



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



APR 29 2014

Mark Van Fossen
Tulare County Capital Projects & Facilities
5953 S Mooney Avenue
Visalia, CA 93277-9394

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: S-8429
Project Number: S-1134795

Dear Mr. Van Fossen:

Enclosed for your review and comment is the District's analysis of Tulare County Capital Projects & Facilities's application for an Authority to Construct for the operation of a thermal soil desorption operation, at 1494 South Airport Road in Pixley.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice period, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Kris Rickards of Permit Services at (661) 392- 5611.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:KTR/st

Enclosures

cc: Mike Tollstrup, CARB (w/ enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Soil Remediation (Thermal Desorption) Operation

Facility Name: Tulare County Capital Projects and Facilities (Harmon Field) Date: April 14, 2014
Mailing: 5953 S Mooney Avenue Engineer: Kris Rickards
Address: Visalia, CA 93277-9394 Lead Engineer: Rich Karrs
Contact Person: Jeff Moore (Contractor) Jim Babcock (Arcadis) Mark Van Fossen
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Application #(s): S-8429-1-0 and '-2-0
Project #: S-1134795
Deemed Complete: March 17, 2014

I. Proposal

Tulare County Capital Projects and Facilities (TCCP&F) has requested an Authority to Construct to operate a soil remediation project at the former Harmon Field, which is owned by Tulare County. The airport has been in operation since 1951 and leased to several crop dusting operators and the Tulare County Mosquito Abatement District. The airport has been closed and vacant since 1994.

Soil and asphalt/concrete testing at the Harmon Field have shown significant contamination by multiple chemicals including DDT and Toxaphene. The site has been designated a California Superfund Site and remediation of the contaminated areas has been ordered by the Department of Toxic Substances Control (DTSC). No groundwater contamination was detected at the site.

To clean up the site, TCCP&F has enlisted the environmental consulting/engineering firm ARCADIS who has employed Pacific States Environmental Contractors, Inc. to perform the remediation work.

Cleanup will involve the excavation of soil and asphalt/pavement. Soil will undergo low temperature thermal desorption (LTTD), testing, and backfilling. Asphalt will be transported to an excavated area on site, buried, and entombed with a concrete cap. The project will be limited to 12 hours per day (1 hour each of startup and shutdown with a 10 hour day) and 63 days of operation (proposed by Pacific States Environmental Contractors, Inc.), which includes a 10% buffer for delays and equipment failure.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4202	Particulate Matter – Emission Rate (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4309	Dryers, Dehydrators, and Ovens (12/15/05)
Rule 4651	Soil Decontamination Operations (9/20/07)
Rule 4701	Stationary Internal Combustion Engines – Phase 1 (8/21/03)
Rule 4702	Internal Combustion Engines – Phase 2 (11/14/13)
Rule 4801	Sulfur Compounds (12/17/92)
Rule 8011	General Requirements (8/19/04)
Rule 8021	Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities (8/19/04)
Rule 8041	Carryout and Trackout (8/19/04)
Rule 8051	Open Areas (8/19/04)
Rule 8061	Paved and Unpaved Roads (8/19/04)
Rule 8071	Unpaved Vehicle/Equipment Traffic Areas (8/19/04)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice
40 CFR Part 89	Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines
Title 13 CCR, Section 2423	– Exhaust Emission Standards and Test Procedures, Off-Road Compression-Ignition Engines and Equipment
Title 17 CCR, Section 93115	- Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines
Public Resources Code 21000-21177:	California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387:	CEQA Guidelines

III. Project Location

The equipment will be operated at the Harmon Field at 1494 South Airport Road in Pixley, CA (see Aerial Maps in Appendix A). The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

This process begins with the excavation of contaminated soil, asphalt, and concrete. The asphalt and concrete will be buried in a trench onsite and entombed with a concrete cap per the remediation action plan filed with the DTSC. Contaminated soil will be unloaded into

staging piles near the dryer and covered with plastic sheeting. From the piles, soil will be moved via frontend loader to a trammel screen and attached conveyor that will transfer material to the feed bin where it is then unloaded onto the weigh conveyor and transported to the dryer.

The process of removing contaminants from the soil is low temperature thermal desorption (LTTD). In LTTD, the soil is heated at a rate of up to 50 tons/hr in a PUC gas-fired rotary drum dryer to approximately 600° F, a temperature at which all identified contaminants will evaporate (see boiling point analysis in Appendix C). Vapors are vented from the dryer to a bag house and then to a thermal oxidizer where supplemental natural gas is combusted with a long residence time to destroy at least 95% of the vaporized contaminant before it is released to atmosphere. The baghouse also serves the discharge and dust augers (fully enclosed and connected to the dryer and baghouse) and dryer conveyor belt.

Soil exiting the dryer is routed by enclosed auger to a soil conditioner that increases the moisture content of the soil to approximately 4% by weight. Soil is then deposited on a radial stacker and staked in uncovered piles.

Decontaminated soil will be tested daily before it is backfilled to ensure it meets approved levels required by the DTSC.

See process diagrams in Appendix B.

