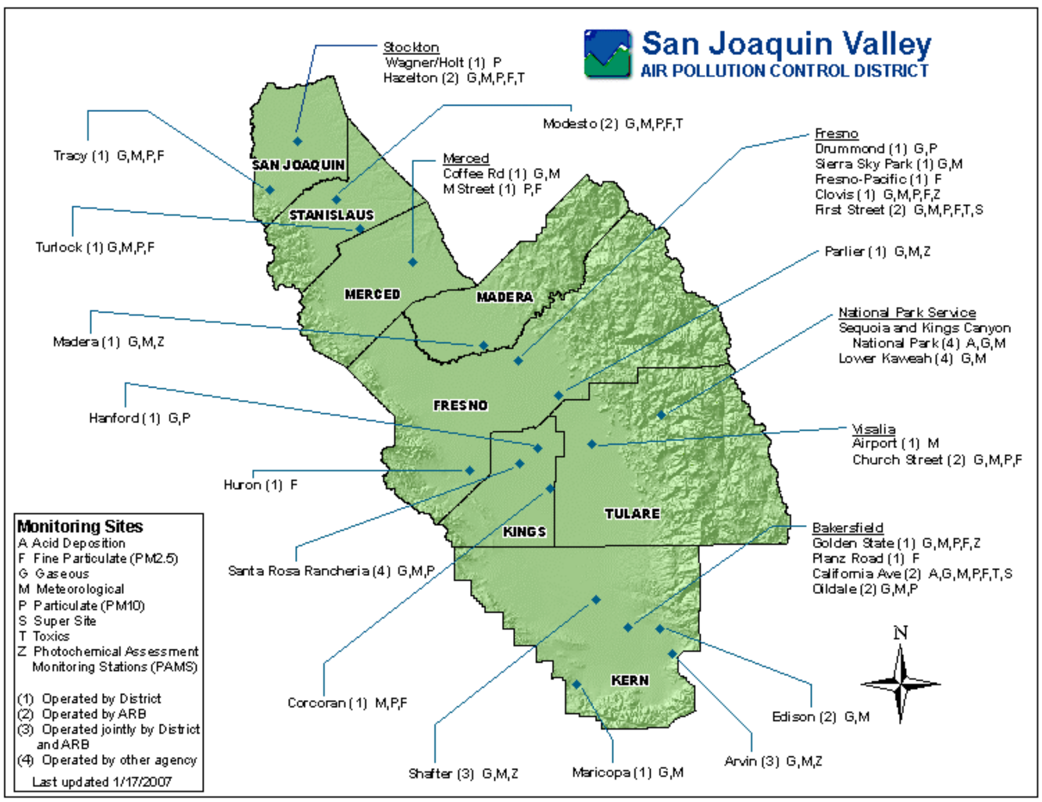

Figure 4-3 – San Joaquin Valley APCD Monitoring Network

Existing Air Quality

For the purposes of background data and this air quality assessment, this analysis relied on data collected in the last three years for the CARB monitoring stations that are located in the closest proximity to the project site. **Tables 4-3** through **4-9** provide the background concentrations for ozone, particulate matter of 10 microns (PM_{10}), particulate matter of less than 2.5 microns ($PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NOx), sulfur dioxide (SO_2), and lead (Pb) as of September 2012. Since each monitoring site does not monitor all criteria pollutants information is provided from three separate monitoring sites, Fresno – 1st Street, Visalia – N Church Street and Porterville – 1839 Newcomb St. monitoring stations for 2009 through 2011. Additional information for these monitoring stations is also presented in **Attachments A, B, C and D**. No data is available for Hydrogen Sulfide, Vinyl Chloride or other toxic air contaminants in Tulare County or any nearby counties.

Table 4-3a - Background Ambient Air Quality Data – Ozone[2]

CARB Air Monitoring Station	Number of Days Exceeding 1-Hour CAAQS (0.09 ppm)			Maximum 1-Hour Concentration (ppm)		
	2009	2010	2011	2009	2010	2011
Porterville – 1839 Newcomb St.	NR	15	15	NR	0.118	0.104
Visalia – N. Church St.	23	15	9	0.120	0.122	0.119
NR = Not Reported						

Table 4-3b - Background Ambient Air Quality Data – Ozone[3]

CARB Air Monitoring Station	Number of Days Exceeding 8-Hour NAAQS (0.075 ppm)			Number of Days Exceeding 8-Hour CAAQS (0.07 ppm)			Maximum 8-Hour Concentration (ppm)		
	2009	2010	2011	2009	2010	2011	2009	2010	2011
Porterville – 1839 Newcomb St.	NR	43	47	NR	75	82	NR	0.104	0.096
Visalia – N. Church St.	48	34	17	68	57	33	0.093	0.104	0.084
NR = Not Reported									

Table 4-4 - Background Ambient Air Quality Data – PM_{10}[4]

CARB Air Monitoring Station	Days Exceeding 24-hour NAAQS (150 µg/m³)			Annual Arithmetic Mean NAAQS (µg/m³)			Days Exceeding 24-hour CAAQS (50 µg/m³)			Maximum Concentration (µg/m³)		
	2009	2010	2011	2009	2010	2011	2009	2010	2011	2009	2010	2011
Visalia – N. Church St.	0	0	0	41.8	33.8	33.4	20	10	11	93.2	90.8	78.1

Table 4-5 - Background Ambient Air Quality Data – $PM_{2.5}$[5]

CARB Air Monitoring Station	Days Exceeding 24-hour NAAQS (35 µg/m³)			Annual Arithmetic Mean NAAQS (µg/m³)			Maximum 24-Hour Concentration (µg/m³)		
	2009	2010	2011	2009	2010	2011	2009	2010	2011
Visalia – N. Church St.	8	3	9	16.0	13.5	16.0	74.5	61.6	73.2

[2] California Air Resources Board Website Data as of July 2012.
[3] Ibid
[4] Ibid
[5] Ibid

Table 4-6 - Background Ambient Air Quality Data – CO[6]

CARB Air Monitoring Station	Number of Days Exceeding 8-Hour NAAQS (9.0 ppm)			Number of Days Exceeding 8-Hour CAAQS (9.0 ppm)			Maximum 8-Hour Concentration NAAQS (9.0 ppm) CAAQS (9.0 ppm)		
	2009	2010	2011	2009	2010	2011	2009	2010	2011
Fresno – 1st St.	0	0	0	0	0	0	2.07	2.03	2.29

Table 4-7 - Background Ambient Air Quality Data – NOx[7]

CARB Air Monitoring Station	Annual Average (ppm)			Number of Days Exceeding CAAQS (0.03 ppm)			Maximum 1-Hour Concentration CAAQS (0.18 ppm)		
	2009	2010	2011	2009	2010	2011	2009	2010	2011
Visalia – N. Church St.	0.015	0.013	0.012	0	0	0	0.068	0.077	0.058

Table 4-8 - Background Ambient Air Quality Data – SOx[8]

CARB Air Monitoring Station	Annual Average NAAQS (0.03 ppm)			Maximum 24-Hour Concentration NAAQS (0.14 ppm) CAAQS (0.04 ppm)		
	2009	2010	2011	2009	2010	2011
Fresno – 1st St.	0.001	0.000	0.000	0.005	0.004	0.004

Table 4-9 - Background Ambient Air Quality Data – Lead[9]

CARB Air Monitoring Station	Days Exceeding CAAQS 30-day Standard (1.5 µg/m³)			Calendar Quarter NAAQS (1.5 µg/m³)			Maximum 30-Day Concentration CAAQS (1.5 µg/m³)		
	2009	2010	2011	2009	2010	2011	2009	2010	2011
Fresno – 1st St.	NR	NR	NR	NR	NR	NR	NR	NR	NR

NR = Not Reported

The following is a discussion of the governmentally regulated air pollutants and their recent documented levels in the vicinity of the project area that are expected to be emitted from the construction and operation of the proposed project:

Ozone (O_3)

The most severe air quality problem in San Joaquin Valley is high concentrations of O_3. High levels of O_3 cause eye irritation and can impair respiratory functions. High levels of O_3 can also affect plants and materials. Particularly vulnerable to O_3 damage are grapes, lettuce, spinach and many types of garden flowers and shrubs. O_3 is not emitted directly into the atmosphere but is a secondary pollutant produced through photochemical reactions involving hydrocarbons (HC) and nitrogen oxides (NOx). Significant O_3 generation requires about one to three hours in a stable atmosphere with strong sunlight. For this reason, the months of April through October comprise the "ozone season." O_3 is a regional pollutant because O_3 precursors are transported and diffused by wind

[6] Ibid
[7] Ibid
[8] Data not available after 2001 as of July 2012.
[9] Data not available after 2002 as of July 2012.

concurrently with the reaction process. The data contained in **Tables 4-3a and 4-3b** shows that for the 2009 through 2011 period, the project area exceeded the State one-hour average ambient O_3 standard, and the Federal and State eight-hour average ambient O_3 standards.

Suspended Particulate Matter (PM_{10} and $PM_{2.5}$)

Both state and Federal particulates standards now apply to particulates under 10 microns (PM_{10}) rather than to total suspended particulate (TSP), which includes particulates up to 30 microns in diameter. Continuing studies have shown that the smaller-diameter fraction of TSP represents the greatest health hazard posed by the pollutant; therefore, EPA has recently established ambient air quality standards for $PM_{2.5}$. The project area is classified as attainment per the EPA for $PM_{10,}$ while non-attainment for the state for $PM_{10.}$ The project area is classified as non-attainment for $PM_{2.5}$ for both the Federal and State.

The largest sources of PM_{10} and $PM_{2.5}$ in Tulare County are vehicle movement over paved and unpaved roads, demolition and construction activities, farming operations, and unplanned fires. PM_{10} and $PM_{2.5}$ are considered regional pollutants with elevated levels typically occurring over a wide geographic area. Concentrations tend to be highest in the winter, during periods of high atmospheric stability and low wind speed.

Table 4-4 shows that PM_{10} levels regularly exceeded the corresponding 24-hour state ambient standard over the three-year period of 2009 through 2011 but did not exceed the Federal ambient standards. **Table 4-5** shows that $PM_{2.5}$ exceedences were recorded over the three-year period of 2009 through 2011 of the Federal 24-hour ambient standards. Similar levels can be expected to occur in the vicinity of the project site.

Carbon Monoxide (CO)

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. Wind speed and atmospheric mixing also influence CO concentrations; however, under inversion conditions prevalent in the valley, CO concentrations may be more uniformly distributed over a broad area. High concentrations of CO can impair the transport of oxygen in the bloodstream and thereby aggravate cardiovascular disease, causing fatigue, headaches, and dizziness. **Table 4-6** shows that CO levels at the Fresno monitoring station are well below the standards for the three-year period of 2009 through 2011; therefore, the vicinity of the project site is expected to be even lower than levels measured in Fresno.

Nitrogen Dioxide (NO_2)

NO_2 is the "whiskey brown" colored gas readily visible during periods of heavy air pollution. Mobile sources and oil and gas production account for nearly all of the county's nitrogen oxides (NOx) emissions, most of which is emitted as NO_2. Tulare County has been designated as an attainment/unclassified area for the NAAQS and attainment for the CAAQS for NO_2. In addition, **Table 4-7** shows that no excesses of the State NO_2 standards have been recorded at the Visalia area-monitoring station investigated over the three-year period of 2009 through 2011.

Sulfur Dioxide (SO_2)

Fuel combustion for oil and gas production and petroleum refining account for nearly all of the county's SO_2 emissions. Tulare County has been designated as an attainment/unclassified area for the NAAQS attainment for the CAAQS for SO_2. **Table 4-8** shows no exceedence of the more stringent state air quality standard over the three-year period in Fresno.

Lead (Pb) and Suspended Sulfate

Ambient Pb levels have dropped dramatically due to the increase in the percentage of motor vehicles that run exclusively on unleaded fuel. No ambient Pb levels were taken over the three-year period of 2009 through 2011 as demonstrated in **Table 4-9**.

5.0 AIR POLLUTION CONSTITUENTS

To assist in the evaluation of the air quality impacts, the regulated contaminants are discussed briefly below:

Carbon Monoxide (CO)

Sources:

Internal combustion engines, principally in vehicles, produce carbon monoxide due to incomplete fuel combustion. Various industrial processes also produce carbon monoxide emissions through incomplete combustion. Gasoline-powered motor vehicles are typically the major source of this contaminant.

Effects:

Carbon monoxide does not irritate the respiratory tract, but passes through the lungs directly into the blood stream, and by interfering with the transfer of fresh oxygen to the blood, deprives sensitive tissues of oxygen. CO is not known to have adverse effects on vegetation, visibility or materials.

Level of Significance:

The SJVAPCD has not established a CO emissions significance threshold for development projects covered by the SJVAPCD’s Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI).

Nitrogen Dioxide (NO_2)/Nitrogen Oxides (NOx)

Sources:

High combustion temperatures in both external combustion sources and internal combustion sources cause nitrogen and oxygen to combine and form nitric oxide. Further reaction produces additional oxides of nitrogen. Combustion in motor vehicle engines, power plants, refineries and other industrial operations are the primary sources in the region. Railroads and aircraft are other potentially significant sources of combustion air contaminants.

Effects:
Oxides of nitrogen are direct participants in photochemical smog reactions. The emitted compound, nitric oxide, combines with oxygen in the atmosphere in the presence of hydrocarbons and sunlight to form nitrogen dioxide and ozone. Nitrogen dioxide, the most significant of these pollutants, can color the atmosphere at concentrations as low as 0.5 ppmv on days of 10-mile visibility. NOx is an important air pollutant in the region because it is a primary receptor of ultraviolet light, which initiates the reactions producing photochemical smog. It also reacts in the air to form nitrate particulates.

Level of Significance:
The SJVAPCD has established a NOx emissions significance threshold for development projects covered by the GAMAQI of 10 tons per year.

Sulfur Dioxide (SO_2)/Sulfur Oxides (SOx)
Sources:
SO_2 is the primary combustion product of sulfur, or sulfur containing fuels. Fuel combustion is the major source of this pollutant, while chemical plants, sulfur recovery plants, and metal processing facilities are minor contributors. Gaseous fuels (natural gas, propane, etc.) typically have lower percentages of sulfur containing compounds than liquid fuels such as diesel or crude oil. SO_2 levels are generally higher in the winter months. Decreasing levels of SO_2 in the atmosphere reflect the use of natural gas in power plants and boilers.

Effects:
At high concentrations, sulfur dioxide irritates the upper respiratory tract. At lower concentrations, when respirated in combination with particulates, SO_2 can result in greater harm by injuring lung tissues. Sulfur oxides (SOx), in combination with moisture and oxygen, results in the formation of sulfuric acid, which can yellow the leaves of plants, dissolve marble, and oxidize iron and steel. Sulfur oxides can also react to produce sulfates that reduce visibility and sunlight.

Level of Significance:
The SJVAPCD has not established a SOx emissions significance threshold for development projects covered by the GAMAQI.

Particulates
Sources:
Particulate matter consists of particles in the atmosphere resulting from many kinds of dust and fume-producing industrial and agricultural operations, from combustion, and from atmospheric photochemical reactions. Natural activities also increase the level of particulates in the atmosphere; wind-raised dust and ocean spray are two sources of naturally occurring particulates.

Effects:
In the respiratory tract, very small particles of certain substances may produce injury by themselves, or may contain absorbed gases that are injurious. Particulates of aerosol size suspended in the air can both scatter and absorb sunlight, producing haze and reducing

visibility. They can also cause a wide range of damage to materials.

Level of Significance:
Although a threshold was not established in GAMAQI by the SJVAPCD, a 15 tons per year threshold for PM_{10} was utilized in this analysis. This threshold was established by SJVAPCD as the limit at which an impact to the SJVAB may occur.

Hydrocarbons (HC) and other Reactive Organic Gases (ROG)
Sources:
Motor vehicles are the major source of reactive hydrocarbons in the basin. Other sources include evaporation of organic solvents and petroleum production and refining operations.

Effects:
Certain hydrocarbons can damage plants by inhibiting growth and by causing flowers and leaves to fall. Levels of hydrocarbons currently measured in urban areas are not known to cause adverse effects in humans. However, certain members of this contaminant group are important components in the reactions which produce photochemical oxidants.

Level of Significance:
The SJVAPCD has established a ROG emissions significance threshold for development projects covered by the GAMAQI of 10 tons per year.

6.0 CLIMATE

The most significant single control on the weather pattern of the San Joaquin Valley is the semi-permanent subtropical high-pressure cell, referred to as the "Pacific High." During the summer, the Pacific High is positioned off the coast of northern California, diverting ocean-derived storms to the north. Hence, the summer months are virtually rainless. During the winter, the Pacific High moves southward allowing storms to pass through the San Joaquin Valley. Almost all of the precipitation expected during a given year occurs from December through April. During the summer, the predominant surface winds are out of the northwest. Air enters the Valley through the Carquinez strait and flows toward the Tehachapi Mountains. This up-valley (northwesterly) wind flow is interrupted in early fall by the emergence of nocturnal, down-valley (southeasterly) winds which become progressively more predominant as winter approaches. Wind speeds are generally highest during the spring and lightest in fall and winter. The relatively cool air flowing through the Carquinez strait is warmed on its journey south through the Valley. On reaching the southern end of the Valley, the average high temperature during the summer is nearly 100 degrees Fahrenheit (^{o}F). Relative humidity during the summer is quite low, causing large diurnal temperature variations. Temperatures during the summer often drop into the upper 60s. In winter, the average high temperatures reach into the mid-50s and the average low drops to the mid-30s. In addition, another high-pressure cell, known as the "Great Basin High," develops east of the Sierra Nevada Mountain Range during winter. When this cell is weak, a layer of cool, damp air becomes trapped in the basin and extensive fog results. During inversions, vertical dispersion is restricted, and pollutant emissions are trapped beneath the inversion and pushed against the mountains, adversely affecting regional air quality. Surface-based inversions, while shallow and typically short-lived, are present most mornings. Elevated inversions, while less frequent than ground-based inversions, are typically longer lasting and create the more severe air stagnation problems. The winter season characteristically has the poorest conditions for vertical mixing of the entire year.

Meteorological data for various monitoring stations is maintained by the Western Regional Climate Center. Meteorological data for the project site is expected to be similar to the data recorded at the Visalia monitoring station. This data is provided in **Table 6-1 – Visalia Weather Data**, which contains average precipitation data recorded at the Visalia monitoring station. Over the 117-year period from 1895 to 2012 (the most recent data available), the average annual precipitation was 10.15 inches.

Table 6-1 – Visalia Weather Data[10]

Period of Record Monthly Climate Summary for the Period 2/1/1895 to 6/30/2012													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Maximum Temp (F)	56.0	62.6	68.0	74.6	82.6	91.1	97.6	96.2	90.1	80.2	67.3	56.8	76.9
Average Minimum Temp (F)	36.9	40.8	43.7	47.5	53.1	59.0	63.5	61.6	57.3	50.2	41.6	36.8	49.3
Average Total Precip.(in.)	1.97	1.83	1.72	0.98	0.36	0.09	0.01	0.01	0.13	0.48	0.98	1.57	10.15
Average Snowfall (in.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent of possible observations for period of record: Max. Temp.: 97.4% Min. Temp.: 97.4% Precipitation: 99.3% Snowfall: 97.0% Snow Depth: 96.8% Source: http://www.wrcc.dri.edu/cgi-bin/cliMeta.pl?ca9367													

7.0 Significance Criteria

Evaluation of the significance of air quality impacts from a proposed project is difficult as there is no single measure that definitively determines that the impacts will be significant. A number of methods have been used to demonstrate significance ranging from determining impacts based on geographical area, basin-wide impacts or impacts to the ambient air quality. The preponderance of air quality regulation is based on mass emissions rather than ambient concentrations because of the uncertainties in the accuracy of the most widely used and approved emissions models.

In order to ascertain what would likely pose a significant impact from a particular project, local, state and federal agencies have developed various means by which a project's impacts may be measured and evaluated. Such measures of significance can generally be categorized

[10] Western Regional Climate Center, http://www.wrcc.dri.edu/cgi-bin/cliRECtM.pl?ca9367

as follows:

- Measures adopted by air quality agencies to guide lead agencies in their evaluation of air quality impacts under the California Environmental Quality Act (CEQA);
- Measures utilized in the evaluation of industrial or stationary sources in conjunction with applications for and issuance of Authorities to Construct or Permits to Operate or to determine the applicability of other permit program requirements, i.e. New Source Review.
- Measures utilized to determine if a project will cause or contribute significantly to violations of the ambient air quality standards or other concentration-based limits; and
- Measures utilized in areas where severe air quality problems exist.

Summary tables of these emission-based and concentration-based measures of significance for each pollutant are provided below along with a discussion of their applicability.

Measures Adopted for the Evaluation of Air Quality Impacts Under CEQA

In order to maintain consistency with CEQA, the SJVAPCD adopted guidelines[11] to assist applicants in complying with the various requirements. According to the District's GAMAQI, potentially significant air quality impacts are identified as effects that:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Cause a violation of any air quality standard or substantial contribution to an existing or projected air quality standard;
- Cause a cumulatively considerable net increase of any criteria pollutant for which the project region is designated non-attainment under an applicable Federal or State ambient air quality standard (including emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Cause the creation of objectionable odors that affect a substantial number of people.

The GAMAQI thresholds are designed to implement the general criteria for air quality emissions as required in the State CEQA Guidelines, Appendix G[12] and as encouraged by CEQA[13]. As such, SJVAPCD thresholds provide a means by which the general standards set forth by Appendix G may be used to quantitatively measure the air quality impacts of a specific project.

Measures Based on Ambient Air Quality Impacts

State CEQA Guidelines – Appendix G (Environmental Checklist) states that a project that would "*violate any air quality standard or contribute substantially to an existing or projected air quality violation*" would be considered to create significant impacts on air quality. Therefore, an air quality impact analysis should determine whether the emissions from a project would cause or contribute significantly to violations of the National

[11] SJVAPCD Guidelines for Assessing and Mitigating Air Quality Impacts (GAMAQI), August 20, 1998 (Revised January 10, 2002).
[12] State of California CEQA Guidelines, Appendix G, Paragraph III.
[13] State of California CEQA Guidelines, §15064.7.

(NAAQS) or California Ambient Air Quality Standards (CAAQS) when added to existing ambient concentrations.

In order to determine what comprises "significant impact levels" the U.S. EPA has established the federal Prevention of Significant Deterioration (PSD) program to assess whether a project should be required to conduct a detailed cumulative increment analysis in areas deemed to be in attainment with the NAAQS. A project's impacts are considered negligible if emissions are below PSD significant impact levels (SIL) for a particular pollutant. When a SIL is exceeded, an additional "increment analysis" is required. The increment analysis encompasses both the project and certain other existing, proposed, and reasonably foreseeable projects. Incremental increases in deterioration of air quality may be considered16 minor or insignificant. Emissions impacts below these thresholds are considered insignificant on both a project level and a cumulative level. The projected emissions for the proposed project are significantly below levels that would require analysis under the federal PSD program. Similarly, the San Joaquin Valley Air Basin is classified as non-attainment for the ozone NAAQS and, as such, is subject to "non-attainment new source review" (NSR). PSD SILs and increments are more stringent than the state or NAAQS and represent the most stringent significance criteria. As the project is not considered a "stationary source" under NSR, it will not be subject to either PSD or NSR review.

Measures Used in Areas with Severe Air Quality Issues

Several special interest groups have suggested what has come to be known as the "one-molecule theory". This theory supposes that the addition of even one molecule of a criteria pollutant in a non-attainment air basin would constitute a significant increase. While these groups have attempted to enforce this theory in various jurisdictions, the Court of Appeals has held that CEQA does not require this approach. One court has stated, "the 'one [additional] molecule rule' is not the law" (*Communities for a Better Environment v California Resources Agency* 2002, 103 Cal.App.4th 98, 119). Therefore, the Measures of Significance included in the following tables were applied to the subject project to determine the project's level of significance.

Table 7-1 Measures of Significance – OZONE (ROG and NOx Emissions)

Agency	Level	Description
Measures Adopted for the Evaluation of Impacts Under CEQA		
SJVAPCD	10 tons/yr NOx	SJVAPCD Guide for Assessing and Mitigating Air Quality Impacts, August 20, 1998 (Revised January 10, 2002)
	10 tons/yr ROG	
SJVAPCD	Not Significant	If Construction Emissions do not exceed CEQA Guide for Ozone Precursors During Operation, then Construction Impacts are Assumed to be Less Than Significant when compliance with Regulation VIII is achieved and the control measures of GAMAQI Tables 6-3 and 6-4 are implemented as appropriate.

Table 7-2 Measures Based on Ambient Air Quality Impacts (NOx)

Agency	Level	Description
CARB	338 µg/m3	California One-Hour AAQS for NO_2
CARB	57 µg/m3	California annual AAQS for NO_2
USEPA	188 µg/m3	National One-Hour AAQS for NO_2
USEPA	100 µg/m3	National annual AAQS for NO_2
USEPA	1.0 µg/m3	Class II significant impact level for PSD
USEPA	25 µg/m3	Class II increment for PSD

Table 7-3 Measures of Significance – CARBON MONOXIDE (CO)

Agency	Level	Description
Measures Adopted for the Evaluation of Impacts Under CEQA		
SJVAPCD	9 ppm, 8-hr avg 20 ppm, 1-hr avg	SJVAPCD Guide for Assessing and Mitigating Air Quality Impacts, August 20, 1998 (Revised January 10, 2002)
SJVAPCD	Not Significant	If Construction Emissions do not exceed CEQA Guide for Ozone Precursors During Operation, then Construction Impacts are Assumed to be Less Than Significant when compliance with Regulation VIII is achieved and the control measures of GAMAQI Table 6-4 are implemented as appropriate.
Measures Based on Ambient Air Quality Impacts		
CARB	23,000 µg/m3	California 1-hour AAQS for CO
	10,000 µg/m3	National and California 8-hour AAQS for CO

Table 7-4 Measures of Significance – SULFUR DIOXIDE (SO_2)

Agency	Level	Description
Measures Adopted for the Evaluation of Impacts Under CEQA		
SJVAPCD	Not Significant	If Construction Emissions do not exceed CEQA Guide for Ozone Precursors During Operation, then Construction Impacts are Assumed to be Less Than Significant when compliance with Regulation VIII is achieved and the control measures of GAMAQI Table 6-4 are implemented as appropriate.
Measures Based on Ambient Air Quality Impacts		
CARB	655 µg/m3	California 1-hour AAQS for SO_2
	105 µg/m3	California 24-hour AAQS for SO_2
USEPA	196 µg/m3	National 1-hr AAQS for SO_2
	1,300 µg/m3	National 3-hr AAQS for SO_2
	80 µg/m3	National annual AAQS for SO_2
	25 µg/m3	3-hr Class II significant impact level for PSD
	5 µg/m3	24 hr Class II significant impact level for PSD
	1.0 µg/m3	Annual Class II significant impact level for PSD
	512 µg/m3	3-hr Class II increment for PSD
	91 µg/m3	24 hr Class II increment for PSD
	50 µg/m3	Annual Class II increment for PSD

Table 7-5 Measures of Significance – RESPIRABLE PARTICULATES (PM_{10})

Agency	Level	Description
Measures Adopted for the Evaluation of Impacts Under CEQA		
SJVAPCD	Not Significant	If Construction Emissions do not exceed CEQA Guide for Ozone Precursors During Operation, then Construction Impacts are Assumed to be Less Than Significant when compliance with Regulation VIII is achieved and the control measures of GAMAQI Tables 6-2 and 6-3 are implemented as appropriate.
Measures Based on Ambient Air Quality Impacts		
CARB	50 µg/m3	California 24 hour AAQS for PM_{10}
	20 µg/m3	California Annual AAQS for PM_{10}
USEPA	5 µg/m3	24 hr Class II significant impact level for PSD
	1 µg/m3	Annual Class II significant impact level for PSD
	30 µg/m3	24 hr Class II increment for PSD
	17 µg/m3	Annual Class II increment for PSD

Table 7-6 Measures of Significance – RESPIRABLE PARTICULATES ($PM_{2.5}$)

Agency	Level	Description
Measures Adopted for the Evaluation of Impacts Under CEQA		
SJVAPCD	Not Significant	If Construction Emissions do not exceed CEQA Guide for Ozone Precursors During Operation, then Construction Impacts are Assumed to be Less Than Significant when compliance with Regulation VIII is achieved and the control measures of GAMAQI Tables 6-2 and 6-3 are implemented as appropriate.
Measures Based on Ambient Air Quality Impacts		
CARB	12 µg/m3	California Annual AAQS for $PM_{2.5}$
USEPA	35 µg/m3	National 24 hr AAQS for $PM_{2.5}$

Table 7-7 Measures of Significance – TOXIC AIR CONTAMINANTS (TACs)

Agency	Level	Description
Measures Adopted for the Evaluation of Impacts Under CEQA		
SJVAPCD	Not Significant	If Construction Emissions do not exceed CEQA Guide for Ozone Precursors during operation, then construction impacts are assumed to be *less than significant* when compliance with Regulation VIII is achieved and the control measures of CEQA Appendix G Tables 6-3 and 6-4 are implemented as appropriate.
	10 in one million	Carcinogenic Risk Limit for Maximally Exposed Individual
	Hazard Index >1	Chronic and Acute Hazard Index Risk for Maximally Exposed Individual.

8.0 PROJECT-RELATED EMISSIONS

This document was prepared pursuant to the San Joaquin Valley Air Pollution Control District's (SJVAPCD) *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI), *January 10, 2002 Revision.* GAMAQI does not necessarily require a quantification of construction emissions for all projects. Emissions quantification is typically required only at the request of the lead agency. The SJVAPCD generally assumes that implementation of any construction-related mitigation measures will result in construction emissions impacts that are *less than significant*. The GAMAQI identifies thresholds that separate a project's short-term emissions from its long-term emissions.

In order to estimate emissions associated with the proposed project, several changes were made to the standard defaults provided in the California Emissions Estimator Model (CalEEMod) and EMFAC2011. These changes are detailed within the modeling program results that are provided in **Attachment E** and are explained further below.

Short-Term Emissions

Short-term emissions are primarily related to the grading and construction phases of a project and are recognized to be short in duration and without lasting impacts on air quality.

As the precise construction details about the proposed project were unknown at the time this analysis was conducted, the default equipment provided in CalEEMod along with estimates from the project proponent were used to estimate the (short-term) grading, construction, and paving phase emissions along with ramp-up flaring emissions. While emissions from the project are expected to vary substantially from day to day, they are expected to be approximately equal over the course of the construction period. Many variables are factored into the calculation of construction emissions such as length of the construction period, number of each type of equipment, site characteristics, area climate, and construction personnel activities. In order to present the most conservative approach to estimating construction emissions from the project; all equipment was assumed to be in use 6 to 8 cumulative hours per day at full power, which is the CalEEMod default. In reality, much of this equipment will be used significantly less than this due to idling time, operator breaks, equipment breakdowns, etc.

According to the GAMAQI, it is recommended that projects with buildout periods in excess of five (5) years also model the proposed project's emissions at the projected mid-way point[14]. As the subject project is *not* expected to have a buildout of more than five years an additional (intermediate) CalEEMod modeling run is not required for the project. **Table 8-1** presents the project's unmitigated and mitigated short-term emissions based on the full buildout period.

Table 8-1 – Short-Term Project Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	**NOx**	**CO***	**SOx***	**PM_{10}**	**$PM_{2.5}$***
Unmitigated Emissions						
Construction Emissions – 2013	0.70	4.64	3.29	0.01	0.34	0.31
Construction Emissions – 2014	1.56	2.14	9.03	0.00	0.23	0.23
SJVAPCD Annual Threshold	10	10	NA	NA	15	NA
Is Threshold Exceeded Before Mitigation?	**No**	**No**	-	-	**No**	-
Mitigated Emissions						
Construction Emissions – 2013	0.70	4.64	3.29	0.01	0.33	0.30
Construction Emissions – 2014	1.56	2.14	9.03	0.00	0.23	0.23
SJVAPCD Annual Threshold	10	10	NA	NA	15	NA
Is Threshold Exceeded After Mitigation?	**No**	**No**	-	-	**No**	-
NOTES: * The SJVAPCD has not established significance thresholds for CO, SOx or $PM_{2.5}$.						

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As calculated (see **Attachment E**) the short-term emissions, for each year of construction, are predicted to be *less than* SJVAPCD significance threshold levels. Short-term emissions from the project as calculated by CalEEMod, using the default equipment listing, and ramp-up flaring calculations would be less than SJVAPCD significance levels. Project construction emissions are expected to remain *below significance threshold levels and are therefore less than significant*.

Baseline Emissions

The Tulare County Compost and Biomass, Inc. (TCCB) facility is currently in operation. In order to consider the true impacts to the SJVAB proposed by the project's modifications, this analysis examined baseline site emissions compared to predicted emissions after the project's modifications. Emissions attributable to the existing operation are already incorporated into the air basin's existing emissions inventory through inclusion in the Tulare County General Plan, the San Joaquin Valley Air Pollution Control District Emissions Inventory and the California Air Resources Board Statewide Emissions Inventory. Baseline emissions were calculated using existing equipment and sources at the site along with existing traffic values that occurred at the facility in 2011. The calculated baseline emissions are presented in **Table 8-3** below.

Long-Term Emissions

Long-term emissions are related to the activities that will occur indefinitely because of project operations and are the primary focus of the SJVAPCD and of this analysis. Long-term emissions are caused by operational (mobile) sources and area (heating, cooling and structural) sources. The greatest of these emissions impacts emanate from mobile sources traveling to and from the project area. Long-term emissions will start with the completion of construction on the project site. Long-term emissions will consist of the following components:

Fugitive Dust Emissions

Operation of the project site at full buildout is not expected to present a significant source of fugitive dust (PM_{10}) emissions. The main source of PM_{10} emissions will be from vehicular traffic associated with the project site.

PM_{10} generated as a part of fugitive dust emissions, as noted by the regulatory agencies, pose a potentially serious health hazard, alone or in combination with other pollutants. Control measures required and enforced by the SJVAPCD under Regulation VIII will assist in minimizing these emissions to a less than significant level. The following SJVAPCD Rules and Regulations apply to the control of fugitive dust from the proposed project:

- Rule 4102 - Nuisance
- Rule 8011 - General Requirements
- Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities
- Rule 8041 - Carryout and Trackout
- Rule 8051 - Open Areas

Compliance with applicable SJVAPCD Rules and Regulations, the local zoning codes, and additional mitigation measures required in this analysis will reduce PM_{10} fugitive dust emissions even further to ensure that the project's emissions remain at a "*less than significant*" level.

Fugitive Composting Emissions

Operation of the project site at full buildout is not expected to present a significant source of fugitive VOC emissions. The main source of VOC emissions will be from stockpiles and windrows associated with the project site.

VOC generated as a part of fugitive emissions, as noted by the regulatory agencies, pose a potentially serious health hazard, alone or in combination with other pollutants. Control measures required and enforced by the SJVAPCD will assist in minimizing these emissions to a less than significant level. The following SJVAPCD Rules and Regulations apply to the control of fugitive composting emissions from the proposed project:

- Rule 4101 - Visible Emissions
- Rule 4102 - Nuisance
- Rule 4202 - Particulate Matter - Emission Rate
- Rule 4565 - Biosolids, Animal Manure, and Poultry Litter Operations
- Rule 4566 - Green Waste Composting and Operations

Compliance with applicable SJVAPCD Rules and Regulations and local zoning codes will reduce VOC fugitive composting emissions even further to ensure that the project's emissions remain at a "*less than significant*" level.

Equipment and Vehicle Exhaust

Exhaust emissions from this project include emissions produced from delivery trucks and employees traveling to and from the site and operational equipment usage. Emitted pollutants include CO, ROG, NOx, SOx, PM_{10} and $PM_{2.5}$.

Exhaust emissions will vary from day to day. The variables factored into estimating total project emissions include: level of activity, site characteristics, weather conditions, and predicted number of deliveries.

Table 8-2 – Emissions Sources

Emissions Source	Service and Pollutants
Facility Building[1]	Air conditioning and heating system as well as water heater emissions will occur from the manufacturing facility. While most of the facility will operate with electrical power, minor sources of combustion are used for these incidental items. Criteria pollutant emissions will consist of ROG, NOx, CO, SO_2, PM_{10} and $PM_{2.5}$.
Equipment and Vehicles[2]	Delivery and employee vehicles will be used to transport product and employees to and from the facility. Criteria pollutant emissions will consist of ROG, NOx, CO, SO_2, PM_{10} and $PM_{2.5}$.
Stationary Source Emissions[3]	The composting facility is a stationary source which emits fugitive VOC and PM_{10} emissions.

NOTES:
[1] Emissions factors and emissions were based on CalEEMod.
[2] Emissions factors and emissions were based on CalEEMod and EMFAC2011.
[3] Emissions factors and emissions were based on District Emissions Factors.

The emissions from this project were evaluated based on the incremental difference between the current operation of the facility and the post-project operation of the facility. If the proposed project is approved it is expected to have the long-term air quality impacts shown in the **Table 8-3**.

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Table 8-3 – Long-Term Incremental Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	**NOx**	**CO***	**SOx***	**PM_{10}**	**$PM_{2.5}$***
Baseline						
Direct Exhaust Emissions	1.37	9.60	6.21	0.01	0.65	0.65
Indirect Exhaust Emissions	0.03	3.51	0.23	0.00	0.04	0.02
Fugitive Dust Emissions	-	-	-	-	0.41	0.04
Area Source Emission	0.01	0.00	0.00	0.00	0.00	0.00
Stationary Source Emission[1]	768.94	-	-	-	0.16	-
Baseline Total	**770.34**	**13.11**	**6.45**	**0.01**	**1.26**	**0.71**
Project Emissions						
Direct Exhaust Emissions	1.53	10.80	6.91	0.01	0.72	0.72
Indirect Exhaust Emissions	0.04	5.96	0.34	0.00	0.08	0.03
Fugitive Dust Emissions	-	-	-	-	0.70	0.07
Area Source Emission	0.01	0.00	0.00	0.00	0.00	0.00
Stationary Source Emission[1]	804.54	-	-	-	0.17	-
Project Total	**806.12**	**16.76**	**7.25**	**0.01**	**1.65**	**0.82**
Total Incremental Increase Long-Term Emissions (Including Stationary Source Fugitive Emissions)[2]	**35.77**	**3.56**	**0.81**	**0.00**	**0.39**	**0.11**
Total Incremental Increase Long-Term Emissions (Excluding Stationary Source Fugitive Emissions)[2]	**0.17**	**3.56**	**0.81**	**0.00**	**0.38**	**0.11**
SJVAPCD Threshold	10	10	NA	NA	15	NA
Is Threshold Exceeded After Mitigation?	**No**	**No**	-	-	**No**	**-**

NOTES:
[1] This emissions are under control and enforcement of the SJVAPCD and are fugitive in nature.
[2] Numbers may not add due to rounding by the CalEEMod and EMFAC2011.
* The SJVAPCD has not established significance thresholds for CO, SOx or $PM_{2.5}$.