V. Equipment Listing

S-8429-1-0: TRANSPORTABLE THERMAL DESORPTION SOIL REMEDIATION OPERATION INCLUDING FRONT END LOADED/UNLOADED EXCAVATED MATERIAL, DRYER CONVEYOR BELT, 49.3 MMBTU/HR ROTARY DRUM DRYER WITH A NATURAL GAS FIRED HAUCK MODEL SJPL1260E BURNER SERVED BY A NATURAL GAS FIRED 96.8 MMBTU/HR TARMAC MODEL T259-OX1015 THERMAL OXIDIZER, DISCHARGE AND DUST AUGERS ALL SERVED BY A TARMAC MODEL P-57X14 DUST COLLECTOR, FEED BIN WITH AUGER, WEIGH CONVEYOR BELT, SOIL CONDITIONER, SANDVIK MODEL QA340 MOBILE SCREENER POWERED BY PERMIT EXEMPT IC ENGINE, AND AN EDGE MODEL RTS80 MOBILE RADIAL STACKER POWERED BY A PERMIT EXEMPT IC ENGINE

Note: The engines powering the screener and radial stacker also power the tracks, which allows this equipment to propel itself under its own power; therefore these engines are exempt per Rule 2020 §4.3 since they are considered motor vehicles per Vehicle Code §415. Only emissions from the screening and stacking processes will be considered.

S-8429-2-0: TRANSPORTABLE NON-ROAD 1,372 BHP (CONTINUOUS) CATERPILLAR MODEL XQ1000 TIER 2 CERTIFIED DIESEL-FIRED IC ENGINE POWERING AN ELECTRICAL GENERATOR

VI. Emission Control Technology Evaluation

Rotary Drum Dryer (S-8429-1):

The temperature of the soil is increased from ambient to 600F using a 49.3 MMBtu/hr PUC gas-fired burner. When heated, the contaminants in the soil are volatilized. The primary purpose of the rotary drum dryer is to volatilize the contaminants that are trapped within the soil. Therefore, it will be assumed that the rotary drum dryer will have no control of the VOC emissions from this operation.

Baghouse (S-8429-1):

Dryer gasses are vented to the baghouse. The bags capture the finer particulate from the air stream with an expected control efficiency of PM₁₀ exceeding 99%.

Thermal Oxidizer (S-8429-1):

During thermal oxidation, the temperature of the process stream is increased to 1600 F with the use of a 96.8 MMBtu/hr PUC gas-fired burner. The heated gases from the dryer are turbulently mixed with oxygen and retained for a minimum of 2 seconds in the combustion chamber to ensure maximum VOC incineration. The thermal oxidizer will operate with a destruction efficiency of at least 95%. The following conditions will be added to the permit to assure the thermal oxidizer is operated properly.

Transfer Points (S-8429-1):

Contaminated soil transfer points from the point soil is excavated to the time it's transferred into the dryer it will have an approximate moisture content of 10-12% by weight.

From the point soil leaves the soil conditioner (the next point in this process where uncontrolled transfer of soil occurs after being transferred to the feed bin) to the point it's transferred back into the ground will have an approximate moisture content of 4% by weight.

IC Engine (S-8429-2):

The applicant has proposed to install a Tier 2 certified diesel-fired IC engine that is fired on very low-sulfur diesel fuel (0.0015% by weight sulfur maximum). The use of very low-sulfur diesel fuel (0.0015% by weight sulfur maximum) reduces SO_x emissions by over 99% from standard diesel fuel.

The proposed engine meets the Tier 2 Certification requirements (the latest engine available¹ and applicable Tier rating for the engine size and year of manufacture); therefore, the engine meets the latest ARB/EPA emissions standards for diesel particulate matter, hydrocarbons, nitrogen oxides, and carbon monoxide.

¹ Interim Tier 4 was required for new engines as of 2011 but is not available as a rental engine for this project from engine rental companies in the timeframe required (FYI 324, see project file for correspondence).

VII. General Calculations

A. Assumptions

General:

- Potential to emit is calculated based on 12 hours/day and a 63 day cumulative project life (756 total hours)
- Soil is transferred through this process at a maximum rate of 400 tons/day and 50 tons/hr (per applicant)

Excavation, Soil Transfer, and Storage:

- Contaminated piles will be covered with plastic sheeting (applicant proposed)
- Contaminated soil has an average moisture content of 10-12% by weight (typical District assumption; see projects N-980483, N-1011470, and S-1043477)
- Soil conditioner (pug mill) discharges soil at a target moisture content of 4% by weight (applicant proposed)
- Decontaminated piles contain soil at an average moisture content of 4% by weight (soil will be moved from piles to trucks for distribution within 24 hours of being piled and is not expected to have the opportunity to dry out once it has left the soil conditioner)
- Mean wind speed is 7 mph (average worst case, annual average wind speed from NOAA Satellite and Information Service = 6.4 mph)
- Decontaminated piles are limited to 0.344 acres (applicant proposed)

Dryer/Oxidizer:

- Dryer and thermal oxidizer are fired solely on PUC gas (per applicant)
- EPA F-factor for natural gas is 8,578 dscf/MMBtu (40 CFR 60, Appendix B)
- Molar Specific Volume of a gas @ 60 °F is 379.5 ft³/lb-mol
- Natural Gas Heating Value: 1,000 Btu/scf (District Practice)
- Oxidizer retention time: 2 seconds (per applicant)
- Maximum influent flow rate: 30,000 cfm (per applicant)
- Control efficiency of thermal oxidizer: 95% VOC (per applicant and District BACT requirement: 95%)
- All detected VOCs are assumed to be present at maximum detected levels in all soil throughput

Baghouse:

- Control efficiency of the baghouse: 99% PM₁₀ (typical control efficiency for baghouse and District BACT)
- PM₁₀ is emitted at 0.004 gr/dscf (per applicant and within the typical range for a baghouse)

IC Engine Powering the Electrical Generator:

- The engine has certified NO_x + VOC emissions of 4.8 g/bhp-hr. It will be assumed the NO_x + VOC emission factor is split 95% NO_x and 5% VOC (per the District's Carl Moyer program).

B. Emission Factors

Dryer and Desorber (S-8429-1):

PUC Gas Combustion Emission Factors			
	ppmvd @ 19% O ₂	lb/MMBtu	Source
NO _x	4.3*	0.0492	Rule 4309 Limit
SO _x	-	0.00285	District Policy APR 1720
PM ₁₀	-	0.0076	AP-42 (07/98) Table 1.4-2
PM _{2.5}	-	0.0076**	AP-42 (07/98) Table 1.4-2
CO	42*	0.2924	Rule 4309 Limit
VOC	-	0.0055	AP-42 (07/98) Table 1.4-2
CO ₂ e	-	116.67	ARB GHG Emission Factor for Natural Gas

*Applicant proposed 4.65 ppmv NO_x and 2.18 ppmv CO @ 15% (0.0171 and 0.0049 lb/MMBtu); however, Rule 4309 allows 4.3 ppmv NO_x and 42 ppmv CO @ 19% O₂, which allows for operational flexibility.

**According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 µm in diameter.

Volatilization and Oxidation of Soil Contaminants (S-8429-1):

Pursuant to the applicant, the thermal oxidizer will provide at least 95% control. The VOC emission factor for the soil remediation operation can be calculated using the following formula:

$$\text{Controlled VOC EF} = \text{Max Detection (mg/kg)} \times 2.205 \times 10^{-6} \text{ (lb/mg)} \times 907.18 \text{ (kg/ton)} \times (1 - \text{Control Efficiency})$$

The maximum soil contaminant concentrations, as shown by the soil analysis performed at the site, and resultant VOC emission factors are listed as follows:

Contaminant	Maximum Detection (mg/kg)	Controlled VOC Emission Factor (lb/ton)
Benoyml	0.96	0.000096
α-BHC	1.3	0.00013
β-BHC	0.55	0.000055
γ-BHC	2.9	0.00029
2,4-D (2,4-Dichlorophenoxyacetic acid)	0.34	0.000034
ΣDDT	1,860	0.186
DEF (tributylphosphorotrithiolate)	0.035	0.0000035
Dicamba	0.018	0.0000018
Dieldrin	0.42	0.000042
Dinoseb	190	0.019
Disulfoton	4.7	0.00047
Diuron	0.99	0.000099
ΣEndosulfan	0.34	0.000034
ΣEndrin	530	0.053
Ethion	0.16	0.000016
Methoxychlor	6.5	0.00065
Ethyl Parathion	0.091	0.0000091
Toxaphene	3,400	0.34
Total =		0.60

Dust Collector (S-8429-1):

The dust collector emits PM_{10} at a rate of 0.004 gr/dscf (per applicant and within the typical range of dust collectors).

Soil Transfer Emissions (S-8429-1):

From the point soil is excavated to the time it's transferred into the dryer it will have an approximate moisture content of 10-12% by weight (negligible emissions will result from these transfer activities) and be subject to the following transfer points:

- Front end Loader to Truck
- Truck to pile
- Pile to screening unit
- Screening unit to feed bin
- Feed bin to weigh conveyor
- Weigh conveyor to dryer conveyor belt

From the point soil leaves the soil conditioner (the next point in this process where uncontrolled transfer of soil occurs after being transferred to the feed bin) to the point it's transferred back into the ground will have an approximate moisture content of 4% by weight (target moisture content from the pug mill, per applicant) and be subject to the following transfer points:

- Soil conditioner to radial stacker
- Radial stacker to piles
- Front end loader to truck
- Truck to ground

These emissions will be calculated using AP-42, Section 13.2.4 (aggregate handling and storage piles) and assuming the moisture content of the process material is relatively homogeneous as follows:

$$E = k(0.0032) \times (U/5)^{1.3} / (M/2)^{1.4}$$

Where;

E = Emission factor (lb/ton)

k = particle size multiplier (dimensionless) = 0.35 (for particles <10 microns)

U = mean wind speed (mph) = 6.4

M = material moisture content (%) = 4

$$\text{Emission Factor} = \frac{0.35(0.0032) \left(\frac{6.4}{5}\right)^{1.3}}{\left(\frac{4}{2}\right)^{1.4}} = 0.00058 \frac{\text{lb} \cdot PM_{10}}{\text{ton}}$$

Since this emission factor applies to each transfer point it is multiplied by 4 transfer points and results in: 0.0023 lb- PM_{10} /ton

Stored Decontaminated Soil (S-8429-1):

Fugitive dust from wind erosion of the decontaminated soil stored in piles is calculated using the AP-42 Section 13.2.5 uncontrolled factor²: 0.00382 lb-PM₁₀/1,000 ft²/day or 0.1666 lb-PM₁₀/acre/day

0.344 acres (0.1666 lb-PM₁₀/acre/day) = 0.00 lb/day and 0 lb/year (at 63 days); therefore, wind erosion of the decontaminated piles will not contribute to the daily or annual emissions from this operation when pile acreage is limited to 0.344 acres at all times.