The Stationary Source emissions from the composting facility require permits to operate from the SJVAPCD. SJVAPCD controls and quantifies the emissions from these sources and they are assumed to be mitigated to the greatest feasible extent. Since the emissions are controlled by the SJVAPCD and accounted for in the State Implementation plan they are considered *less than significant* from a CEQA standpoint. Furthermore, the stationary source VOC emissions associated with this project are fugitive emissions and according the SJVAPCD are not counted toward major source or offset thresholds.

As calculated (see **Attachment E**), the long-term operational and area source emissions associated with the proposed project would be *less than* SJVAPCD threshold levels when calculated without the fugitive stationary source emissions and would, therefore*, not pose a significant impact.*

Potential Impact on Sensitive Receptors

Based on the emissions impacts expected, the proposed project is not expected to affect sensitive receptors. Sensitive receptors are defined as areas where young children, chronically ill individuals, the elderly or people who are more sensitive than the general population reside. Schools, hospitals, nursing homes and daycare centers are locations where sensitive receptors would likely reside. Sensitive receptors within less than one-mile from the project site are listed in the table below.

Table 8-4 – Sensitive Receptors Located ≤ 6 Miles from Project

Receptor	Type of Facility	Distance from Project (miles)	Direction from Project
Sundale Elementary School	Public K-8	0.51	SE
Sundale Preschool	Preschool	0.51	SE

Additionally, TCCBI currently operates under an Odor Impact Mitigation Plan (OIMP) to comply with the CalRecycle Full Composting Facility permit. The OIMP focuses on processes to prevent odor from migrating off site during the feedstock delivery, composting and curing phases and the protocol to deal with odor issues if they do arise. The processes include mixing any food materials with green materials immediately upon arrival at the site, and incorporating them into the compost windrows as soon as possible, within a maximum of 36 hours. Watering and turning regimes increase the temperature and speed of the breakdown of the material in the windrows, diminishing odor. A specific protocol for neighbor notification and response to neighbor issues is also included. The anaerobic digestion facility is designed with a biofilter to ensure that no offensive odor migrates off site.

Therefore, based on the predicted emissions from the project and the OIMP, the project is *not anticipated to have significant impacts on any known sensitive receptors*.

Potential Impacts to Visibility to Nearby Class 1 Areas

It should be noted that visibility impact analyses are not usually conducted for area sources. The recommended analysis methodology was initially intended for stationary sources of emissions which were subject to the Prevention of Significant Deterioration (PSD) requirements in 40 CFR Part 60. Since the project's emissions are predicted to be significantly less than the PSD threshold levels, an impact at any Class 1 area within 100 kilometers of the project is extremely unlikely. Therefore, based on the project's predicted emissions, the project is *not anticipated to have significant impact to visibility at any Class 1 Area.*

Potential Impacts From Carbon Monoxide (CO) – Mobile Sources

Ambient carbon monoxide (CO) concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. CO concentrations are also influenced by wind speed and atmospheric mixing; however, under inversion conditions prevalent in the valley, CO concentrations may be more uniformly distributed over a broad area. Under certain meteorological conditions CO concentrations along a congested roadway or intersection may reach unhealthful levels for sensitive receptors, e.g. children, the elderly, hospital patients, etc. This localized impact can result in elevated levels of CO, or "hotspots" even though concentrations at the closest air quality monitoring station may be below State and Federal standards.

The SJVAPCD's GAMAQI has identified CO impacts from impacted traffic intersections and roadway segments as being potentially cumulatively considerable. Traffic increases and added congestion caused by a project can combine to cause a violation of the SJVAPCD's CO standard also known as a "Hotspot". There are two criteria established by the GAMAQI by which CO "Hot Spot" modeling is required:

- A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or
- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

The Traffic Study prepared for this project[15] indicated that potentially impacted intersections and roadway segments would operate at a level of service (LOS) that is within the GAMAQI significance criteria[16]. Therefore, CO "Hotspot" Modeling was not conducted for this project and no concentrated excessive CO emissions are expected to be caused by the completed project.

Predicted Health Risk Impacts

As noted above, the GAMAQI recommends that Lead Agencies also consider the situations wherein a new or modified source of hazardous air pollutants (HAPs) is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs. The proposed facility will result in emissions of HAPs and will be located near existing residences, schools and businesses; therefore, an assessment of the potential risk to the population attributable to emissions of hazardous air pollutants from the proposed project is required.

Ambient air concentrations were predicted with dispersion modeling to arrive at a conservative estimate of increased individual carcinogenic risk that might occur as a result of continuous exposure over a 70-year lifetime. Similarly, predicted concentrations were used to calculate non-cancer chronic hazard indices (HIs), which are the ratio of expected exposure to acceptable exposure. Individuals at businesses are not subject to a continuous exposure over a 70-year lifetime; therefore worker exposure duration for cancer risk may be adjusted to HARP default worker exposure assumptions.

The basis for evaluating potential health risk is the identification of sources of hazardous air pollutants. Diesel exhaust particulate matter has been identified as a hazardous air pollutant with the potential to produce carcinogenic and non-cancer chronic health impacts. Composting operation's ammonia emissions have been identified as a hazardous

[15] TPG Consulting, Traffic Impact Study for the Harvest-Tulare Anaerobic Digester and Compressed Natural Gas Facility, July 2012.

[16] GAMAQI – SJVAPCD, Section 5.6.3, p. 49

air pollutant with the potential to non-cancer chronic and acute health impacts. Therefore, diesel exhaust particulate matter emissions from the on-site travel of heavy-duty diesel vehicles, on-site diesel equipment and ammonia emissions from the composting operations were evaluated.

Health risk is determined using the Hotspots Analysis and Reporting Program (HARP) software distributed by the California Air Resources Board, which requires annual-averaged emission rates for each modeling source to estimate carcinogenic and non-cancer chronic and acute health impacts. The modeled emission rates were based on the estimated number of vehicles, the on-site distance of travel, fifteen minutes of idling per vehicle, hours of equipment usage, composting operations and SJVAPCD-approved emission factors[17]. Annual emissions for truck travel, idling, equipment usage and composting operations are provided in **Attachment E**.

The most recent version of EPA's AMS/EPA Regulatory Model - AERMOD (recompiled for the Lakes ISC-AERMOD View interface) was used to predict the dispersion of emissions from the proposed project. All of the regulatory default AERMOD model keyword parameters were employed. Elevated terrain options were not employed due to the lack of complexity of the project area terrain in the specified model domain. Structure-induced downwash was included in the air dispersion modeling. AERMOD was used to generate ambient concentrations for the 1-hour, 4-hour, 6-hour, monthly and annual periods. Diesel combustion emissions from the diesel trucks traveling were modeled as a line source with a point source representing the location where idling emissions may occur and a combined point source was used to represent the onsite equipment and an area source was used to represent the composting operations. SJVAPCD-approved[18] release parameters were employed. Unit emission rates of 1 g/sec for the area and point sources were input to AERMOD. A total of 21 discrete receptors were modeled in order to assess risk to the nearest receptors. An SJVAPCD AERMET-processed meteorological data set for the Visalia area (2006-2009) was input to the AERMOD model. Rural dispersion parameters were used because the operation and the majority of the land surrounding the facility is considered "rural" under the Auer land use classification method.[19]

Plot files generated by AERMOD were imported to HARP ONRAMP software wherein pollutant-specific emission rates were assigned to adjust the AERMOD-predicted air concentrations calculated with unit emission rates. HARP ONRAMP was used to generate source, X/Q and emission import files for HARP.

HARP post-processing was used to assess the potential for excess cancer risk and chronic non-cancer effects using the most recent health effects data from the California EPA Office of Environmental Health Hazard Assessment (OEHHA) are used in the HRA. Risk reports were generated using the derived OEHHA analysis method for carcinogenic risk and non-carcinogenic chronic risk. Site parameters are included in the HARP output files. Total cancer risk was predicted for inhalation and non-inhalation pathways at each

[17] SJVAPCD Guidance for Air Dispersion Modeling, August 2006 (Revision1.2), page 75.
[18] Ibid.
[19] Auer, Jr., A.H., Correlation of Land Use and Cover with Meteorological Anomalies. *Journal of Applied Meteorology*, 17(5): 636-643, 1978.

receptor. A hazard index was computed for chronic and acute non-cancer health effects for each applicable endpoint and each receptor. SJVAPCD has set the level of significance for carcinogenic risk to ten in one million, which is understood as the possibility of causing ten additional cancer cases in a population of one million people. The level of significance for chronic and acute non-cancer risk is a hazard index of 1.

The carcinogenic risk and the health hazard index (HI) for chronic and acute non-cancer risk at all of the modeled receptors do not exceed the significance levels of less than ten in one million (10×10^{-6}) and 1, respectively. Therefore, the application of HARP default worker exposure assumptions to reduce continuous exposure to less than a 70-year lifetime was not necessary for the business receptors. The risk predicted by HARP for the potential maximum impacts, as identified by receptor number, type, risk and location, are provided in **Table 8-5**.

Table 8-5 - Potential Maximum Impacts Predicted By HARP

	Receptor	Value	UTM East	UTM North	Pathway
Excess Cancer Risk[a]	5	7.76E-06	296645	4011905	Inhalation
Chronic Hazard Index	5	3.76E-02	296645	4011905	Respiratory System
Acute Hazard Index	6	3.98E-01	296122	4011444	Respiratory System

[a] Based on continuous, 70-year residential exposure for all receptors.

As shown above in **Table 8-5**, the maximum predicted cancer risk for the facility is 7.76E-06. The maximum chronic and acute non-cancer hazard indexes are 3.76E-02 and 3.98E-01 respectively. Cancer risk and chronic and acute non-cancer risk are attributable to emissions of diesel exhaust particulate matter from the on-site use of heavy-duty vehicles and equipment and compost operation emissions.

In accordance with the GAMAQI, the potential health risk attributable to the proposed project is determined to be *less than significant* based on the following conclusions:

1) Potential chronic carcinogenic risk from the proposed project is *below* the significance level of ten in a million at each of the modeled receptors; and
2) The hazard index for the potential chronic non-cancer risk from the proposed project is *below* the significance level of one at each of the modeled receptors.

It should be noted that the health risk results presented herein were produced by following extremely conservative analysis methods that most likely represent an overestimate of potential health impacts.

Odor Impacts and Mitigation

The San Joaquin Valley Air Pollution Control District's (SJVAPCD) GAMAQI states that an evaluation "*should be conducted for both of the following situations: 1) a potential source of objectionable odors is proposed for a location near existing sensitive receptors, and 2) sensitive receptors are proposed to be located near an existing source of objectionable odors.*"[20] The criteria for this evaluation are based on the Lead Agency's

[20] SJVAPCD GAMAQI- Page 50

determination of the proximity between the proposed project and the sensitive receptors. The SJVAPCD identifies a sensitive receptor as a location where human populations, especially children, senior citizens and sick persons, are present, and where there is a reasonable expectation of continuous human exposure to pollutants, according to the averaging period for ambient air quality standards, i.e. the 24-hour, 8-hour or 1-hour standards. Commercial and industrial sources are not considered sensitive receptors. As shown in **Table 8-4**, there are sensitive receptors that are in relative close proximity (within a two mile radius) to the projectsite.

Additionally, TCCB currently operates under an Odor Impact Mitigation Plan (OIMP) to comply with the CalRecycle Full Composting Facility permit. The OIMP focuses on processes to prevent odor from migrating off site during the feedstock delivery, composting and curing phases and the protocol to deal with odor issues if they do arise. The processes include mixing any food materials with green materials immediately upon arrival at the site, and incorporating them into the compost windrows as soon as possible, within a maximum of 36 hours. Watering and turning regimes increase the temperature and speed of the breakdown of the material in the windrows, diminishing odor. A specific protocol for neighbor notification and response to neighbor issues is also included in the OIMP. The anaerobic digestion facility is designed with a biofilter to ensure that no offensive odor migrates off site.

Therefore, based on the predicted emissions from the project and the OIMP, the project is *not anticipated to have a significant impact on any known sensitive receptor*.

Impacts to the Ambient Air Quality

An ambient air quality analysis was performed to determine if the proposed project has the potential to impact ambient air quality through a violation of the ambient air quality standards or a substantial contribution to an existing or projected air quality standard. The basis for the analysis is dispersion modeling, the project's specifications described in previous sections and the project's long-term air quality impacts shown in the **Table 8-3**.

The maximum off-site ground level concentration of each pollutant for the 1-hour, 3-hour, 8-hour, 24-hour and annual periods was predicted using the most recent version of EPA's AMS/EPA Regulatory Model (AERMOD) dispersion software under the Lakes Environmental ISC-AERMOD View interface. An approved pre-processed AERMET meteorological data set for the Visalia area (2006-2009) was supplied by the SJVAPCD for input to the AERMOD model. All of the regulatory default AERMOD model keyword parameters were employed. Rural dispersion parameters were used for this project, which differs from the urban setting used in the URBEMIS model. The URBEMIS selection criteria is based on trip distances to the project site and the AERMOD selection criteria is based on the majority of the land use surrounding the facility. The majority of the land surrounding the project site is considered "rural" under the Auer land use classification method.

Emissions were evaluated for each pollutant on a short-term (correlating to pollutant averaging period) and long-term (annual) basis, with the exception of CO that was evaluated only for short-term exposures. Diesel combustion emissions from the diesel trucks traveling were modeled as a line source with a point source representing the location where idling emissions may occur and a combined point source was used to represent the onsite equipment and an area source was used to represent the composting operations.

A fenceline coordinate grid of receptor points was constructed. The grid consisted of a 25-meter fenceline spacing and 25-meter tier spacing extending a distance of 100 meters with initial receptors starting 25-meters from the facility boundary. Elevated terrain options were not employed due to the lack of complex terrain in the project area.

The results of the air dispersion modeling, presented in **Table 8-6**, demonstrate that the maximum impacts attributable to the project, when considered in addition to the existing background concentrations, are below the applicable ambient air quality standard for NO_x, SO_x and CO. The AERMOD output files are provided in the appendices.

Table 8-6 - Predicted Ambient Air Quality Impacts

Pollutant	Averaging Period	Background ($\mu g/m^3$)	Project ($\mu g/m^3$)	Project + Background ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	CAAQS ($\mu g/m^3$)	PSD SIL ($\mu g/m^3$)
NO_2	1-hour	115.72	22.67	138.39	188.68	470	0
	Annual	18.45	0.98	19.43	100	---	1
SO_2	1-hour	19.2	0.004	19.2	196	655	0
	3-hour	19.2	0.002	19.2	1300	--	25
CO	1-hour	3092	12.38	3104	40,000	23,000	2000
	8-hour	2290	6.24	2296	10,000	10,000	500
PM_{10}	24-hour	71.00	4.41	75.41	150	50	10.4*
	Annual	47.80	0.73	48.53	---	20	2.08*
$PM_{2.5}$	24-hour	54.00	0.53	54.53	35	---	2.5*
	Annual	22.50	0.10	22.60	15	12	0.63*

* District recommended significant impact level in lieu of PSD levels for fugitive emissions.

Pre-project concentrations of PM_{10} and $PM_{2.5}$ exceed their respective ambient air quality standards. PM_{10} and $PM_{2.5}$ are evaluated in accordance with the SJVAPCD recommended significant impact level (SIL) for fugitive PM_{10} and $PM_{2.5}$. It is the District's policy to use significant impact levels to determine whether a proposed new or modified source will cause or contribute significantly to an AAQS or PSD increment violation. If a project's maximum impacts are below the District or PSD SIL, the project is judged to not cause or contribute significantly to an AAQS or PSD increment violation. A comparison of the proposed impact from the project to the District and PSD SIL values is provided in **Table 8-6.** The modeled PM_{10} and $PM_{2.5}$ impacts directly attributable to the project are *below the District's significance levels*.

9.0 CONSISTENCY WITH THE AIR QUALITY ATTAINMENT PLAN

Air quality impacts from proposed projects within Reedley, Ca. are controlled through policies and provisions of the San Joaquin Valley Air Pollution Control District (SJVAPCD) and the City of Reedley and Fresno County General Plans. In order to demonstrate that a proposed project will not cause further air quality degradation in either of the SJVAPCD's plan to improve air quality within the air basin or federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the SJVAPCD's adopted Air Quality Attainment Plans (AQAP) for ozone and PM_{10}. The SJVAPCD is required to submit a "Rate of Progress" document to the California Air Resources Board (CARB) that demonstrates past and planned progress toward reaching attainment for all criteria pollutants. The California Clean Air Act (CCAA) requires air pollution control districts with severe or extreme air quality problems to provide for a 5 percent reduction in non-attainment emissions per year. The AQAP prepared for the San Joaquin Valley by the SJVAPCD complies with this requirement. CARB reviews, approves or amends the document and forwards the plan to the U.S. Environmental Protection Agency (U.S. EPA) for final review and approval within the State Implementation Plan (SIP).

Air pollution sources associated with stationary sources are regulated through the permitting authority of the SJVAPCD under the New and Modified Stationary Source Review Rule (SJVAPCD Rule 2201). Owners of any new or modified equipment that emits, reduces or controls air contaminants, except those specifically exempted by the SJVAPCD, are required to apply for an Authority to Construct and Permit to Operate (SJVAPCD Rule 2010). Additionally, best available control technology (BACT) is required on specific types of stationary equipment and are required to offset both stationary source emission increases along with increases in cargo carrier emissions if the specified threshold levels are exceeded (SJVAPCD Rule 2201, 4.7.1). Through this mechanism, all stationary sources within the project area would be subject to the standards of the SJVAPCD to ensure that new developments do not result in net increases in stationary sources of criteria air pollutants.

Required Evaluation Guidelines

State CEQA Guidelines and the Federal Clean Air Act (Sections 176 and 316) contain specific references on the need to evaluate consistencies between the proposed project and the applicable AQAP for the project site. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQAP:

1. *Determination that an AQAP is being implemented in the area where the project is being proposed*. The SJVAPCD has implemented the current, modified, AQAP as approved by the CARB. The current AQAP is under review by the U.S. EPA.
2. *The proposed project must be consistent with the growth assumptions of the applicable AQAP*. Considering the limited number of increased jobs (four), the proposed project is included within the growth assumptions projected in the City of Tulare and Tulare County General Plans.
3. *The project must contain in its design all reasonably available and feasible air quality control measures*. The proposed project incorporates various policy and rule-required implementation measures that will reduce related emissions.

The CCAA and AQAP identify transportation control measures as methods to further reduce emissions from mobile sources. Strategies identified to reduce vehicular emissions such as reductions in vehicle trips, vehicle use, vehicle miles traveled, vehicle idling and traffic congestion, in order to reduce vehicular emissions, can be implemented as control measures under the CCAA as well. Additional measures may also be implemented through the building process such as providing electrical outlets on exterior walls of structures to encourage use of electrical landscape maintenance equipment or measures such as electrical outlets for electrical systems on diesel trucks to reduce or eliminate idling time.