Diesel-fired IC Engine Powering the Electrical Generator (S-8429-2):

For the diesel-fired IC engine powering the electrical generator (the only IC engine that is not permit exempt), the emissions factors for NO_x, CO, VOC, and PM₁₀ are certified CARB factors for the horsepower range and Tier rating of the engine. The SO_x emission factor is calculated using the sulfur content in the diesel fuel (0.0015% sulfur).

IC Engine Emission Factors		
Pollutant	Emission Factor	Source
NO _x	4.56 g/bhp-hr	ARB/EPA Certification
SO _x	0.0051 g/bhp-hr	Mass Balance Equation Below*
PM ₁₀	0.15 g/bhp-hr	ARB/EPA Certification
CO	2.6 g/bhp-hr	ARB/EPA Certification
VOC	0.24 g/bhp-hr	ARB/EPA Certification
CO ₂ e	161.71 lb/MMBtu	ARB GHG Emission Factor for Combustion of California Low-Sulfur Diesel

$$\begin{aligned}
 & \frac{0.000015 \text{ lb-S}}{\text{lb-fuel}} \times \frac{7.1 \text{ lb-fuel}}{\text{gallon}} \times \frac{2 \text{ lb-SO}_2}{1 \text{ lb-S}} \times \frac{1 \text{ gal}}{137,000 \text{ Btu}} \times \frac{1 \text{ bhp input}}{0.35 \text{ bhp out}} \times \frac{2,542.5 \text{ Btu}}{\text{bhp-hr}} \times \frac{453.6 \text{ g}}{\text{lb}} = 0.0051 \frac{\text{g-SO}_x}{\text{bhp-hr}}
 \end{aligned}$$

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since this is a new emissions unit, PE1 = 0 for all pollutants.

2. Post Project Potential to Emit (PE2)

The potential to emit for equipment proposed for this operation is calculated in the following tables and equations.

² Emission Factor based on:

- Threshold Friction Velocity: 0.54 (Worse case, Fine Coal dust on concrete pad)
- Wind Speed: 12.0 mph, per District Regulation 8 for District Rule Development
- Conical pile with typical Us/Ur distribution

Dryer and Desorber (S-8429-1):

Pollutant	Daily Dryer and Thermal Oxidizer Combined Emissions			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.049	146.1	12	86.3
SO _x	0.00285	146.1	12	5.0
PM ₁₀	0.008	146.1	12	13.3
CO	0.292	146.1	12	512.6
VOC	0.0055	146.1	12	9.6

Pollutant	Annual Dryer and Thermal Oxidizer Combined Emissions			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.049	146.1	756	5,434
SO _x	0.00285	146.1	756	315
PM ₁₀	0.008	146.1	756	839
CO	0.292	146.1	756	32,296
VOC	0.0055	146.1	756	607
CO _{2e}	116.67	146.1	756	12,886,388

Volatilization and Oxidation of Soil Contaminants (S-8429-1):

VOCs from uncombusted contaminants from the oxidizer:

$$\begin{aligned}
 0.60 \text{ lb-VOC/ton (400 tons/day)} &= 240 \text{ lb-VOC/day} \\
 0.60 \text{ lb-VOC/ton (400 tons/day) 63 days} &= 15,120 \text{ lb-VOC/year}
 \end{aligned}$$

Dust Collector (S-8429-1):

Controlled baghouse emissions from:

$$\begin{aligned}
 \text{Daily PE1} &= \text{PM}_{10} \text{ Concentration} \times \text{minutes per day} \times \text{exhaust flowrate} \\
 &= 0.004 \text{ gr/dscf} \times 720 \text{ min/day} \times 27,790 \text{ dscf/min} \times \text{lb/7000 gr} \\
 &= 11.4 \text{ lb-PM}_{10}/\text{day}
 \end{aligned}$$

$$\begin{aligned}
 \text{Annual PE1} &= \text{PM}_{10} \text{ Concentration} \times \text{minutes per day} \times 63 \text{ days} \times \text{exhaust flowrate} \\
 &= 0.004 \text{ gr/dscf} \times 720 \text{ min/day} \times 63 \text{ days} \times 27,790 \text{ dscf/min} \times \text{lb/7000 gr} \\
 &= 720 \text{ lb-PM}_{10}/\text{year}
 \end{aligned}$$

Stored Contaminated Soil:

Wind erosion from contaminated piles is mitigated through the use of plastic sheeting. No emissions are expected from this operation.