As the growth represented by the proposed project was anticipated by the City of Tulare and Tulare County General Plans and incorporated into the AQAP, conclusions may be drawn from the following criteria:

1. Considering the limited number of jobs from the proposed project, sufficient employment increase is planned for the project area;
2. The proposed emissions from the project are by definition below the SJVAPCD's established emissions impact thresholds;
3. The primary source of emissions from the project will be vehicular traffic that are licensed through the State of California and whose emissions are already incorporated into the CARB's San Joaquin Valley Emissions Inventory.

Based on these factors, the project *appears to be consistent with the AQAP*.

Consistency With the Tulare County Association of Governments' Final Conformity Analysis

The Tulare County Association of Governments' (TCAG) Final Conformity Analysis demonstrates that the regional transportation plans (RTP) and transportation improvement plan (TIP) in the Tulare County portion of the San Joaquin Valley air quality attainment areas will not impede the efforts set out in the CARB's State Implementation Plan (SIP) for each area's non-attainment pollutants (CO, Ozone, PM_{10} and $PM_{2.5}$). All analyses for the Conformity Analysis were conducted using the latest planning assumptions and emissions models.

TCAG's 2007 travel demand model land use database was developed based on census data, housing start information, State of California's Department of Finance (DOF) data, and a commercially purchased InfoUSA employment database. Year 2000 census data was used for population and household estimates by TAZ and housing start information since 2000 was used to update the increment of growth between 2000 and 2007. Census auto ownership data at the census block level was used to distribute households by percentages of 0, 1 and 2+ auto ownership for single-family and multi-family housing units to improve trip generation estimates (households with zero autos, with one auto, and with two or more autos). An InfoUSA commercial employment database which covers approximately 95% of the employment in the county provided the basis for the 2007 employment estimates. TCAG staff then ensured that all large employers were appropriately coded (headquarters vs. other sites), and that those uses not normally included in the InfoUSA database (e.g. those not required to pay taxes such as schools, fire stations, post offices, etc.) were included. The resultant employment totals were then compared with EDD estimates to determine reasonableness of totals.

Future forecasts of population and housing were based on DOF estimates. Year 2007 DOF annual growth rates were used for near term (2010) forecasts. However, since the DOF estimates fluctuate annually and the Year 2007 DOF forecasts project annual growth rates significantly higher than historic rates (average of 2.6% per year vs. 1.9%) resulting in more than 20% more population, housing and employment in 2035 than was previously forecast, TCAG staff determined that the year 2003 DOF and historic annual growth rates were more reasonable for their longer term forecasts (2035). Trend lines with historic data were used to estimate future population and housing levels using the updated 2007 estimates as a base. On the employment side, employment trend lines, estimates of employees per household by jurisdiction, and overall employment distribution were used to forecast future employment.

Considering the proposed project will only increase slightly increase employment (4 jobs) and will not increase population or households, the projected growth within the proposed project's TAZ appears to be sufficient to account for the projected employment increase proposed by the project. Therefore, *the project should be considered consistent with the adopted growth forecast and, therefore, in conformance with the San Joaquin Valley Air Basin's AQAP.*

10.0 CUMULATIVE IMPACTS

The GAMAQI under CEQA defines cumulative impacts as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The document also states that "*any proposed project that would individually have a significant air quality impact... would also be considered to have a significant cumulative air quality impact. Impacts of local pollutants (CO, HAPs) are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards*"[21]. Based on the analysis conducted for this project, it is individually *less than significant*. This AQIA, however, also considered impacts of the proposed project in conjunction with the impacts of other projects previously proposed in the area. The following cumulative impacts were considered:

- Cumulative Ozone Impacts (ROG and NOx) from numerous sources within the region including transport from outside the region. Ozone is formed through chemical reactions of ROG and NOx in the presence of sunlight.
- Cumulative CO Impacts produced primarily by vehicular emissions.
- Cumulative PM_{10} Impacts from within the region and locally from the various projects. Such projects may cumulatively produce a significant amount of PM_{10} if several projects conduct grading or earthmoving activities at the same time; and
- Hazardous Air Pollutant (HAP) Impacts on sensitive receptors from within the District recommended screening radius of one mile.

[21] GAMAQI, Page 29

The cumulative analysis is based on a quantitative cumulative analysis of projects located within a one-mile radius of the proposed project (see **Figure 4-1** One-Mile Radius Map). The one-mile radius analysis quantifies cumulative operational and area impacts from the proposed project in conjunction with impacts from sources planned within the analysis area. These emissions are then compared to the proposed growth and anticipated emissions increases included in the various regional growth forecasts to determine 1) if they were included in the forecast; 2) if their inclusion can be considered consistent with the attainment plan for air emissions within the air basin; and 3) if these emissions are in conformance with the State Implementation Plan emission budget or baseline emissions for ROG, NOx, CO and PM_{10}.

Cumulative Regional Air Quality Impacts

A review of the City of Tulare and the Tulare County Resource Management Agency's files indicates that there are zero (0) Tentative Tracts or other planned developments within a one-mile radius of the proposed project site. Projects that are planned but have not been submitted for review or approved by the county are not included in this analysis as there is no way to know or ascertain what they might consist of. The SJVAPCD requires use of a one-mile radius to identify HAP emissions as well as for most odor sources[22]. A one-mile limit is recommended by the SJVAPCD for HAPs pollutants as such emissions primarily impact individuals that reside or work within the immediate vicinity (one-mile) of the emissions source.

The most recent, certified San Joaquin Valley Air Basin Emission Inventory data available from the California Air Resources Board (CARB) is based on data gathered for the 2008 annual inventory.[23] This data will be used to assist the SJVAPCD in demonstrating attainment of Federal 1-hour Ozone Standards. **Table 10-1** provides a comparative look at the impacts proposed by the subject project to the San Joaquin Valley Air Basin Emissions Inventory.

Table 10-1 – Comparative Analysis Based on SJV Air Basin 2008 Inventory

Emissions Inventory Source	Pollutant (tons/year)				
	ROG	**NOx**	**CO**	**SOx**	**PM_{10}**
Tulare County - 2008[1]	46,501	20,294	166,549	1,314	23,688
San Joaquin Valley Air Basin - 2008[1]	220,642	210,495	620,390	9,599	122,238
Proposed Project	35.77[2]	3.56	0.81	0.00	0.39
Proposed Project's % of Tulare	0.08	0.018	0.0005	0.00	0.0016
Proposed Project's % of SJVAB	0.02	0.002	0.0001	0.00	0.0003

NOTES:
[1] This is the latest inventory available as of July 2012
[2] All but 0.17 tons of these emissions are fugitive emissions which are permitted, controlled and accounted for within the SIP by the /SJVAPCD.

[22] SJVAPCD GAMAQI, Revised January 10, 2002, Page 53, "Evaluating Cumulative Hazardous Air Pollutant Impacts."
[23] California Air Resources Board (CARB) Emissions Inventory Database

As shown in **Table 10-1**, the incremental increase posed by the project upon the air basin appears to be insignificant since basin emissions would be essentially the same regardless of whether or not the project is approved.

Tables 10-2 through **10-4** provide California Air Resources Board (CARB) Emissions Inventory projections for the year 2020 for both the San Joaquin Valley Air Basin (SJVAB) and the Tulare County portion of the air basin. Looking at the SJVAB Emissions predicted by the CARB year 2020 emissions inventory, the Tulare County portion of the air basin is a moderate source of the emissions. The proposed project appears to pose an extremely minute source of the total emissions in both Tulare County and the entire SJVAB.

Table 10-2 – Emission Inventory SJVAB 2020 Projection – Tons per Year

	ROG	NO_X	PM_{10}
Total Emissions	211,663	119,063	125,888
Percent Stationary Sources	15.00	22.93	8.09
Percent Area-Wide Sources	29.44	5.24	77.07
Percent Mobile Sources	15.00	68.58	4.67
Percent Natural Sources	40.56	3.25	10.21
Total Stationary Source Emissions	31,755	27,302	10,183
Total Area-Wide Source Emissions	62,305	6,241	97,017
Total Mobile Source Emissions	31,755	81,650	5,876
Total Natural Source Emissions	85,848	3,869	12,848
Source: California Air Resources Board (www.arb.ca.gov/app/emsinv/emssumcat.php) Note: Total may not add due to rounding.			

Table 10-3 - Emission Inventory SJVAB – Tulare County Portion 2020 Estimate Projection – Tons per Year

	ROG	NO_X	PM_{10}
Total Emissions	46,683	12,410	24,637
Percent Stationary Sources	3.12	7.64	6.81
Percent Area-Wide Sources	24.08	7.05	46.96
Percent Mobile Sources	8.60	58.82	1.92
Percent Natural Sources	64.19	26.47	44.29
Total Stationary Source Emissions	1,460	949	1,679
Total Area-Wide Source Emissions	11,242	876	11,570
Total Mobile Source Emissions	4,015	7,300	474
Total Natural Source Emissions	29,966	3,285	10,913
Source: California Air Resources Board (www.arb.ca.gov/app/emsinv/emssumcat.php) Note: Total may not add due to rounding.			

Table 10-4 - 2020 Emissions Projections – Proposed Project, Tulare County, and San Joaquin Valley Air Basin

	ROG	NO_X	PM_{10}
Proposed Project	35.77[1]	3.56	0.39
Tulare County	46,683	12,410	24,637
San Joaquin Valley Air Basin	211,663	119,063	125,888
Proposed Project Percent of Tulare County	0.08	0.03	0.002
Proposed Project Percent of SJVAB	0.02	0.003	0.0003
Tulare County Percent of SJVAB	22.05	10.42	19.57

Source: California Air Resources Board (www.arb.ca.gov/app/emsinv/emssumcat.php)
Notes: The emission estimates for Tulare County and the SJVAB are based on 2020 projections. The Proposed Project emission estimates are for the proposed incremental emissions increase that is not already included in the San Joaquin Valley Air Basin Emissions Inventory. The Project's emissions are expected to decline as cleaner, less polluting vehicles replace vehicles with higher emissions.
[1] All but 0.17 tons of these emissions are fugitive emissions which are permitted, controlled and accounted for within the SIP by the /SJVAPCD.

As shown above, the proposed project will pose an extremely minute impact on regional ozone and PM_{10} formation. When mitigation measures and compliance with applicable rules, such as SJVAPCD's Rule 9510 (Indirect Source Rule) is considered, the regional contribution to these cumulative impacts will be almost negligible. It is reasonable to conclude that *the project is not cumulatively significant with regard to regional impacts*.

Cumulative Localized Air Quality Impacts

A review of the City of Tulare and the Tulare County Resource Management Agency's files indicates that there are zero (0) Tentative Tracts or other planned developments within a one-mile radius of the proposed project site.

The listing provided below in **Table 10-5** is only a geographical reference to demonstrate the construction activity in the project vicinity. The number or size of these projects is of no particular significance since no "cumulative" emissions thresholds have been established by the SJVAPCD or the Tulare County Resource Management Agency. In accordance with SJVAPCD guidance, fireplaces were not considered since they are seasonal in nature and because residential developments are prohibited from installing wood burning fireplaces[24].

Table 10-5 – Cumulative Long-Term Emissions*

Scheduled Developments**	Pollutant (tons/year)					
	ROG	NOx	CO	Sox	PM_{10}	$PM_{2.5}$
This Project* **	**35.77**	**3.56**	**0.81**	**0.00**	**0.39**	**0.11**
None	-	-	-	-	-	-

NOTES:
* The SJVAPCD has not established significance thresholds for cumulative emissions.
** These emissions (other than the proposed project) are overestimated, as they are discretionary projects that are subject to various mitigation measures that have not yet been determined nor their impacts reduced herein.
*** Emissions presented are "mitigated" emissions for the proposed project only. All but 0.17 tons of ROG emissions are fugitive emissions which are permitted, controlled and accounted for within the SIP by the /SJVAPCD.

[24] SJVAPCD Rule 4901, Amended July 17, 2003.

As details regarding the proposed emissions from the various projects listed above were not readily available through the Tulare County Resource Management Agency, no emissions estimates were modeled using the CalEEMod computer model to predict cumulative impacts (see **Attachment E** for output results). Additionally, no cumulative significance thresholds are shown since no cumulative thresholds have been established by the SJVAPCD, CARB or other regulatory authority. Since no projects are either currently under construction or, at a minimum, approved by the City of Tulare Planning Division for consistency with applicable regulation and the project alone does not exceed any significant thresholds, for the purposes of this analysis, it is assumed that they are in conformance with the regional AQAP and will not pose *a significant contribution to the cumulative impacts to air quality in the SJVAB*.

The most recent, certified San Joaquin Valley Air Basin Emission Inventory data available from the California Air Resources Board (CARB) is based on data gathered for the 2008 annual inventory.[25] This data will be used to assist the SJVAPCD in demonstrating attainment of Federal 1-hour Ozone Standards and contained 220,642 tons/year VOC (ROG) and 210,495 tons/year NOx[26] from all sources. On a regional basis, the proposed project represents approximately 0.02% of the ROG and 0.002% of the NOx emissions in the air basin. The incremental increase posed by the project upon the air basin appears to be insignificant since basin emissions would be essentially the same regardless of whether or not the project is built.

<u>Cumulative Hazardous Air Pollutants (HAPs)</u>

The GAMAQI also states that when evaluating potential impacts related to HAPs, "*impacts of local pollutants (CO, HAPs) are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards.*" Based on the results of a health risk assessment and the project traffic analysis, the proposed project is *not expected to pose a significant cumulative CO or HAPs impact*.

<u>Cumulative Carbon Monoxide (CO) - Mobile Sources</u>

The SJVAPCD's GAMAQI has identified CO impacts from impacted traffic intersections and roadway segments as being potentially cumulatively considerable. Traffic increases and added congestion caused by a project can combine to cause a violation of the SJVAPCD's CO standard also known as a "Hotspot". There are two criteria established by the GAMAQI by which CO "Hot Spot" modeling is required:

- A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or
- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

[25] California Air Resources Board (CARB) Emissions Inventory Database

[26] San Joaquin Valley Air Basin Emissions Inventory to Demonstrating Attainment of Federal 1-hour Ozone Standards, San Joaquin Valley Air Pollution Control District, February 2007

The Traffic Study prepared for this project[27] indicated that potentially impacted intersections and roadway segments would operate at a level of service (LOS) that is within the GAMAQI significance criteria[28]. Therefore, CO "Hotspot" Modeling was not conducted for this project and no concentrated excessive CO emissions are expected to be caused by the completed project.

11.0 IMPACTS TO GLOBAL CLIMATE CHANGE

Global Climate Change Regulatory Issues

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United Nations Framework Convention on Climate Change established an agreement with the goal of controlling greenhouse gas emissions, including methane. As a result, the Climate Change Action Plan was developed to address the reduction of greenhouse gases in the United States. The plan consists of more than 50 voluntary programs. Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete ozone in the stratosphere (chlorofluorocarbons [CFCs], halons, carbon tetrachloride, and methyl chloroform) were phased out by 2000 (methyl chloroform was phased out by 2005).

On September 27, 2006, Assembly Bill 32 (AB32), the California Global Warming Solutions Act of 2006 (the Act) was enacted by the State of California. The legislature stated, "global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California". The Act caps California's greenhouse gas (GHG) emissions at 1990 levels by 2020. The Act defines greenhouse gas emissions as all of the following gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. This agreement represents the first enforceable statewide program in the U.S. to cap all GHG emissions from major industries that includes penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB32 lays out a program to inventory and reduce greenhouse gas emissions in California and from power generation facilities located outside the state that serve California residents and businesses.

AB32 charges CARB with responsibility to monitor and regulate sources of greenhouse gas emissions in order to reduce those emissions. CARB has adopted a list of discrete early action measures that can be implemented to reduce greenhouse gas emissions. CARB has defined the 1990 baseline emissions for California, and has adopted that baseline as the 2020 statewide emissions cap. CARB is conducting rulemaking for reducing greenhouse gas emissions to achieve the emissions cap by 2020. In designing emission reduction measures, CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy

[27] TPG Consulting, Traffic Impact Study for the Harvest-Tulare Anaerobic Digester and Compressed Natural Gas Facility, July 2012.
[28] GAMAQI – SJVAPCD, Section 5.6.3, p. 49

infrastructure, maintain electric system reliability, maximize additional environmental and economic co-benefits for California, and complement the state's efforts to improve air quality.

Global warming and climate change have received substantial public attention for more than 20 years. For example, the United States Global Change Research Program was established by the Global Change Research Act of 1990 to enhance the understanding of natural and human-induced changes in the Earth's global environmental system, to monitor, understand and predict global change, and to provide a sound scientific basis for national and international decision-making. Even so, the analytical tools have not been developed to determine the effect on worldwide global warming from a particular increase in greenhouse gas emissions, or the resulting effects on climate change in a particular locale. The scientific tools needed to evaluate the impacts that a specific Project may have on the environment are even farther in the future.

However, since the SJVAPCD uses a 25,000 metric ton CO_2e threshold for permitting purposes this analysis utilized that threshold for a significance impact limit on global climate change or on the environment in California.

<u>Global Climate Change Impacts from the Proposed Project</u>

The Earth's atmosphere naturally includes a number of gases, including carbon dioxide (CO_2), methane, and nitrous oxides (N_2O) that are referred to as "greenhouse gases." These gases trap some amount of solar radiation and the Earth's own radiation, preventing it from passing through Earth's atmosphere and into space. Greenhouse gases are vital to life on Earth; without them Earth would be an icy planet. CO_2 is also a trace element that is essential to the cycle of life. It is essential to plant growth and studies have shown that vegetation growth has increased in North America commensurate with the increase in CO_2 over the past decades. However, increasing greenhouse gas concentrations tend to warm the planet. A warming trend of about 0.7°F to 1.5°F reportedly occurred during the 20^{th} century, and a number of scientific analyses indicate that rising levels of greenhouse gases in the atmosphere may be contributing to climate change.

As the average temperature of the Earth increases, weather may be affected, including changes in precipitation patterns, accumulation of snow pack, and intensity and duration of spring snowmelt. There may be rises in sea level, resulting in coastal erosion and inundation of coastal areas. Emissions of air pollutants and ambient levels of pollutants also may be affected in areas. Climate zones may change, affecting the ecology and biological resources of a region. There may be changes in fire hazards due to the changes in precipitation and climate zones.

While scientists have established a connection between increasing CO_2 concentrations and increasing average temperatures, important scientific questions remain about how much warming will occur, how fast it will occur, and how the warming will affect the rest of the climate system. At this point, scientific efforts are unable to quantify the degree to which human activity impacts climate change. The phenomenon is worldwide, yet it is expected that there will be substantial regional and local variability in climate changes. It is not possible with today's science to determine the affect of global climate change in a specific locale, or whether the effect of one aspect of climate change may be counteracted by another aspect of climate change, or exacerbated by it.

Human activities generate greenhouse gases. Since pre-industrial times, there has been a build-up of levels of gases like carbon dioxide (CO_2) in the atmosphere. The human contribution to the increase in atmospheric CO_2 concentrations largely has resulted from the burning of fossil fuels. Fossil fuel combustion accounts for approximately 98% of carbon dioxide emissions from human activity.