Soil Transfer Emissions (S-8429-1):

There will be negligible emissions from the 6 pre-dryer transfer points as discussed previously.

At a maximum rate of 400 tons/day and 63 days of soil handling, the following daily and annual potential emissions from the 4 post soil conditioner transfer points are calculated as:

$$PE2_{Daily} = \frac{400 \text{ tons}}{\text{day}} \left(\frac{0.0023 \text{ lb} \cdot PM_{10}}{\text{ton}} \right) = 0.9 \frac{\text{lb} \cdot PM_{10}}{\text{day}}$$

$$PE2_{Annual} = \frac{400 \text{ tons}}{\text{day}} \left(\frac{63 \text{ days}}{\text{year}} \right) \frac{0.0023 \text{ lb} \cdot PM_{10}}{\text{ton}} = 58 \frac{\text{lb} \cdot PM_{10}}{\text{year}}$$

Stored Decontaminated Soil (S-8429-1):

0.344 acres (0.1666 lb-PM₁₀/acre/day) = 0.0 lb/day and 0 lb/year (at 63 days); therefore, wind erosion of the decontaminated piles will not contribute to the daily or annual emissions from this operation when pile acreage is limited to 0.344 acres at all times.

Diesel-fired IC Engine Powering the Electrical Generator (S-8429-2):

IC Engine Emissions						
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Daily Hours of Operation (hrs/day)	Annual Hours of Operation (hrs/yr)	Daily PE2 (lb/day)	Annual PE2 (lb/yr)
NO _x	4.56	1,372	12	756	165.5	10,427
SO _x	0.0051	1,372	12	756	0.2	12
PM ₁₀	0.15	1,372	12	756	5.4	343
CO	2.6	1,372	12	756	94.4	5,945
VOC	0.24	1,372	12	756	8.7	549

CO₂e emissions are calculated using the ARB GHG emission factor for combustion of California low-sulfur diesel, 161.71 lb-CO₂e/MMBtu, and a maximum operating time of 756 hours as follows:

$$\left(\frac{1,372 \text{ bhp out}}{\text{engine}} \right) \frac{1 \text{ bhp in}}{0.35 \text{ bhp out}} \left(\frac{756 \text{ hrs}}{\text{year}} \right) \frac{\text{MMBtu}}{393.24 \text{ bhp} \cdot \text{hr}} \left(\frac{161.71 \text{ lb} \cdot \text{CO}_2\text{e}}{\text{MMBtu}} \right) = 1,218,673 \frac{\text{lb} \cdot \text{CO}_2\text{e}}{\text{year}}$$

$$= 609 \frac{\text{short tons} \cdot \text{CO}_2\text{e}}{\text{year}}$$

Total emissions from this operation are summarized in the following table:

S-8429-1 PE2		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	86.3	5,434
SO _x	5.0	315
PM ₁₀	25.6	1,617
CO	512.6	32,296
VOC	249.6	15,977
CO ₂ e	NA	12,886,388

S-8429-2 PE2		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	165.5	10,427
SO _x	0.2	12
PM ₁₀	5.4	343
CO	94.4	5,945
VOC	8.7	549
CO ₂ e	NA	1,218,673

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

Since this is a new facility, there are no valid ATCs, PTOs, or ERCs at the Stationary Source; therefore, the SSPE1 is equal to zero.

4. Post Project Stationary Source Potential to Emit (SSPE2)

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

SSPE2 (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
S-8429-1-0	5,434	315	1,617	32,296	15,977
S-8429-2-0	10,427	12	343	5,945	549
SSPE2	15,861	327	1,960	38,241	16,526

5. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

Rule 2201 Major Source Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
Facility emissions pre-project	0	0	0	0	0
Facility emissions – post project	15,861	327	1,960	38,241	16,526
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No

As seen in the previous table, the facility is not an existing Major Source and is not becoming a Major Source as a result of this project.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant and 100,000 tpy for CO₂e.

PSD Major Source Determination (tons/year)							
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀	CO ₂ e
Estimated Facility PE before Project Increase	0	0	0	0	0	0	0
PSD Major Source Thresholds	250	250	250	250	250	250	100,000*
PSD Major Source ? (Y/N)	N	N	N	N	N	N	N

*It is assumed that total mass GHG emissions will also be greater than 250 tpy. For facilities with significant emissions of N₂O, CH₄, HFC, PFC or SF₆, this assumption may not hold.

As shown above, the facility is not an existing PSD major source for any regulated NSR pollutant expected to be emitted at this facility.

6. Baseline Emissions (BE)

The BE calculation (in lbs/year) is performed pollutant-by-pollutant for each unit within the project to calculate the QNEC, and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201. Since these are new emissions units, BE = PE1 = 0 for all pollutants.

7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

Since this facility is not a major source for any of the pollutants addressed in this project, this project does not constitute an SB 288 major modification.

8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

Since this facility is not a Major Source for any pollutants, this project does not constitute a Federal Major Modification. Additionally, since the facility is not a major source for PM₁₀ (140,000 lb/year), it is not a major source for PM_{2.5} (200,000 lb/year).