The United States has the highest emissions of greenhouse gases of any nation on Earth, though CO_2 emissions in California are less than the national average, both in per capita emissions and in emissions per gross state product. Transportation is the largest source of CO_2 emissions in California, accounting for approximately 41 percent of total emissions. Electricity generation accounts for approximately 22 percent of CO_2 emissions in California, and the industrial sector accounts for approximately 20.5 percent.

The primary source of GHG emissions from the proposed Project is from mobile sources and construction equipment. There are a number of factors available for estimating the GHG from mobile sources and combustion engines used in composting operations. The GHG from the proposed Project were estimated using the CalEEMod and EMFAC2001 emissions model programs and California Climate Action Registry - IPCC Emissions Factors and are shown in **Table 11-1** and detailed in **Attachment E**.

Table 11-1 – Estimated Non-Mitigated Annual Greenhouse Gas Emissions (Tons/Year)

Source	**CO_2** (tons/yr)	**CH_4** (tons/yr)	**N_2O** (tons/yr)	**CO_2e** (tons/yr)	**CO_2e** (tons/day)	**CO_2e** (tons/wk)
Construction Emissions						
Construction Emissions (2013)	508.51	0.06	0.00	509.70	1.96	9.80
Construction Emissions (2014)	59.64	0.01	0.00	59.78	2.85	14.23
Operational Emissions						
On-site Equipment Emissions	103.15	0.01	0.00	103.40	0.33	1.98
Truck Travel Emissions	308.88	0.06	0.00	311.30	0.99	5.97
Total Operational Emissions	412.03	0.07	0.00	414.70	1.32	7.95
SJVAPCD Threshold	-	-	-	25,000	-	-
Is Threshold Exceeded?	-	-	-	No	-	-
*Note: 0.00 could represent <0.00						

The Project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF_6), the other gases identified as GHG in AB32. However, the impacts on global warming and climate change are indirect, not direct, and the emissions cannot be correlated with specific impacts based on currently available science. While climate change may be presumed to have global impacts, local government lacks the expertise, and/or regulatory authority to develop the scientific tools and policies needed to select a CEQA significance threshold for climate change or greenhouse gas emissions. The proposed Project will be subject to any regulations developed under AB32 as determined by CARB. However, since the SJVAPCD uses a 25,000 metric ton CO_2e threshold for permitting purposes this analysis utilized that threshold for a significance impact limit on global climate change or on the environment in California. As demonstrated in Table 11-1 this project does not exceed the SJVAPCD threshold of 25,000 metric tons of CO_2e, therefore, the project's cumulative impacts to global climate change are considered *less than significant.*

Feasible and Reasonable Mitigation Relative to Global Warming
CEQA requires that all feasible and reasonable mitigation be applied to the Project to reduce the impacts from construction and operations on air quality. The San Joaquin Valley Air Pollution Control District's "Non-Residential On-Site Mitigation Checklist" was utilized in preparing the mitigation measures and evaluating the Projects features. These measures include using controls that limit the exhaust from construction equipment and using alternatives to diesel when possible. Additional reductions will be achieved through the regulatory process of the air district and CARB as required changes to diesel engines are implemented which will affect the product delivery trucks and limits on idling.

The Project will potentially contribute to cumulative greenhouse gas emissions in California as well as related health effects. The Project emissions will be only a small fraction of the statewide greenhouse gas emissions. However, without the necessary science and analytical tools, it is not possible to assess, with certainty, whether the Project's contribution will be cumulatively considerable, within the meaning of CEQA Guidelines Sections 15065(a)(3) and 15130. CEQA, however, does note that the more severe environmental problems the lower the thresholds for treating a Project's contribution to cumulative impacts as significant. Given the position of the legislature in AB32 which states that global warming poses serious detrimental effects, and the requirements of CEQA for the lead agency to determine that a Project not have a cumulatively considerable contribution, the effect of the Project's CO_2 contribution may be considered cumulatively considerable. This determination is based on the lack of clear scientific evidence or other criteria for determining the significance of the Project's contribution of GHG to the air quality in the SJVAB.

AB32 requires that a list of emission reduction strategies be published to achieve the goals set forth in the law. Until CARB publishes those reduction strategies, emission reduction strategies to meet the Governor's Executive Order S-3-05 should be considered.

The strategies that CARB is implementing that may help in reducing the Project's GHG emissions are summarized in the table below.

Table 10-2 – Select CARB Greenhouse Gas Emission Reduction Strategies

Strategy	Description of Strategy
Statewide Measures	
Vehicle Climate Change Standards	AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in Sept. 2004.
Diesel Anti-Idling	In July 2004, CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.
Other Light-Duty Vehicle Technology	New standards would be adopted to phase in beginning in the 2017 model year.
Alternative Fuels: Biodiesel Blends	CARB would develop regulations to require the use of 1% to 4% Biodiesel displacement of California diesel fuel.
Alternative Fuels: Ethanol	Increased use of ethanol fuel.
Heavy-Duty Vehicle Emission Reduction Measures	Increased efficiency in the design of heavy-duty vehicles and an educational program for the heavy-duty vehicle sector.

While it will not be practical for the Project to implement all of these suggested strategies, legislatively driven changes in the future will further reduce the Project's GHG footprint.

CEQA Guidelines Section 15130 notes that sometimes the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a Project-by-Project basis. Global climate change is this type of issue. The causes and effects may not be just regional or statewide, they may be worldwide. Given the uncertainties in identifying, let alone quantifying the impact of any single Project on global warming and climate change, and the efforts made to reduce emissions of greenhouse gases from the Project through design, in accordance with CEQA Section 15130, any further feasible mitigation will be accomplished through CARB regulations adopted pursuant to AB32. Since the Project will employ all possible long-term GHG emissions reduction strategies possible the cumulative impacts of the Project to global climate change are considered *less than significant.*

12.0 MITIGATION MEASURES

To ensure that project emissions are minimized, the applicant will implement and comply with a number of mitigation measures. Some of the listed mitigation measures are also regulatory requirements or construction requirements that result in emission reductions through their inclusion in project construction and long-term design. The following measures either have been applied to the project through CalEEMod and will be incorporated into the project by design or will be implemented in conjunction with SJVAPCD rules:

Planned PM_{10} Mitigation Measures

As the project will be completed in compliance with SJVAPCD Regulation VIII, dust control measures will be taken to ensure compliance specifically during grading and construction phases. The mitigation measures to be taken are as follows:

- Water previously exposed surfaces (soil) whenever visible dust is capable of drifting from the site or approaches 20% opacity.
- Water all unpaved haul roads a minimum of three-times/day or whenever visible dust from such roads is capable of drifting from the site or approaches 20% opacity.
- Reduce speed on unpaved roads to less than 15 miles per hour.
- Install and maintain a track out control device that meets the specifications of SJVAPCD Rule 8041 if the site exceeds 150 vehicle trips per day or more than 20 vehicle trips per day by vehicles with three or more axles.
- Stabilize all disturbed areas, including storage piles, which are not being actively utilized for production purposes using water, chemical stabilizers or by covering with a tarp or other suitable cover.
- Control fugitive dust emissions during land clearing, grubbing, scraping, excavation, leveling, grading, or cut and fill operations with application of water or by presoaking.
- When transporting materials offsite, maintain a freeboard limit of at least 6 inches and cover or effectively wet to limit visible dust emissions.
- Limit and remove the accumulation of mud and/or dirt from adjacent public roadways at the end of each workday. (Use of dry rotary brushes is prohibited except when preceded or accompanied by sufficient wetting to limit visible dust emissions and use of blowers is expressly forbidden).
- Stabilize the surface of storage piles following the addition or removal of materials using water or chemical stabilizer/suppressants.
- Remove visible track-out from the site at the end of each workday.
- Cease grading or other activities that cause excessive (greater than 20% opacity) dust formation during periods of high winds (greater than 20 mph over a one-hour period).

Measures to Reduce Equipment Exhaust

The GAMAQI guidance document lists the following measures as approved and recommended for construction activities. These measures should be required to ensure that the proposed project emissions are not exceeded:

- Maintain all construction equipment as recommended by manufacturer manuals.
- Shut down equipment when not in use for extended periods.
- Construction equipment shall operate no longer than eight (8) cumulative hours per day.
- Use electric equipment for construction whenever possible in lieu of diesel or gasoline powered equipment.
- Curtail use of high-emitting construction equipment during periods of high or excessive ambient pollutant concentrations.
- All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NO_x emissions.
- On-Road and Off-Road diesel equipment shall use diesel particulate filters if permitted under manufacturer's guidelines.
- On-Road and Off-Road diesel equipment shall use cooled exhaust gas recirculation (EGR) if permitted under manufacturer's guidelines.
- All construction workers shall be encouraged to shuttle (car-pool) to retail establishments or to remain on-site during lunch breaks.
- All construction activities within the project area shall be discontinued during the first stage smog alerts.

- Construction and grading activities shall not be allowed during first stage ozone alerts. First stage ozone alerts are declared when the ozone level exceeds 0.20 ppm (1-hour average).

Other Mitigation Measures
The following mitigation measures are recommended to further reduce the potential for long-term emissions from the project. These measures will be required to ensure that the proposed project emissions are not exceeded:

- The project design shall comply with standards set forth in Title 24 of the Uniform Building Code to minimize total consumption of energy.
- Applicants shall be required to comply with applicable mitigation measures in the Air Quality Attainment Plan, District Rules, Traffic Control Measures, Regulation VIII and Indirect Source Rules for the SJVAPCD.
- The developer shall comply with the provisions of SJVAPCD Rule 4601 - Architectural Coatings, during the construction of all buildings and facilities. Application of architectural coatings shall be completed in a manner that poses the least emissions impacts whenever such application is deemed proficient.
- The applicant shall comply with the provisions of SJVAPCD Rule 4641 during the construction and pavement of all roads and parking areas within the project area. Specifically, the applicant shall not allow the use of:
  - Rapid cure cutback asphalt;
  - Medium cure cutback asphalt;
  - Slow cure cutback asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.3); or Emulsified asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.4).
  - The developer shall comply with applicable provisions of SJVAPCD Rule 9510 (Indirect Source Review).

13.0 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project will have <u>short-term air quality impacts</u> due to fugitive dust during grading and facility construction as well as vehicular emissions associated with the equipment used in the construction activities. Both of these impacts will be mitigated to the greatest extent possible and will *remain less than significant*.

The proposed project will result in <u>long-term air quality impacts</u> due to operational and related mobile source emissions. These impacts will be reduced to the extent feasible and will *remain less than significant*.

The proposed project in conjunction with other past, present and foreseeable future projects will result in <u>cumulative long-term impacts</u> to air quality. The SJVAB's cumulative air quality impacts would remain significant without this project since the air basin is currently considered to be in non-attainment for certain criteria pollutants. The proposed project's incremental contribution to these impacts will be mitigated to the extent feasible and may be considered to pose *a less than significant contribution to the cumulative impacts to air quality* *in the SJVAB*.

The proposed project in conjunction with other past, present and foreseeable future projects will result in cumulative long-term impacts to global climate change. The proposed project's incremental contribution to these impacts will be mitigated to the extent feasible and will *remain less than significant*.

14.0 ATTACHMENTS

A. Ozone Concentration Data
B. PM_{10} and $PM_{2.5}$ Concentration Data
C. SOx, NOx, and CO Concentration Data
D. Lead Concentration Data
E. Project Emissions Calculations
   1. Emission Calculations
   2. CalEEMod Output Files
   3. EMFAC2011 Output Files
F. Ambient Air Quality Modeling Output Files – AERMOD
G. HRA Modeling Output Files – HARP and AERMOD
H. California Air Resources Board 2008 Estimated Annual Average Emissions – San Joaquin Valley Air Basin
I. California Air Resources Board 2008 Estimated Annual Average Emissions – Tulare County
J. California Air Resources Board – 2020 Forecasted Annual Average Emissions – Tulare County
K. California Air Resources Board 2020 Estimated Annual Average Emissions – San Joaquin Valley Air Basin

15.0 REFERENCES

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ATTACHMENT A

Ozone Concentration Data

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

at Porterville-1839 Newcomb Street

iADAM

	2009		2010		2011	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:		*	Aug 25	0.118	Jun 21	0.104
Second High:		*	Jun 28	0.111	Jul 3	0.104
Third High:		*	Aug 24	0.109	Sep 23	0.103
Fourth High:		*	Jul 9	0.102	Jun 22	0.101
California:						
# Days Above the Standard:		*		15		15
California Designation Value:		*		0.12		0.12
Expected Peak Day Concentration:		*		*		*
National:						
# Days Above the Standard:		*		*0*		*0*
Nat'l Standard Design Value:		*		*0.109*		*0.104*
Year Coverage:		*		98		98

Notes:

Hourly ozone measurements and related statistics are available at Porterville-1839 Newcomb Street between 2010 and 2011. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics* .

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

at Visalia-N Church Street

	2009		2010		2011	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Aug 27	0.120	Aug 24	0.122	Sep 20	0.119
Second High:	Aug 18	0.117	Aug 25	0.111	May 28	0.111
Third High:	Aug 28	0.115	Sep 2	0.111	May 27	0.102
Fourth High:	Jun 27	0.114	Sep 30	0.110	May 14	0.099
California:						
# Days Above the Standard:		23		15		9
California Designation Value:		0.13		0.13		0.11
Expected Peak Day Concentration:		0.125		0.126		0.114
National:						
# Days Above the Standard:		*0*		*0*		*0*
Nat'l Standard Design Value:		*0.121*		*0.122*		*0.115*
Year Coverage:		100		100		95

Notes:

Hourly ozone measurements and related statistics are available at Visalia-N Church Street between 1979 and 2011. Some years in this range may not be represented.
All concentrations expressed in parts per million.
The national 1-hour ozone standard was revoked in June 2005 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics* .
An exceedance of a standard is not necessarily related to a violation of the standard.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Porterville-1839 Newcomb Street

	2009		2010		2011	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National:						
First High:		*	Aug 25	0.103	Jul 3	0.095
Second High:		*	Aug 24	0.094	Jun 21	0.093
Third High:		*	Jul 9	0.092	Jul 2	0.093
Fourth High:		*	Sep 28	0.091	Jun 22	0.092
California:						
First High:		*	Aug 25	0.104	Jul 3	0.096
Second High:		*	Aug 24	0.094	Jul 2	0.094
Third High:		*	Jul 9	0.092	Jun 21	0.093
Fourth High:		*	Sep 28	0.092	Jun 22	0.093
National:						
# Days Above the Standard:		*		43		47
Nat'l Standard Design Value:		*		*		*
National Year Coverage:		*		99		99
California:						
# Days Above the Standard:		*		75		82
California Designation Value:		*		0.104		0.104
Expected Peak Day Concentration:		*		*		*
California Year Coverage:		*		98		98

Notes:

Eight-hour ozone averages and related statistics are available at Porterville-1839 Newcomb Street between 2010 and 2011. Some years in this range may not be represented.

All averages expressed in parts per million.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Visalia-N Church Street

iADAM

	2009		2010		2011	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National:						
First High:	Jun 27	0.092	Aug 25	0.104	Jun 22	0.083
Second High:	Aug 27	0.092	Aug 24	0.098	Sep 21	0.081
Third High:	Sep 18	0.092	Sep 2	0.096	Sep 29	0.080
Fourth High:	Jul 17	0.091	Sep 28	0.096	May 5	0.079
California:						
First High:	Jun 27	0.093	Aug 25	0.104	Jun 22	0.084
Second High:	Aug 27	0.093	Aug 24	0.098	Sep 21	0.082
Third High:	Aug 28	0.092	Sep 2	0.097	May 5	0.080
Fourth High:	Sep 18	0.092	Sep 28	0.097	Jul 4	0.080
National:						
# Days Above the Standard:		48		34		17
Nat'l Standard Design Value:		0.094		0.097		0.088
National Year Coverage:		99		100		97
California:						
# Days Above the Standard:		68		57		33
California Designation Value:		0.110		0.110		0.098
Expected Peak Day Concentration:		0.110		0.112		0.101
California Year Coverage:		99		99		95

Notes:

Eight-hour ozone averages and related statistics are available at Visalia-N Church Street between 1979 and 2011. Some years in this range may not be represented.

All averages expressed in parts per million.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

ATTACHMENT B

PM_{10} and $PM_{2.5}$ Concentration Data

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

at Visalia-N Church Street

iADAM

	2009		2010		2011	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Oct 4	92.1	Sep 29	90.8	Sep 24	78.1
Second High:	Dec 3	87.1	Aug 24	71.3	Sep 30	72.6
Third High:	Oct 10	78.5	Nov 4	64.7	Sep 6	65.0
Fourth High:	Sep 28	75.8	Sep 17	62.3	Oct 24	61.2
California:						
First High:	Oct 4	93.2	Sep 29	88.3	Sep 24	76.6
Second High:	Dec 3	91.7	Aug 24	69.7	Sep 30	71.9
Third High:	Oct 10	78.3	Nov 4	65.5	Sep 6	64.2
Fourth High:	Nov 3	73.9	Nov 16	62.1	Oct 24	61.5
National:						
Estimated # Days > 24-Hour Std:		0.0		0.0		0.0
Measured # Days > 24-Hour Std:		0		0		0
3-Yr Avg Est # Days > 24-Hr Std:		0.0		0.0		0.0
Annual Average:		*41.8*		*33.8*		*33.4*
3-Year Average:		*44*		*41*		*36*
California:						
Estimated # Days > 24-Hour Std:		121.3		59.4		68.8
Measured # Days > 24-Hour Std:		20		10		11
Annual Average:		41.8		34.0		34.0
3-Year Maximum Annual Average:		47		47		42
Year Coverage:		100		100		96

Notes:

Daily PM10 averages and related statistics are available at Visalia-N Church Street between 1988 and 2011. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics* .

An exceedance of a standard is not necessarily related to a violation of the standard.

All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.

State and national statistics may differ for the following reasons:

- State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.
- State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

at Visalia-N Church Street

	2009		2010		2011	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Dec 3	63.5	Dec 4	59.8	Dec 29	73.2
Second High:	Jan 16	55.7	Dec 1	36.6	Dec 26	63.7
Third High:	Jan 13	53.9	Nov 13	36.3	Dec 11	50.7
Fourth High:	Jan 31	47.8	Dec 10	35.2	Dec 23	48.7
California:						
First High:	Dec 5	74.5	Dec 3	61.6	Dec 29	73.2
Second High:	Dec 4	70.8	Dec 4	59.8	Dec 30	72.1
Third High:	Dec 3	67.7	Nov 17	46.1	Dec 31	70.3
Fourth High:	Nov 11	59.7	Nov 14	43.5	Dec 26	63.7
National:						
Estimated # Days > 24-Hour Std:		23.9		8.9		27.9
Measured # Days > 24-Hour Std:		8		3		9
24-Hour Standard Design Value:		59		51		47
24-Hour Standard 98th Percentile:		53.9		36.3		50.7
Annual Standard Design Value:		18.8		16.5		15.2
Annual Average:		16.0		13.5		16.0
California:						
Annual Std Designation Value:		23		20		17
Annual Average:		16.6		13.6		16.1
Year Coverage:		100		100		96

Notes:

Daily PM2.5 averages and related statistics are available at Visalia-N Church Street between 1999 and 2011. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

An exceedance of a standard is not necessarily related to a violation of the standard.

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide |

ATTACHMENT C

SOx, NOx and CO Concentration Data

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

at Visalia-N Church Street

iADAM

	2009		2010		2011	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Nov 3	0.068	Oct 15	0.077	Oct 31	0.058
Second High:	Sep 8	0.066	Sep 27	0.067	Dec 29	0.057
Third High:	Nov 2	0.065	Aug 20	0.061	Oct 13	0.056
Fourth High:	Aug 27	0.062	Oct 13	0.060	Dec 28	0.053
California:						
# Days Above the Standard:		0		0		0
Annual Average:		0.015		0.013		0.012
Year Coverage:		100		99		92

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Visalia-N Church Street between 1979 and 2011. Some years in this range may not be represented.

All concentrations expressed in parts per million.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Carbon Monoxide Averages

at Fresno-1st Street

iADAM

	2009		2010		2011	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National:						
First High:	Jan 17	2.07	Nov 27	2.03	Dec 14	2.29
Second High:	Dec 21	2.04	Dec 8	2.01	Dec 25	2.23
Third High:	Jan 16	2.00	Nov 26	1.99	Dec 10	2.12
Fourth High:	Jan 7	1.94	Dec 7	1.98	Dec 4	2.12
California:						
First High:	Jan 17	2.07	Nov 27	2.03	Dec 13	2.29
Second High:	Dec 20	2.04	Dec 7	2.01	Dec 24	2.23
Third High:	Jan 15	2.00	Nov 25	1.99	Dec 10	2.12
Fourth High:	Jan 6	1.94	Dec 6	1.98	Dec 3	2.12
National:						
# Days Above the Standard:		0		0		0
California:						
# Days Above the Standard:		0		0		0
Expected Peak Day Concentration:		2.42		2.48		2.59
Year Coverage:		97		98		99

Notes:

Eight-hour carbon monoxide averages and related statistics are available at Fresno-1st Street between 1990 and 2011. Some years in this range may not be represented.

All averages expressed in parts per million.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum State 24-Hour Sulfur Dioxide Averages

at Fresno-1st Street

iADAM

	2009		2010		2011	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
First High:	Sep 18	0.005	Jul 5	0.004	Sep 29	0.004
Second High:	Sep 26	0.004	Aug 25	0.003	Sep 23	0.004
Third High:	Jun 28	0.004	Jun 28	0.003	Sep 19	0.003
Fourth High:	Sep 23	0.004	Sep 3	0.003	Sep 3	0.003
Annual Average:		0.001		0.000		0.000
Year Coverage:		99		98		99

Notes:

Hourly sulfur dioxide measurements and related statistics are available at Fresno-1st Street between 1990 and 2011. Some years in this range may not be represented.

All averages expressed in parts per million.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

ATTACHMENT D

Lead Concentration Data

Annual Toxics Summary

Fresno-1st Street

Lead

nanograms per cubic meter

Year	Months Present	Minimum	Median	Mean	90th Percentile	Maximum	Standard Deviation	Number of Observations	Detection Limit	Estimated Risk
2011	------------	0.75	3.9		7.1	9.2	2.25	24	1.5	
2010	------------	0.75	4.1		310	570	155	21	1.5	
2009	------------	0.75	4.1		7.4	14	3.12	33	1.5	
2008	------------	*	*		*	*	*	0	*	
2007	------------	1.7	6.3		12	26	5.68	16	1.5	
2006	------------	*	*		*	*	*	0	*	
2005	------------	*	*		*	*	*	0	*	
2004	------------	*	*		*	*	*	0	*	
2003	------------	1.5	*		*	13	3.90	7	3.0	
2002	------------	1.5	7.0		9.4	17	3.49	29	3.0	
2001	------------	2	6.0		11	16	3.93	32	4.0	
2000	------------	2	6.0		11	15	3.64	29	4.0	
1999	------------	2	5.0		10.2	17	3.97	25	4.0	
1998	------------	2	7.0		17.5	52	10.1	26	4.0	
1997	------------	2	6.0		13.1	22	4.80	30	4.0	
1996	------------	2	6.0		13.2	29	6.13	29	4.0	
1995	------------	2	6.0		13	31	6.28	31	4.0	
1994	------------	2	7.0		13	18	4.07	25	4.0	
1993	------------	2	12		30.2	32	9.08	29	4.0	
1992	------------	2	14		33	78	19.5	31	4.0	
1991	------------	6.0	22		62.6	80	20.4	25	4.0	
1990	------------	0.5	22		69.5	120	29.0	26	1.0	
1989	------------	*	*		*	*	*	0	*	

Graph It!

Notes: Values below the Limit of Detection (LoD) assumed to be ½ LoD.
Means and risks shown only for years with data in all 12 months.
"*" means there was insufficient or no data available to determine the value.

ATTACHMENT E

Project Emissions Calculations

- Emission Calculations
- CalEEMOD Output Files
- EMFAC2011 Output FIles

Emission Calculations

Project Construction Equipment and Employee Emissions - CalEEMod v2011.1.1

Unmitigated	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	CO2	CH4	N2O	CO2e
	tons/yr													
Construction Emissions 2013	0.70	4.64	3.29	0.01	0.04	0.30	0.34	0.01	0.30	0.31	508.51	0.06	0.00	509.70
Construction Emissions 2014	0.09	0.55	0.40	0.00	0.00	0.04	0.04	0.00	0.04	0.04	59.64	0.01	0.00	59.78

Mitigated	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	CO2	CH4	N2O	CO2e
	tons/yr													
Construction Emissions 2013	0.70	4.64	3.29	0.01	0.03	0.30	0.33	0.00	0.30	0.31	508.51	0.06	0.00	509.70
Construction Emissions 2014	0.09	0.55	0.40	0.00	0.00	0.04	0.04	0.00	0.04	0.04	59.64	0.01	0.00	59.78

Project Flare Emissions During Ramp-up Period

Daily Production Rate (MMBtu): 255.5
Ramp-Up Period: 6 monthes
Total Production Flared (MMBtu): 46628.75

	ROG	NOx	CO	SO2	PM10	PM2.5
Emission Rates (lbs/MMBtu)	0.06	0.07	0.37	0.00	0.01	0.01
Construction Emissions 2014	1.47	1.59	8.63	0.00	0.19	0.19

Total Project Construction Emissions

Unmitigated	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	CO2	CH4	N2O	CO2e
	tons/yr													
Construction Emissions 2013	0.70	4.64	3.29	0.01	0.04	0.30	0.34	0.01	0.30	0.31	508.51	0.06	0.00	509.70
Construction Emissions 2014	1.56	2.14	9.03	0.00	0.00	0.23	0.23	0.00	0.23	0.23	59.64	0.01	0.00	59.78

Mitigated	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	CO2	CH4	N2O	CO2e
	tons/yr													
Construction Emissions 2013	0.70	4.64	3.29	0.01	0.03	0.30	0.33	0.00	0.30	0.31	508.51	0.06	0.00	509.70
Construction Emissions 2014	1.56	2.14	9.03	0.00	0.00	0.23	0.23	0.00	0.23	0.23	59.64	0.01	0.00	59.78

Harvest Power - Project Increased Operational Emissions

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4*	N2O*	CO2
Onsite (tons/year)	0.16	1.20	0.70	0.00	0.07	0.07	119.47	0.01	0.00	119.71
Indirect (tons/year)	0.01	2.45	0.10	0.00	0.02	0.01	292.56	0.06	0.00	294.99
Fugitive Dust (tons/year)					0.29	0.03				
Stationary Source (tons/year)	35.60				0.01					
Total (tons/year)	**35.77**	**3.65**	**0.81**	**0.00**	**0.39**	**0.11**	**412.03**	**0.07**	**0.00**	**414.70**
Total (tons/day)	**0.11**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.32**	**0.00**	**0.00**	**1.32**
Total (tons/week)	**0.69**	**0.07**	**0.02**	**0.00**	**0.01**	**0.00**	**7.90**	**0.00**	**0.00**	**7.95**

Project Increased On-Site Equipment and Employee Emissions - CalEEMod v2011.1.1

Based on:

New Employees: 4
New Equipment: Crane and 2 loaders

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2e
On-Site Tons/year	0.14	0.99	0.60	0.00	0.07	0.07	98.24	0.01	0.00	98.48
Off-Site Tons/year	0.00	0.00	0.04	0.00	0.01	0.00	4.91	0.00	0.00	4.92
Tons/year	**0.15**	**0.99**	**0.64**	**0.00**	**0.08**	**0.07**	**103.15**	**0.01**	**0.00**	**103.40**

Project Increased Truck Emissions - EMFAC2011

Based on:

Vehicles/year:	10955	Vehicles/day:	35
Miles/Truck:	14.6	Miles/Truck:	14.6
Total miles travelled/year:	159,943	Total miles travelled/day:	511
Diesel Fuel Usage (4miles/gal):	39,986	Diesel Fuel Usage (4miles/gal):	128

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4*	N2O*	CO2e
Em. Factor (grams/mile, kg/gal*)	0.07	13.90	0.37	0.00	0.07	0.07	1631.53	1.40E-03	1.00E-04	
Lbs/Mile	1.50E-04	3.07E-02	8.09E-04	0.00E+00	1.58E-04	1.45E-04	3.60E+00			
Lbs/day	0.08	15.66	0.41	0.00	0.08	0.07	1838.02			
Lbs/Year	23.98	4902.78	129.43	0.00	25.25	23.23	575300.41			
Tons/year	**0.01**	**2.45**	**0.06**	**0.00**	**0.01**	**0.01**	**287.65**	**0.06**	**0.00**	**290.07**

Project Increased On-Site Truck Idle Emissions - EMFAC2011

Based on:

Vehicles/year:	10955	Vehicles/day:	35
Minutes/Truck:	15	Minutes/Truck:	15
Total Hours/year:	2,739	Total Hours/day:	9

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4*	N2O*	CO2e
Em. Factor (grams/hour)	6.29	69.15	33.35	0.07	0.33	0.31	7033.53			
Lbs/hour	1.39E-02	1.52E-01	7.35E-02	1.48E-04	7.31E-04	6.73E-04	1.55E+01			
Lbs/day	0.12	1.33	0.64	0.00	0.01	0.01	135.68			
Lbs/Year	37.95	417.52	201.38	0.41	2.00	1.84	42467.83			
Tons/year	**0.02**	**0.21**	**0.10**	**0.00**	**0.00**	**0.00**	**21.23**	**0.00**	**0.00**	**21.23**

Project Increased Unpaved Road Travel Fugitive Dust from Trucks Emissions

AP 42 Chapter 13, Section 13.2.2 Equation 1a and 2

Assumptions:
Surface Material Silt Content: 8.5% (From AP-42 Table 13.2.2-1)
Mean Vehicle Weight: 10 tons
Days with an average precipitation greater than 0.01 inches: 233 (From WRCC for Visalia)
Based on:

Vehicles/year:	10955	Vehicles/day:	35
Miles/Truck:	0.35	Miles/Truck:	0.35
Total miles travelled/year:	3,834	Total miles travelled/day:	12

	PM10	PM2.5
Em. Factor (lbs/VMT)	6.84E-01	6.84E-02
Lbs/day	1.83E+00	1.83E-01
Lbs/Year	572.55	57.26
Tons/year	**0.29**	**0.03**

*61% Control for water surpression 3 times daily
*44% Control for reducing speed to less than 15 mph

Project Increased Food and Green Waste Composting Emissions from Stockpiles

Based on:
Increased Yearly Tonage: 0
Number of Drop Points: 4

	VOC	NH3	PM10
Em. Factor (lbs/ton)	5.36	0.06	3.30E-04
Lbs/Year	0	0	0
Tons/year	**0.00**	**0.00**	**0.00**

Project Increased Food and Green Waste Composting Emissions from Windrows

Based on:
Increased Yearly Tonage: 0
Number of Drop Points: 2

	VOC	NH3	PM10
Em. Factor (lbs/ton)	4.27	1.44	3.30E-04
Lbs/Year	0	0	0
Tons/year	**0.00**	**0.00**	**0.00**

Project Increased Manure Composting Emissions from Windrows

Based on:
Increased Yearly Tonage: 40000
Number of Drop Points: 2

	VOC	NH3	PM10
Em. Factor (lbs/ton)	1.78	2.93	3.30E-04
Lbs/Year	71200	117200	26
Tons/year	**35.60**	**58.60**	**0.01**

Harvest Power - Baseline Emissions

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4*	N2O*	CO2
Onsite (tons/year)	1.37	9.60	6.21	0.01	0.65	0.65	896.94	0.13	0.00	905.47
Indirect (tons/year)	0.03	3.51	0.23	0.00	0.04	0.02	426.00	0.08	0.01	429.47
Fugitive Dust (tons/year)					0.41	0.04				
Area Source (tons/year)	0.01	0.00	0.00	0.00	0.00	0.00	5.74			
Stationary Source (tons/year)	768.94				0.16					
Total (tons/year)	**770.34**	**13.11**	**6.45**	**0.01**	**1.26**	**0.71**	**1328.68**	**0.21**	**0.01**	**1334.94**
Total (tons/day)	**2.46**	**0.04**	**0.02**	**0.00**	**0.00**	**0.00**	**4.24**	**0.00**	**0.00**	**4.26**
Total (tons/week)	**14.77**	**0.25**	**0.12**	**0.00**	**0.02**	**0.01**	**25.47**	**0.00**	**0.00**	**25.59**

Baseline On-Site Equipment and Employee Emissions - CalEEMod v2011.1.1

Based on:

Employees: 12

Equipment: 4 loaders, grinder, 2 power screens, windrow turner, windsifter, and tractor

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2e
On-Site Tons/year	1.34	9.30	6.07	0.01	0.65	0.65	866.61	0.11	0.00	868.90
Off-Site Tons/year	0.01	0.01	0.14	0.00	0.02	0.00	15.07	0.00	0.00	15.09
Tons/year	**1.36**	**9.32**	**6.20**	**0.01**	**0.67**	**0.65**	**881.67**	**0.11**	**0.00**	**883.99**

Baseline Truck Emissions - EMFAC2011

Based on:

Vehicles/year:	15650	Vehicles/day:	50
Miles/Truck:	14.6	Miles/Truck:	14.6
Total miles travelled/year:	228,490	Total miles travelled/day:	730
Diesel Fuel Usage (4miles/gal):	57,123	Diesel Fuel Usage (4miles/gal):	183

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4*	N2O*	CO2e
Em. Factor (grams/mile)	0.07	13.90	0.37	0.00	0.07	0.07	1631.53	1.40E-03	1.00E-04	
Lbs/Mile	1.50E-04	3.07E-02	8.09E-04	0.00E+00	1.58E-04	1.45E-04	3.60E+00			
Lbs/day	0.11	22.38	0.59	0.00	0.12	0.11	2625.74			
Lbs/Year	34.26	7003.97	184.90	0.00	36.07	33.19	821857.72			
Tons/year	**0.02**	**3.50**	**0.09**	**0.00**	**0.02**	**0.02**	**410.93**	**0.08**	**0.01**	**414.38**

Baseline On-Site Truck Idle Emissions - EMFAC2011

Based on:

Vehicles/year:	15650	Vehicles/day:	50
Minutes/Truck:	15	Minutes/Truck:	15
Total Hours/year:	3,913	Total Hours/day:	13

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4*	N2O*	CO2e
Em. Factor (grams/hour)	6.29	69.15	33.35	0.07	0.33	0.31	7033.53			
Lbs/hour	1.39E-02	1.52E-01	7.35E-02	1.48E-04	7.31E-04	6.73E-04	1.55E+01			
Lbs/day	0.17	1.91	0.92	0.00	0.01	0.01	193.83			
Lbs/Year	54.22	596.46	287.68	0.58	2.86	2.63	60668.32			
Tons/year	**0.03**	**0.30**	**0.14**	**0.00**	**0.00**	**0.00**	**30.33**	**0.00**	**0.00**	**30.33**

Baseline Unpaved Road Travel Fugitive Dust from Trucks Emissions

AP 42 Chapter 13, Section 13.2.2 Equation 1a and 2

Assumptions:
Surface Material Silt Content: 8.5% (From AP-42 Table 13.2.2-1)
Mean Vehicle Weight: 10 tons
Days with an average precipitation greater than 0.01 inches: 233 (From WRCC for Visalia)
Based on:

Vehicles/year:	15650	Vehicles/day:	50
Miles/Truck:	0.35	Miles/Truck:	0.35
Total miles travelled/year:	5,478	Total miles travelled/day:	18

	PM10	**PM2.5**
Em. Factor (lbs/VMT)	6.84E-01	6.84E-02
Lbs/day	2.61E+00	2.61E-01
Lbs/Year	817.93	81.79
Tons/year	**0.41**	**0.04**

*61% Control for water surpression 3 times daily
*44% Control for reducing speed to less than 15 mph

Baseline Food and Green Waste Composting Emissions from Stockpiles

Based on:
Increased Yearly Tonage: 156000
Number of Drop Points: 4

	VOC	**NH3**	**PM10**
Em. Factor (lbs/ton)	5.36	0.06	3.30E-04
Lbs/Year	836160	9360	206
Tons/year	**418.08**	**4.68**	**0.10**

Baseline Food and Green Waste Composting Emissions from Windrows

Based on:
Increased Yearly Tonage: 156000
Number of Drop Points: 2

	VOC	NH3	PM10
Em. Factor (lbs/ton)	4.27	1.44	3.30E-04
Lbs/Year	666120	224640	103
Tons/year	**333.06**	**112.32**	**0.05**

Baseline Manure Composting Emissions from Windrows

Based on:
Increased Yearly Tonage: 20000
Number of Drop Points: 2

	VOC	NH3	PM10
Em. Factor (lbs/ton)	1.78	2.93	3.30E-04
Lbs/Year	35600	58600	13
Tons/year	**17.80**	**29.30**	**0.01**

Baseline Office Area Source Emissions - CalEEMod v2011.1.1

Based on:
Office Size (sq. Feet) 1200

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4*	N2O*	CO2e
Tons/year	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**5.74**	**0.02**	**0.00**	**6.24**

Harvest Power - Post-Project Operational Emissions

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4*	N2O*	CO2
Onsite (tons/year)	1.53	10.80	6.91	0.01	0.72	0.72	1016.42	0.14	0.00	1025.19
Indirect (tons/year)	0.04	5.96	0.34	0.00	0.06	0.03	718.56	0.14	0.01	724.45
Fugitive Dust (tons/year)					0.70	0.07				
Area Source (tons/year)	0.01	0.00	0.00	0.00	0.00	0.00	5.74			
Stationary Source (tons/year)	804.54				0.17					
Total (tons/year)	**806.12**	**16.76**	**7.25**	**0.01**	**1.65**	**0.82**	**1740.72**	**0.28**	**0.01**	**1749.64**
Total (tons/day)	**2.58**	**0.05**	**0.02**	**0.00**	**0.01**	**0.00**	**5.56**	**0.00**	**0.00**	**5.59**
Total (tons/week)	**15.45**	**0.32**	**0.14**	**0.00**	**0.03**	**0.02**	**33.37**	**0.01**	**0.00**	**33.54**

Pose-Project On-Site Equipment and Employee Emissions - CalEEMod v2011.1.1

Based on:

Employees: 16

Equipment: 6 loaders, grinder, 2 power screens, windrow turner, windsifter, tractor, and crane

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2e
On-Site Tons/year	1.48	10.29	6.67	0.01	0.72	0.72	964.85	0.12	0.00	967.38
Off-Site Tons/year	0.01	0.01	0.18	0.00	0.03	0.00	19.98	0.00	0.00	20.01
Tons/year	**1.51**	**10.31**	**6.84**	**0.01**	**0.75**	**0.72**	**984.82**	**0.12**	**0.00**	**987.39**