9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀
- Greenhouse gases (GHG): CO₂, N₂O, and CH₄

The first step of this PSD applicability determination consists of determining whether the facility is or is not an existing PSD Major Source (See Section VII.C.5 of this document).

If the facility is an existing PSD Major Source, the second step to determine PSD applicability is to determine if the project results in a significant increase and if so, also a significant net emissions increase for any PSD pollutant.

If the facility is an existing source but not an existing PSD Major Source, the second step to determine PSD applicability is to determine if the project, by itself, would be a PSD Major Source. If so, then the project must be evaluated to determine if the emissions increase of any PSD pollutant will result in a significant increase and if so, also a significant net emissions increase.

If the facility is new source, the second step to determine PSD applicability is to determine if this new facility is a new PSD Major Source as a result of the project. If so, then the project must be evaluated to determine if the emissions increase of any PSD pollutant will result in a significant emissions increase and if so, also a significant net emissions increase.

I. Project Emissions Increase - New Major Source Determination

The post-project potentials to emit from all new and modified units are compared to the PSD major source thresholds to determine if the project constitutes a new major source subject to PSD requirements.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant and 100,000 tpy for CO₂e.

PSD Major Source Determination: Potential to Emit (tons/year)							
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀	CO ₂ e
Total PE from New and Modified Units	8	8	0	19	<250*	1	7,053
PSD Major Source threshold	250	250	250	250	250	250	100,000
New PSD Major Source?	N	N	N	N	N	N	N

*According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 µm in diameter. Non combustion PM from the transfer of decontaminated soil and wind erosion from stacked material is expected to be significantly less than the 250 short ton threshold.

As shown in the table above, the potential to emit for the project, by itself, does not exceed any PSD major source threshold. Therefore Rule 2410 is not applicable and no further analysis is required.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New emissions units – PE > 2 lb/day

As seen in Section VII.C.2 above, the applicant is proposing to operate a transportable thermal soil desorber (dryer, baghouse, and thermal oxidizer) with a PE greater than 2 lb/day for NO_x, SO_x, PM₁₀, CO, and VOC and a transportable diesel-fired IC engine with a PE greater than 2 lb/day for NO_x, PM₁₀, CO, and VOC. BACT is triggered for NO_x, SO_x, PM₁₀, and VOC for the thermal soil desorber and NO_x, PM₁₀, and VOC for the diesel-fired IC engine only since the PEs are greater than 2 lbs/day. However BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lbs/year, as demonstrated in Section VII.C.5 above.

b. Relocation of emissions units – PE > 2 lb/day

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered.

c. Modification of emissions units – AIPE > 2 lb/day

As discussed in Section I above, there are no modified emissions units associated with this project. Therefore BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 or Federal Major Modification for any emissions. Therefore BACT is not triggered for any pollutant.

2. BACT Guideline

BACT Guideline 2.1.7, applies to the soil remediation operation using a thermal soil desorber and BACT Guideline 3.2.11 applies to transportable compression-ignited IC engines (See Appendix D).

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analysis (see Appendix E), BACT has been satisfied with the following:

S-8439-1:

NO_x: Low NO_x burner and natural gas/LPG firing

PM₁₀: Fabric filter serving desorber exhaust (99% control efficiency) and Soil covered or adequate moisture content such that visible emissions are less than 5% (90% control efficiency)

VOC: Thermal or catalytic oxidation (95% control efficiency)

S-8439-2:

NO_x, PM₁₀, and

VOC: The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range.

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	15,861	327	1,960	38,241	16,526
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	No

2. Quantity of Offsets Required

As seen above, the SSPE2 is not greater than the offset thresholds for all the pollutants; therefore offset calculations are not necessary and offsets will not be required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed, and/or
- d. Any project with an SSPE of greater than 20,000 lb/year for any pollutant.

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

New Major Sources are new facilities, which are also Major Sources. As shown in Section VII.C.5 above, the SSPE2 is not greater than the Major Source threshold for any pollutant. Therefore, public noticing is not required for this project for new Major Source purposes.

As demonstrated in Sections VII.C.7 and VII.C.8, this project does not constitute an SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

b. PE > 100 lb/day

The PE2 for these new units are compared to the daily PE Public Notice thresholds in the following tables:

S-8429-1 PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO _x	86.3	100 lb/day	No
SO _x	5.0	100 lb/day	No
PM ₁₀	25.6	100 lb/day	No
CO	512.6	100 lb/day	Yes
VOC	249.6	100 lb/day	Yes

S-8429-1 PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO _x	165.5	100 lb/day	Yes
SO _x	0.2	100 lb/day	No
PM ₁₀	5.4	100 lb/day	No
CO	94.4	100 lb/day	No
VOC	8.7	100 lb/day	No

Therefore, public noticing for PE > 100 lb/day purposes is required.

c. Offset Threshold

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	0	15,861	20,000 lb/year	No
SO _x	0	327	54,750 lb/year	No
PM ₁₀	0	1,960	29,200 lb/year	No
CO	0	38,241	200,000 lb/year	No
VOC	0	16,526	20,000 lb/year	No

As detailed above, there were no thresholds surpassed with this project; therefore public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	15,861	0	15,861	20,000 lb/year	No
SO _x	327	0	327	20,000 lb/year	No
PM ₁₀	1,960	0	1,960	20,000 lb/year	No
CO	38,241	0	38,241	20,000 lb/year	Yes
VOC	16,526	0	16,526	20,000 lb/year	No

As demonstrated above, the SSIPE for CO was greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

2. Public Notice Action

As discussed above, public noticing is required for this project for NO_x, CO, and VOC emissions in excess of 100 lb/day and for a SSIP of CO greater than 20,000 lb/year. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

S-8429-1:

- Visible emissions from the oxidizer (downstream from the baghouse) serving the soil remediation operation shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in one hour. [District Rules 2201 and 4101]
- All stockpiled soil shall be covered, or shall contain adequate moisture, such that visible emissions do not exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rules 2201 and 4101]
- Rotary drum dryer and Thermal oxidizer shall only be fired on PUC natural gas. [District Rules 2201 and 4801]
- Baghouse shall operate at all times with a differential pressure between 2 and 6 inches of water column. [District Rule 2201]
- Material removed from the dust collector shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201]
- PM₁₀ emissions from the baghouse shall not exceed 0.004 gr/dscf. [District Rules 2201 and 4201]
- Either the VOC control efficiency shall not be less than 95%, or the total VOC emission rate shall not exceed 2 pounds in any one day. [District Rule 2201]
- Total VOC emissions from combusting VOC in the soil shall not exceed 0.60 pounds per ton of soil processed. [District Rule 2201]
- Emissions from the combustion of natural gas in the dryer and thermal oxidizer shall not exceed any of the following limits: 4.3 ppmvd NO_x @ 19% O₂ (equivalent to 0.0492 lb-NO_x/MMBtu), 0.0076 lb-PM₁₀/MMBtu, 42 ppmvd CO @ 19% O₂ (equivalent to 0.2924 lb-CO/MMBtu), or 0.0055 lb-VOC/MMBtu. If measured O₂ concentration is greater than 19%, the corrected NO_x or CO concentration is equal to the measured NO_x or CO concentration. [District Rules 2201, 4201, and 4309]
- All equipment shall not be operated more than 12 hours in day nor 756 hours in a year. [District Rule 2201]

- The amount of soil processed by the thermal desorption unit shall not exceed 400 tons in any day. [District Rule 2201]
- The total footprint of the decontaminated soil stockpiles shall not exceed 0.344 acres in size. [District Rule 2201]
- The contaminated soil stockpiles shall be covered with an impervious cover except when soils are being added to or removed from the stockpiles. [District Rule 2201]
- {1462} The minimum operating temperature for the combustion chamber of the thermal oxidizer shall be maintained at or above 1400 degrees F. [District Rule 2201]
- {2775} The thermal oxidizer shall be equipped with an operational temperature gauge to indicate the temperature of the combustion chamber. A continuously recording device shall be utilized to indicate the combustion chamber temperature during operation. [District Rule 2201]
- {1470} The soil remediation system shall not be operated unless the combustion chamber is at or above minimum operating temperature. The system shall automatically terminate operation if the temperature drops below the minimum operating temperature. [District Rule 2201]

S-8429-2:

- Operation of this engine shall not exceed 12 hours per day nor 756 hours per year. [District Rules 2201 and 4102]
- Emission rates from this unit shall not exceed any of the following limits: NO_x (as NO₂) 4.56 g/hp-hr; VOC (as methane) 0.24 g/hp-hr; CO 2.6 g/hp-hr; or SO_x (as SO₂) 0.0051 g/hp-hr. [District Rules 2201 and 4702]
- The PM₁₀ emissions rate from the engine shall not exceed 0.15 g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201, 4102, and 4201]
- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4701, 4702, 4801, 17 CCR 93115]

E. Compliance Assurance

1. Source Testing

S-8429-1:

District Rule 4309 requires NO_x and CO emission testing not less than once every 12 months. However, due to the limited duration the equipment will operate and it's permanent removal from the site when remediation is complete, the final source test report may not be complete before the equipment is removed. Since the source test will not be used to establish compliance, alternative testing discussed in the Rule 4309 compliance section will be utilized. No additional source testing is required.

S-8429-2:

Pursuant to District Policy APR 1705, source testing is not required to demonstrate compliance with Rule 2201.

2. Monitoring

S-8429-1-0:

District Rule 4309 requires the operator to either install and maintain continuous emissions monitoring equipment for NO_x, CO, and oxygen, as identified in Rule 1080 (Stack Monitoring), or install and maintain an APCO-approved alternate monitoring plan.

The applicant has proposed to utilize pre-approve alternate monitoring plan "A" (Periodic Monitoring NO_x, CO, and O₂ Emissions Concentrations) to meet the requirements of District Rule 4309. Monitoring for Rule 4309 also satisfies the monitoring requirements for Rule 2201. No additional monitoring is required.

In addition to monitoring for Rule 4309 the following monitoring requirement will also be listed on the permit:

- Differential operating pressure shall be monitored and recorded on each day that the baghouse operates. [District Rule 2201].