Post-Project Truck Emissions - EMFAC2011

Based on:

Vehicles/year:	26605	Vehicles/day:	85
Miles/Truck:	14.6	Miles/Truck:	14.6
Total miles travelled/year:	388,433	Total miles travelled/day:	1,241
Diesel Fuel Usage (4miles/gal):	97,108	Diesel Fuel Usage (4miles/gal):	310

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4*	N2O*	CO2e
Em. Factor (grams/mile)	0.07	13.90	0.37	0.00	0.07	0.07	1631.53	1.40E-03	1.00E-04	
Lbs/Mile	1.50E-04	3.07E-02	8.09E-04	0.00E+00	1.58E-04	1.45E-04	3.60E+00			
Lbs/day	0.19	38.04	1.00	0.00	0.20	0.18	4463.76			
Lbs/Year	58.24	11906.75	314.33	0.00	61.32	56.42	1397158.13			
Tons/year	**0.03**	**5.95**	**0.16**	**0.00**	**0.03**	**0.03**	**698.58**	**0.14**	**0.01**	**704.44**

Post-Project On-Site Truck Idle Emissions - EMFAC2011

Based on:

Vehicles/year:	26605	Vehicles/day:	85
Minutes/Truck:	15	Minutes/Truck:	15
Total Hours/year:	6,651	Total Hours/day:	21

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4*	N2O*	CO2e
Em. Factor (grams/hour)	6.29	69.15	33.35	0.07	0.33	0.31	7033.53			
Lbs/hour	1.39E-02	1.52E-01	7.35E-02	1.48E-04	7.31E-04	6.73E-04	1.55E+01			
Lbs/day	0.29	3.24	1.56	0.00	0.02	0.01	329.51			
Lbs/Year	92.17	1013.99	489.06	0.98	4.86	4.48	103136.15			
Tons/year	**0.05**	**0.51**	**0.24**	**0.00**	**0.00**	**0.00**	**51.57**	**0.00**	**0.00**	**51.57**

Post-Project Unpaved Road Travel Fugitive Dust from Trucks Emissions

AP 42 Chapter 13, Section 13.2.2 Equation 1a and 2

Assumptions:
Surface Material Silt Content: 8.5% (From AP-42 Table 13.2.2-1)
Mean Vehicle Weight: 10 tons
Days with an average precipitation greater than 0.01 inches: 233 (From WRCC for Visalia)
Based on:

Vehicles/year:	26605	Vehicles/day:	85
Miles/Truck:	0.35	Miles/Truck:	0.35
Total miles travelled/year:	9,312	Total miles travelled/day:	30

	PM10	PM2.5
Em. Factor (lbs/VMT)	6.84E-01	6.84E-02
Lbs/day	4.44E+00	4.44E-01
Lbs/Year	1390.48	139.05
Tons/year	**0.70**	**0.07**

*61% Control for water surpression 3 times daily
*44% Control for reducing speed to less than 15 mph

Post-Project Food and Green Waste Composting Emissions from Stockpiles

Based on:

Increased Yearly Tonage:	156000
Number of Drop Points:	4

	VOC	NH3	PM10
Em. Factor (lbs/ton)	5.36	0.06	3.30E-04
Lbs/Year	836160	9360	206
Tons/year	**418.08**	**4.68**	**0.10**

Post-Project Food and Green Waste Composting Emissions from Windrows

Based on:
Increased Yearly Tonage: 156000
Number of Drop Points: 2

	VOC	NH3	PM10
Em. Factor (lbs/ton)	4.27	1.44	3.30E-04
Lbs/Year	666120	224640	103
Tons/year	**333.06**	**112.32**	**0.05**

Post-Project Manure Composting Emissions from Windrows

Based on:
Increased Yearly Tonage: 60000
Number of Drop Points: 2

	VOC	NH3	PM10
Em. Factor (lbs/ton)	1.78	2.93	3.30E-04
Lbs/Year	106800	175800	40
Tons/year	**53.40**	**87.90**	**0.02**

Post-Project Office Area Source Emissions - CalEEMod v2011.1.1

Based on:
Office Size (sq. Feet) 1200

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4*	N2O*	CO2e
Tons/year	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**5.74**	**0.02**	**0.00**	**6.24**

CalEEMod Output Files

Harvest Power Construction

Tulare County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	35	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	7	**Precipitation Freq (Days)**	51		

1.3 User Entered Comments

Project Characteristics -

Land Use - Actual Acreage of Project Site

Construction Phase - Anticipated construction schedule using th SJVAPCD timeline calculator and the anticipated start and end dates.

Grading - Anticipated actual acres disturbed

Trips and VMT - Defaults were zero and since that can't be correct assumed numbers were entered.

Construction Off-road Equipment Mitigation -

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					
2013	0.70	4.64	3.29	0.01	0.04	0.30	0.34	0.01	0.30	0.31			508.51	0.06	0.00	509.70
2014	0.09	0.55	0.40	0.00	0.00	0.04	0.04	0.00	0.04	0.04			59.64	0.01	0.00	59.78
Total	0.79	5.19	3.69	0.01	0.04	0.34	0.38	0.01	0.34	0.35			568.15	0.07	0.00	569.48

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					
2013	0.70	4.64	3.29	0.01	0.03	0.30	0.33	0.00	0.30	0.31			508.51	0.06	0.00	509.70
2014	0.09	0.55	0.40	0.00	0.00	0.04	0.04	0.00	0.04	0.04			59.64	0.01	0.00	59.78
Total	0.79	5.19	3.69	0.01	0.03	0.34	0.37	0.00	0.34	0.35			568.15	0.07	0.00	569.48

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	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Mobile	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
Waste						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	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

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	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Mobile	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
Waste						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	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

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2013

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					0.01	0.00	0.01	0.01	0.00	0.01			0.00	0.00	0.00	0.00
Off-Road	0.02	0.15	0.08	0.00		0.01	0.01		0.01	0.01			14.77	0.00	0.00	14.80
Total	0.02	0.15	0.08	0.00	0.01	0.01	0.02	0.01	0.01	0.02			14.77	0.00	0.00	14.80

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.24	0.00	0.00	0.24
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.24	0.00	0.00	0.24

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					0.00	0.00	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00
Off-Road	0.02	0.15	0.08	0.00		0.01	0.01		0.01	0.01			14.77	0.00	0.00	14.80
Total	0.02	0.15	0.08	0.00	0.00	0.01	0.01	0.00	0.01	0.01			14.77	0.00	0.00	14.80

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.24	0.00	0.00	0.24
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.24	0.00	0.00	0.24

3.3 Building Construction - 2013

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					
Off-Road	0.67	4.47	3.02	0.01		0.29	0.29		0.29	0.29			472.73	0.05	0.00	473.87
Total	0.67	4.47	3.02	0.01		0.29	0.29		0.29	0.29			472.73	0.05	0.00	473.87

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	0.00	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
Vendor	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
Worker	0.02	0.02	0.19	0.00	0.03	0.00	0.03	0.00	0.00	0.00			20.76	0.00	0.00	20.79
Total	0.02	0.02	0.19	0.00	0.03	0.00	0.03	0.00	0.00	0.00			20.76	0.00	0.00	20.79

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					
Off-Road	0.67	4.47	3.02	0.01		0.29	0.29		0.29	0.29			472.73	0.05	0.00	473.87
Total	0.67	4.47	3.02	0.01		0.29	0.29		0.29	0.29			472.73	0.05	0.00	473.87

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	0.00	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
Vendor	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
Worker	0.02	0.02	0.19	0.00	0.03	0.00	0.03	0.00	0.00	0.00			20.76	0.00	0.00	20.79
Total	**0.02**	**0.02**	**0.19**	**0.00**	**0.03**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**			**20.76**	**0.00**	**0.00**	**20.79**

3.3 Building Construction - 2014

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					
Off-Road	0.05	0.37	0.27	0.00		0.02	0.02		0.02	0.02			42.14	0.00	0.00	42.24
Total	**0.05**	**0.37**	**0.27**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**			**42.14**	**0.00**	**0.00**	**42.24**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00			1.81	0.00	0.00	1.81
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**			**1.81**	**0.00**	**0.00**	**1.81**

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					
Off-Road	0.05	0.37	0.27	0.00		0.02	0.02		0.02	0.02			42.14	0.00	0.00	42.24
Total	**0.05**	**0.37**	**0.27**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**			**42.14**	**0.00**	**0.00**	**42.24**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00			1.81	0.00	0.00	1.81
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**			**1.81**	**0.00**	**0.00**	**1.81**

3.4 Paving - 2014

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					
Off-Road	0.03	0.16	0.10	0.00		0.01	0.01		0.01	0.01			13.23	0.00	0.00	13.28
Paving	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	**0.03**	**0.16**	**0.10**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**			**13.23**	**0.00**	**0.00**	**13.28**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.59	0.00	0.00	0.59
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**			**0.59**	**0.00**	**0.00**	**0.59**

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					
Off-Road	0.03	0.16	0.10	0.00		0.01	0.01		0.01	0.01			13.23	0.00	0.00	13.28
Paving	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	**0.03**	**0.16**	**0.10**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**			**13.23**	**0.00**	**0.00**	**13.28**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.59	0.00	0.00	0.59
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**			**0.59**	**0.00**	**0.00**	**0.59**

3.5 Architectural Coating - 2014

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					
Archit. Coating	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Off-Road	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00			1.28	0.00	0.00	1.28
Total	**0.00**	**0.01**	**0.01**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**			**1.28**	**0.00**	**0.00**	**1.28**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.59	0.00	0.00	0.59
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**			**0.59**	**0.00**	**0.00**	**0.59**

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					
Archit. Coating	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Off-Road	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00			1.28	0.00	0.00	1.28
Total	**0.00**	**0.01**	**0.01**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**			**1.28**	**0.00**	**0.00**	**1.28**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.59	0.00	0.00	0.59
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**			**0.59**	**0.00**	**0.00**	**0.59**

4.0 Mobile Detail

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	0.00	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
Unmitigated	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
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %		
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
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00

5.0 Energy Detail

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						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Electricity Unmitigated						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	tons/yr										MT/yr					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**			**0.00**	**0.00**	**0.00**	**0.00**

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	tons/yr										MT/yr					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**			**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

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	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**			**0.00**	**0.00**	**0.00**	**0.00**

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	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**			**0.00**	**0.00**	**0.00**	**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	NA	NA	NA	NA	NA	NA	NA	NA

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
User Defined Industrial	0 / 0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
User Defined Industrial	0 / 0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	NA	NA	NA	NA	NA	NA	NA	NA

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

9.0 Vegetation

Harvest Power Baseline Equipment

Tulare County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	35	User Defined Unit

1.2 Other Project Characteristics

Urbanization Urban

Wind Speed (m/s) 2.2

Utility Company Pacific Gas & Electric Company

Climate Zone 7

Precipitation Freq (Days) 51

1.3 User Entered Comments

Project Characteristics -

Land Use - Actual Acreage of Project Site

Construction Phase - Anticipated construction schedule using th SJVAPCD timeline calculator and the anticipated start and end dates.

Off-road Equipment - Anticipated equipment and working hours

Trips and VMT - Anticipated number of new employees.

Grading - Anticipated actual acres disturbed

Construction Off-road Equipment Mitigation -

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					
2013	1.36	9.32	6.20	0.01	0.02	0.65	0.67	0.00	0.65	0.65			881.67	0.11	0.00	883.99
Total	1.36	9.32	6.20	0.01	0.02	0.65	0.67	0.00	0.65	0.65			881.67	0.11	0.00	883.99

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					
2013	1.36	9.32	6.20	0.01	0.02	0.65	0.67	0.00	0.65	0.65			881.67	0.11	0.00	883.99
Total	1.36	9.32	6.20	0.01	0.02	0.65	0.67	0.00	0.65	0.65			881.67	0.11	0.00	883.99

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	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Mobile	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
Waste						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	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

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	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Mobile	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
Waste						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	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

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Building Construction - 2013

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					
Off-Road	1.34	9.30	6.07	0.01		0.65	0.65		0.65	0.65			866.61	0.11	0.00	868.90
Total	1.34	9.30	6.07	0.01		0.65	0.65		0.65	0.65			866.61	0.11	0.00	868.90

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	0.00	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
Vendor	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
Worker	0.01	0.01	0.14	0.00	0.02	0.00	0.02	0.00	0.00	0.00			15.07	0.00	0.00	15.09
Total	0.01	0.01	0.14	0.00	0.02	0.00	0.02	0.00	0.00	0.00			15.07	0.00	0.00	15.09

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					
Off-Road	1.34	9.30	6.07	0.01		0.65	0.65		0.65	0.65			866.61	0.11	0.00	868.90
Total	1.34	9.30	6.07	0.01		0.65	0.65		0.65	0.65			866.61	0.11	0.00	868.90

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	0.00	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
Vendor	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
Worker	0.01	0.01	0.14	0.00	0.02	0.00	0.02	0.00	0.00	0.00			15.07	0.00	0.00	15.09
Total	0.01	0.01	0.14	0.00	0.02	0.00	0.02	0.00	0.00	0.00			15.07	0.00	0.00	15.09

4.0 Mobile Detail

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	0.00	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
Unmitigated	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
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %		
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
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00

5.0 Energy Detail

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						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Electricity Unmitigated						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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	tons/yr										MT/yr					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00

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	tons/yr										MT/yr					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

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	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00

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	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	NA	NA	NA	NA	NA	NA	NA	NA

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
User Defined Industrial	0 / 0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
User Defined Industrial	0 / 0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	NA	NA	NA	NA	NA	NA	NA	NA

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

9.0 Vegetation

CalEEMod Version: CalEEMod.2011.1.1

Date: 10/12/2012

Harvest Power Operational Equipment

Tulare County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	35	User Defined Unit

1.2 Other Project Characteristics

Urbanization Urban

Climate Zone 7

Wind Speed (m/s) 2.2

Precipitation Freq (Days) 51

Utility Company Pacific Gas & Electric Company

1.3 User Entered Comments

Project Characteristics -

Land Use - Actual Acreage of Project Site

Construction Phase - Operational Schedule.

Off-road Equipment - Anticipated equipment and working hours

Trips and VMT - Anticipated number of new employees.

Construction Off-road Equipment Mitigation -

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					
2014	0.15	0.99	0.64	0.00	0.01	0.07	0.08	0.00	0.07	0.07			103.15	0.01	0.00	103.40
Total	0.15	0.99	0.64	0.00	0.01	0.07	0.08	0.00	0.07	0.07			103.15	0.01	0.00	103.40

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					
2014	0.15	0.99	0.64	0.00	0.01	0.07	0.08	0.00	0.07	0.07			103.15	0.01	0.00	103.40
Total	0.15	0.99	0.64	0.00	0.01	0.07	0.08	0.00	0.07	0.07			103.15	0.01	0.00	103.40

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	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Mobile	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
Waste						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	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

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	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Mobile	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
Waste						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	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

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Building Construction - 2014

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					
Off-Road	0.14	0.99	0.60	0.00		0.07	0.07		0.07	0.07			98.24	0.01	0.00	98.48
Total	0.14	0.99	0.60	0.00		0.07	0.07		0.07	0.07			98.24	0.01	0.00	98.48

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00			4.91	0.00	0.00	4.92
Total	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00			4.91	0.00	0.00	4.92

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					
Off-Road	0.14	0.99	0.60	0.00		0.07	0.07		0.07	0.07			98.24	0.01	0.00	98.48
Total	0.14	0.99	0.60	0.00		0.07	0.07		0.07	0.07			98.24	0.01	0.00	98.48

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00			4.91	0.00	0.00	4.92
Total	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00			4.91	0.00	0.00	4.92

4.0 Mobile Detail

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	0.00	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
Unmitigated	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
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %		
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
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00

5.0 Energy Detail

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						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Electricity Unmitigated						0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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	tons/yr										MT/yr					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00

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	tons/yr										MT/yr					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

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	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00

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	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	NA	NA	NA	NA	NA	NA	NA	NA

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
User Defined Industrial	0 / 0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
User Defined Industrial	0 / 0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	NA	NA	NA	NA	NA	NA	NA	NA

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

9.0 Vegetation

Harvest Power Area Source

Tulare County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Office Building	1.2	1000sqft

1.2 Other Project Characteristics

Urbanization Urban

Climate Zone 7

Wind Speed (m/s) 2.2

Precipitation Freq (Days) 51

Utility Company Pacific Gas & Electric Company

1.3 User Entered Comments

Project Characteristics -

Land Use - Actual Acreage of Project Site

Construction Phase -

Off-road Equipment - No Construction

Trips and VMT - No Construction

Grading - Anticipated actual acres disturbed

Construction Off-road Equipment Mitigation -

Vehicle Trips - Employees Emissions were calculated with baseline equipment model

Area Mitigation -

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					
2011	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
Total	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

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					
2011	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
Total	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

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	0.01	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			5.04	0.00	0.00	5.07
Mobile	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
Waste						0.00	0.00		0.00	0.00			0.23	0.01	0.00	0.51
Water						0.00	0.00		0.00	0.00			0.47	0.01	0.00	0.66
Total	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			5.74	0.02	0.00	6.24

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	0.01	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			5.04	0.00	0.00	5.07
Mobile	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
Waste						0.00	0.00		0.00	0.00			0.23	0.01	0.00	0.51
Water						0.00	0.00		0.00	0.00			0.47	0.01	0.00	0.66
Total	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			5.74	0.02	0.00	6.24

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Building Construction - 2011

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			
Off-Road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00

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	0.00	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
Vendor	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
Worker	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
Total	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

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			
Off-Road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00

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	0.00	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
Vendor	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
Worker	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
Total	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

4.0 Mobile Detail

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	0.00	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
Unmitigated	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
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %		
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
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00

5.0 Energy Detail

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						0.00	0.00		0.00	0.00			3.88	0.00	0.00	3.91
Electricity Unmitigated						0.00	0.00		0.00	0.00			3.88	0.00	0.00	3.91
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			1.15	0.00	0.00	1.16
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			1.15	0.00	0.00	1.16
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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	tons/yr										MT/yr					
General Office Building	21636	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			1.15	0.00	0.00	1.16
Total		0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			1.15	0.00	0.00	1.16

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	tons/yr										MT/yr					
General Office Building	21636	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			1.15	0.00	0.00	1.16
Total		0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			1.15	0.00	0.00	1.16

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
General Office Building	13344					3.88	0.00	0.00	3.91
Total						3.88	0.00	0.00	3.91

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
General Office Building	13344					3.88	0.00	0.00	3.91
Total						3.88	0.00	0.00	3.91

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	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	0.01	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Unmitigated	0.01	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00

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	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00			0.00	0.00	0.00	0.00

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					0.47	0.01	0.00	0.66
Unmitigated					0.47	0.01	0.00	0.66
Total	NA	NA	NA	NA	NA	NA	NA	NA

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
General Office Building	0.213281 / 0.13072					0.47	0.01	0.00	0.66
Total						0.47	0.01	0.00	0.66

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
General Office Building	0.213281 / 0.13072					0.47	0.01	0.00	0.66
Total						0.47	0.01	0.00	0.66

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					0.23	0.01	0.00	0.51
Unmitigated					0.23	0.01	0.00	0.51
Total	NA	NA	NA	NA	NA	NA	NA	NA

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
General Office Building	1.12					0.23	0.01	0.00	0.51
Total						0.23	0.01	0.00	0.51

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
General Office Building	1.12					0.23	0.01	0.00	0.51
Total						0.23	0.01	0.00	0.51

9.0 Vegetation

EMFAC2011 Output Files

EMFAC 2011
2014 Estimated Annual Emission Rates
EMFAC 2011 Vehicle Categories
Tulare COUNTY
San Joaquin Valley AIR BASIN
San Joaquin Valley Unified APCD

Area	CalYr	Season	Veh	Fuel	MdlYr	Speed (Miles/hr)	ROG_RUNE (gms/mile)	NOX_RUNE (gms/mile)	CO_RUNEX (gms/mile)	SOX_RUNE (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RU (gms/mile)	CO2_RUNEX (gms/mile)
Tulare (SJV	2014	Annual	T7 Public	DSL	AllMYr	55	0.068008	13.9041	0.367059	0	0.071607	0.065879	1631.531
Tulare (SJV	2014	Annual	T7 Public	DSL	AllMYr	15	0.373093	21.32771	1.094547	0	0.16165	0.148718	2811.259
Tulare (SJV	2015	Annual	T7 Public	DSL	AllMYr	idle	6.28586	69.15056	33.3524	0.067103	0.331745	0.305206	7033.531

ATTACHMENT F

<u>Ambient Air Quality Modeling Files</u>

- Summary Results
- AERMOD Files (Electronic)

AAQA for Harvest (1)
All Values are in ug/m^3

	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	PM10 24 Hour	PM10 Annual	PM2.5 24 Hour	PM2.5 Annual
SLINE1	1.70E+01	1.36E-02	4.97E-01	6.12E-02	0.00E+00	0.00E+00	4.32E+00	6.99E-01	4.40E-01	7.13E-02
STCK1	1.05E+00	3.84E-02	1.12E+00	2.79E-01	3.62E-03	2.00E-03	6.42E-04	2.83E-04	5.90E-04	2.60E-04
AREA1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.74E-02	1.32E-02	2.74E-02	1.32E-02
STCK2	4.65E+00	9.27E-01	1.08E+01	5.90E+00	0.00E+00	0.00E+00	7.07E-02	1.80E-02	6.19E-02	1.57E-02
Background	1.16E+02	1.85E+01	3.09E+03	2.29E+03	1.92E+01	1.92E+01	7.10E+01	4.78E+01	5.40E+01	2.25E+01
Facility Totals	138.39	19	3104	2296	19	19	75	49	55	23
AAQS	188.68	100	23000	10000	196	1300	50	20	35	12
	Pass	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Fail**	**Fail**	**Fail**	**Fail**

District and EPA's Significance Level (ug/m^3)

NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	PM10 24 Hour	PM10 Annual	PM2.5 24 Hour	PM2.5 Annual
0	1	2000	500	0	25	10.4	2.08	2.5	0.63
						Pass	Pass	Pass	Pass

AAQA Emission (g/sec)

Device	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	PM10 24 Hour	PM10 Annual	PM2.5 24 Hour	PM2.5 Annual
AREA1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.74E-04	3.74E-04	3.74E-04	3.74E-04
SLine1	2.59E-03	2.59E-03	1.33E-04	1.33E-04	0.00E+00	0.00E+00	8.25E-03	8.25E-03	8.41E-04	8.41E-04
STCK1	6.00E-03	6.00E-03	2.90E-03	2.90E-03	5.90E-06	5.90E-06	2.88E-05	2.88E-05	2.65E-05	2.65E-05
STCK2	2.85E-02	2.85E-02	1.84E-02	1.84E-02	0.00E+00	0.00E+00	2.30E-03	2.30E-03	2.01E-03	2.01E-03

ATTACHMENT G

Health Risk Assessment Modeling Files

- HARP Files (Electronic)
- AERMOD Files (Electronic)

FILE: c:\HARP\projects\demo\Rep_PMI.txt

EXCEPTION REPORT
(there have been no changes or exceptions)

RECEPTORS WITH HIGHEST CANCER RISK

REC	TYPE	CANCER	CHRONIC	ACUTE	UTME	UTMN	ZONE
5	GRID	7.76E-06	3.76E-02	3.80E-01	296645	4011905	11
18	GRID	4.01E-06	1.28E-02	1.64E-01	296955	4011568	11
19	GRID	3.91E-06	1.45E-02	1.91E-01	296948	4011673	11
17	GRID	3.49E-06	1.13E-02	1.41E-01	296903	4011463	11
20	GRID	2.89E-06	1.53E-02	3.06E-01	296945	4011856	11
4	GRID	2.03E-06	1.87E-02	1.92E-01	296344	4012431	11
3	GRID	1.83E-06	1.58E-02	2.02E-01	296419	4012427	11
15	GRID	1.67E-06	1.14E-02	1.17E-01	295138	4012806	11
2	GRID	1.63E-06	1.42E-02	2.16E-01	296462	4012420	11
1	GRID	1.33E-06	1.18E-02	2.31E-01	296517	4012420	11
21	GRID	5.60E-07	3.75E-03	2.80E-01	297136	4012323	11
6	GRID	4.90E-07	7.81E-03	3.98E-01	296122	4011444	11
12	GRID	3.85E-07	2.15E-03	2.02E-01	295192	4011763	11
16	GRID	3.84E-07	1.89E-03	9.41E-02	297009	4012939	11
7	GRID	3.09E-07	2.81E-03	1.20E-01	295508	4011447	11
8	GRID	3.08E-07	2.44E-03	1.20E-01	295321	4011450	11
9	GRID	2.97E-07	2.02E-03	1.10E-01	295217	4011447	11
10	GRID	2.87E-07	1.76E-03	1.14E-01	295159	4011452	11
11	GRID	2.68E-07	1.49E-03	1.16E-01	295049	4011453	11
13	GRID	2.45E-07	1.26E-03	1.17E-01	294901	4011448	11
14	GRID	2.28E-07	9.44E-04	1.23E-01	294746	4011470	11

RECEPTORS WITH HIGHEST CHRONIC HI

REC	TYPE	CANCER	CHRONIC	ACUTE	UTME	UTMN	ZONE
5	GRID	7.76E-06	3.76E-02	3.80E-01	296645	4011905	11
4	GRID	2.03E-06	1.87E-02	1.92E-01	296344	4012431	11
3	GRID	1.83E-06	1.58E-02	2.02E-01	296419	4012427	11
20	GRID	2.89E-06	1.53E-02	3.06E-01	296945	4011856	11
19	GRID	3.91E-06	1.45E-02	1.91E-01	296948	4011673	11
2	GRID	1.63E-06	1.42E-02	2.16E-01	296462	4012420	11
18	GRID	4.01E-06	1.28E-02	1.64E-01	296955	4011568	11
1	GRID	1.33E-06	1.18E-02	2.31E-01	296517	4012420	11
15	GRID	1.67E-06	1.14E-02	1.17E-01	295138	4012806	11
17	GRID	3.49E-06	1.13E-02	1.41E-01	296903	4011463	11
6	GRID	4.90E-07	7.81E-03	3.98E-01	296122	4011444	11
21	GRID	5.60E-07	3.75E-03	2.80E-01	297136	4012323	11
7	GRID	3.09E-07	2.81E-03	1.20E-01	295508	4011447	11
8	GRID	3.08E-07	2.44E-03	1.20E-01	295321	4011450	11
12	GRID	3.85E-07	2.15E-03	2.02E-01	295192	4011763	11
9	GRID	2.97E-07	2.02E-03	1.10E-01	295217	4011447	11
16	GRID	3.84E-07	1.89E-03	9.41E-02	297009	4012939	11
10	GRID	2.87E-07	1.76E-03	1.14E-01	295159	4011452	11
11	GRID	2.68E-07	1.49E-03	1.16E-01	295049	4011453	11
13	GRID	2.45E-07	1.26E-03	1.17E-01	294901	4011448	11
14	GRID	2.28E-07	9.44E-04	1.23E-01	294746	4011470	11

RECEPTORS WITH HIGHEST ACUTE HI

REC	TYPE	CANCER	CHRONIC	ACUTE	UTME	UTMN	ZONE
6	GRID	4.90E-07	7.81E-03	3.98E-01	296122	4011444	11
5	GRID	7.76E-06	3.76E-02	3.80E-01	296645	4011905	11
20	GRID	2.89E-06	1.53E-02	3.06E-01	296945	4011856	11
21	GRID	5.60E-07	3.75E-03	2.80E-01	297136	4012323	11
1	GRID	1.33E-06	1.18E-02	2.31E-01	296517	4012420	11
2	GRID	1.63E-06	1.42E-02	2.16E-01	296462	4012420	11
3	GRID	1.83E-06	1.58E-02	2.02E-01	296419	4012427	11

12	GRID	3.85E-07	2.15E-03	2.02E-01	295192	4011763	11
4	GRID	2.03E-06	1.87E-02	1.92E-01	296344	4012431	11
19	GRID	3.91E-06	1.45E-02	1.91E-01	296948	4011673	11
18	GRID	4.01E-06	1.28E-02	1.64E-01	296955	4011568	11
17	GRID	3.49E-06	1.13E-02	1.41E-01	296903	4011463	11
14	GRID	2.28E-07	9.44E-04	1.23E-01	294746	4011470	11
8	GRID	3.08E-07	2.44E-03	1.20E-01	295321	4011450	11
7	GRID	3.09E-07	2.81E-03	1.20E-01	295508	4011447	11
13	GRID	2.45E-07	1.26E-03	1.17E-01	294901	4011448	11
15	GRID	1.67E-06	1.14E-02	1.17E-01	295138	4012806	11
11	GRID	2.68E-07	1.49E-03	1.16E-01	295049	4011453	11
10	GRID	2.87E-07	1.76E-03	1.14E-01	295159	4011452	11
9	GRID	2.97E-07	2.02E-03	1.10E-01	295217	4011447	11
16	GRID	3.84E-07	1.89E-03	9.41E-02	297009	4012939	11

ATTACHMENT H

California Air Resources Board 2008 Estimated Annual Average Emissions
- San Joaquin Valley Air Basin

ALMANAC EMISSION PROJECTION DATA (PUBLISHED IN 2009)

2008 Estimated Annual Average Emissions

SAN JOAQUIN VALLEY AIR BASIN

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.
See detailed information.
Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5
FUEL COMBUSTION	36.1	11.1	36.3	57.9	12.8	7.4	6.9	6.7
WASTE DISPOSAL	285.7	2.6	0.5	0.2	0.1	0.4	0.1	0.1
CLEANING AND SURFACE COATINGS	17.7	15.3	0.0	0.0	-	0.1	0.1	0.1
PETROLEUM PRODUCTION AND MARKETING	134.5	36.1	1.1	0.4	0.2	0.2	0.2	0.1
INDUSTRIAL PROCESSES	20.6	18.6	4.0	21.4	7.0	29.2	17.8	10.4
*** TOTAL STATIONARY SOURCES**	**494.6**	**83.7**	**41.8**	**80.0**	**20.1**	**37.4**	**25.1**	**17.5**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
SOLVENT EVAPORATION	63.7	58.9	-	-	-	-	-	-
MISCELLANEOUS PROCESSES	900.1	90.6	268.4	17.9	1.1	471.2	250.9	67.7
*** TOTAL AREAWIDE SOURCES**	**963.7**	**149.5**	**268.4**	**17.9**	**1.1**	**471.2**	**250.9**	**67.7**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
ON-ROAD MOTOR VEHICLES	87.0	79.2	705.6	330.0	0.7	14.7	14.6	11.8
OTHER MOBILE SOURCES	62.9	56.9	336.5	138.2	1.2	9.3	9.1	8.3
*** TOTAL MOBILE SOURCES**	**149.9**	**136.1**	**1042.1**	**468.2**	**1.9**	**24.0**	**23.7**	**20.2**
NATURAL (NON-ANTHROPOGENIC) SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
NATURAL SOURCES	265.9	235.2	347.5	10.6	3.3	36.6	35.2	29.8
*** TOTAL NATURAL (NON-ANTHROPOGENIC) SOURCES**	**265.9**	**235.2**	**347.5**	**10.6**	**3.3**	**36.6**	**35.2**	**29.8**
GRAND TOTAL FOR SAN JOAQUIN VALLEY AIR BASIN	**1874.0**	**604.5**	**1699.7**	**576.7**	**26.3**	**569.1**	**334.9**	**135.2**

Start a new query.

ATTACHMENT I

California Air Resources Board 2008 Estimated Annual Average Emissions
- Tulare County

ALMANAC EMISSION PROJECTION DATA (PUBLISHED IN 2009)

2008 Estimated Annual Average Emissions

TULARE COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.
See detailed information.
Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5
FUEL COMBUSTION	0.9	0.4	2.4	4.3	0.4	0.4	0.3	0.3
WASTE DISPOSAL	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0
CLEANING AND SURFACE COATINGS	1.3	1.1	-	-	-	0.0	0.0	0.0
PETROLEUM PRODUCTION AND MARKETING	6.6	0.6	0.0	0.0	-	0.0	0.0	-
INDUSTRIAL PROCESSES	1.4	1.4	0.0	0.1	0.1	5.1	3.6	2.7
*** TOTAL STATIONARY SOURCES**	**10.2**	**3.5**	**2.5**	**4.5**	**0.5**	**5.5**	**3.9**	**3.1**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
SOLVENT EVAPORATION	7.5	6.8	-	-	-	-	-	-
MISCELLANEOUS PROCESSES	201.0	18.7	41.1	2.4	0.2	51.4	29.2	9.2
*** TOTAL AREAWIDE SOURCES**	**208.5**	**25.5**	**41.1**	**2.4**	**0.2**	**51.4**	**29.2**	**9.2**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
ON-ROAD MOTOR VEHICLES	10.0	9.2	81.3	24.9	0.1	1.0	1.0	0.8
OTHER MOBILE SOURCES	7.8	7.1	35.6	14.9	0.1	0.9	0.9	0.8
*** TOTAL MOBILE SOURCES**	**17.7**	**16.3**	**116.9**	**39.8**	**0.1**	**1.9**	**1.9**	**1.6**
NATURAL (NON-ANTHROPOGENIC) SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
NATURAL SOURCES	97.8	82.1	295.8	9.0	2.8	31.1	29.9	25.4
*** TOTAL NATURAL (NON-ANTHROPOGENIC) SOURCES**	**97.8**	**82.1**	**295.8**	**9.0**	**2.8**	**31.1**	**29.9**	**25.4**
GRAND TOTAL FOR TULARE COUNTY	**334.3**	**127.4**	**456.3**	**55.6**	**3.6**	**89.9**	**64.9**	**39.3**

Start a new query.

ATTACHMENT J

California Air Resources Board 2020 Forecasted Annual Average Emissions
- San Joaquin Valley Air Basin

ALMANAC EMISSION PROJECTION DATA (PUBLISHED IN 2009)

2020 Estimated Annual Average Emissions

SAN JOAQUIN VALLEY AIR BASIN

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5
FUEL COMBUSTION	35.0	9.5	37.7	49.8	15.4	8.1	7.4	7.0
WASTE DISPOSAL	343.6	3.2	0.6	0.3	0.1	0.5	0.2	0.1
CLEANING AND SURFACE COATINGS	22.4	19.3	0.0	0.0	-	0.2	0.2	0.2
PETROLEUM PRODUCTION AND MARKETING	141.1	33.8	1.2	0.5	0.2	0.2	0.2	0.2
INDUSTRIAL PROCESSES	23.6	21.3	4.3	24.2	8.5	32.8	20.0	11.9
*** TOTAL STATIONARY SOURCES**	**565.8**	**87.0**	**43.8**	**74.8**	**24.3**	**41.8**	**27.9**	**19.4**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
SOLVENT EVAPORATION	70.2	64.4	-	-	-	-	-	-
MISCELLANEOUS PROCESSES	1111.1	106.3	268.4	17.1	1.1	502.5	265.8	69.6
*** TOTAL AREAWIDE SOURCES**	**1181.2**	**170.7**	**268.4**	**17.1**	**1.1**	**502.5**	**265.8**	**69.6**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
ON-ROAD MOTOR VEHICLES	45.2	41.3	330.8	140.4	0.9	9.9	9.8	6.9
OTHER MOBILE SOURCES	49.9	45.7	345.2	83.3	1.6	6.5	6.3	5.6
*** TOTAL MOBILE SOURCES**	**95.1**	**87.0**	**676.0**	**223.7**	**2.5**	**16.5**	**16.1**	**12.5**
NATURAL (NON-ANTHROPOGENIC) SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
NATURAL SOURCES	265.9	235.2	347.5	10.6	3.3	36.6	35.2	29.8
*** TOTAL NATURAL (NON-ANTHROPOGENIC) SOURCES**	**265.9**	**235.2**	**347.5**	**10.6**	**3.3**	**36.6**	**35.2**	**29.8**
GRAND TOTAL FOR SAN JOAQUIN VALLEY AIR BASIN	**2108.0**	**579.9**	**1335.8**	**326.2**	**31.1**	**597.3**	**344.9**	**131.4**

Start a new query.

ATTACHMENT K

California Air Resources Board 2020 Forecasted Annual Average Emissions
- Tulare County

ALMANAC EMISSION PROJECTION DATA (PUBLISHED IN 2009)

2020 Estimated Annual Average Emissions

TULARE COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5
FUEL COMBUSTION	0.7	0.2	2.2	2.4	0.4	0.3	0.3	0.3
WASTE DISPOSAL	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0
CLEANING AND SURFACE COATINGS	1.6	1.4	-	-	-	0.0	0.0	0.0
PETROLEUM PRODUCTION AND MARKETING	7.1	0.7	0.0	0.0	-	0.0	0.0	-
INDUSTRIAL PROCESSES	1.7	1.6	0.0	0.2	0.1	6.0	4.3	3.4
*** TOTAL STATIONARY SOURCES**	**11.2**	**4.0**	**2.3**	**2.6**	**0.6**	**6.3**	**4.6**	**3.7**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
SOLVENT EVAPORATION	8.2	7.4	-	-	-	-	-	-
MISCELLANEOUS PROCESSES	260.9	23.4	41.6	2.4	0.2	56.2	31.7	9.9
*** TOTAL AREAWIDE SOURCES**	**269.1**	**30.8**	**41.6**	**2.4**	**0.2**	**56.2**	**31.7**	**9.9**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
ON-ROAD MOTOR VEHICLES	5.1	4.7	35.5	11.0	0.1	0.8	0.8	0.6
OTHER MOBILE SOURCES	6.8	6.2	37.6	9.0	0.1	0.5	0.5	0.4
*** TOTAL MOBILE SOURCES**	**11.9**	**11.0**	**73.1**	**20.0**	**0.1**	**1.4**	**1.3**	**1.0**
NATURAL (NON-ANTHROPOGENIC) SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
NATURAL SOURCES	97.8	82.1	295.8	9.0	2.8	31.1	29.9	25.4
*** TOTAL NATURAL (NON-ANTHROPOGENIC) SOURCES**	**97.8**	**82.1**	**295.8**	**9.0**	**2.8**	**31.1**	**29.9**	**25.4**
GRAND TOTAL FOR TULARE COUNTY	**389.9**	**127.9**	**412.8**	**34.0**	**3.7**	**95.0**	**67.5**	**39.9**

Start a new query.