S-8429-2:

No monitoring of this equipment is required to comply with this rule.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. Since this operation will be moved offsite shortly after starting up the records will be required to be furnished upon request. The following condition(s) are listed on the permit to operate:

S-8429-1:

- All records shall be retained for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 2201 and 4309]

S-8429-2:

- All records shall be retained for a minimum of five years, and shall be made available for District inspection upon request. [District Rule 2201]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to **Appendix F** of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO_x, CO, and SO_x. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_x, CO, or SO_x.

The proposed location is in a non-attainment area for the state's PM₁₀ as well as federal and state PM_{2.5} thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM₁₀ and PM_{2.5}.

Rule 2410 Prevention of Significant Deterioration

As shown in Section C.9.A above, this is a new facility and the project potential to emit, by itself, does not exceed any of the PSD major source thresholds. Therefore, this facility is not a PSD source and Rule 2410 does not apply.

Rule 2520 Federally Mandated Operating Permits

Since this facility's potential emissions do not exceed any major source thresholds of Rule 2201, this facility is not a major source, and Rule 2520 does not apply.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. However, no subparts of 40 CFR Part 60 apply to thermal desorbing equipment (dryers, baghouses, or thermal oxidizers) or transportable IC engines.

Rule 4002 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63. However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to thermal desorbing equipment (dryers, baghouses, or thermal oxidizers) or transportable IC engines.

Rule 4101 Visible Emissions

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity).

The baghouse and stockpiled material will be subject to Ringelmann ¼ or 5% opacity (no visible emissions are expected if baghouse is operating correctly and stockpiled material moisture content is maintained), all other operations are not expected to exceed Ringelmann 1 or 20% opacity. The following conditions will ensure compliance:

S-8429-1:

- No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
- Visible emissions from the oxidizer (downstream from the baghouse) serving the soil remediation operation shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in one hour. [District Rules 2201 and 4101]
- All stockpiled soil shall be covered, or shall contain adequate moisture, such that visible emissions do not exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rules 2201 and 4101]

S-8429-2:

- No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

Rule 4102 Nuisance

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

The District has reviewed the information provided by the applicant and has determined that the proposed project would not be greater than 10 in one million. None of the units in the proposed project would have a risk greater than 1.0 in one million. Therefore the project is approved without TBACT. Additionally, it is not expected that the emissions from the proposed project would cause or contribute to an exceedance to an ambient air quality standard.

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (**Appendix F**), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

Discussion of T-BACT

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy is expected.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 10 in a million). As outlined by the HRA Summary in Appendix F of this report, the emissions increases for this project was determined to be less than significant.

Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

S-8429-1-0 (exhaust from thermal desorber system):

Particulate matter from the combustion of VOCs released from the contaminated soil and PUC gas is negligible. Emissions from the baghouse result in a maximum 0.004 gr/dscf. Compliance is expected.

- PM10 emissions from the baghouse shall not exceed 0.004 gr/dscf. [District Rules 2201 and 4201]
- Emissions from the combustion of natural gas in the dryer and thermal oxidizer shall not exceed any of the following limits: 4.3 ppmvd NOx @ 19% O2 (equivalent to 0.0492 lb-NOx/MMBtu), 0.0076 lb-PM10/MMBtu, 42 ppmvd CO @ 19% O2 (equivalent to 0.2924 lb-CO/MMBtu), or 0.0055 lb-VOC/MMBtu. If measured O2 concentration is greater than 19%, the corrected NOx or CO concentration is equal to the measured NOx or CO concentration. [District Rules 2201, 4201, and 4309]

S-8429-2-0:

The engine has a potential limit of 0.15 g/hp-hr. emissions in gr/dscf is calculated as follows:

$$0.15 \frac{g}{hp \cdot hr} \times \frac{1 hp \cdot hr}{2,542.5 Btu} \times \frac{10^6 Btu}{9,051 dscf} \times \frac{0.35 Btu_{ox}}{1 Btu_m} \times \frac{15.43 grain}{g} = 0.035 \frac{grain}{dscf}$$

Since 0.035 grain/dscf is less than 0.1 grain/dscf, compliance with this rule is expected.

- The PM10 emissions rate from the engine shall not exceed 0.15 g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201, 4102, and 4201]

Rule 4202 Particulate Matter – Emission Rate

The purpose of this rule is to limit particulate matter emissions by establishing allowable emission rates.

Per section 4.1, particulate matter emissions from any source operation shall not exceed the allowable hourly emission rate as calculated using the following applicable formulas:

$$\begin{aligned} E &= 3.59 \times P^{0.62} && \text{if } P \leq 30 \text{ tons/hr} \\ E &= 17.31 \times P^{0.16} && \text{if } P > 30 \text{ tons/hr} \end{aligned}$$

Where,

E = emissions in lb/hr

P = process weight rate in tons/hr

Assumptions:

- The maximum process weight is 35 tons/hr (per applicant)

Calculations:

$$\begin{aligned} E &= 17.31 \times 35^{0.16} \\ &= 30.57 \text{ lb/hr} \end{aligned}$$

The applicant has proposed an emission rate of 6.18 lb PM/hr (24.7 lb PM₁₀/day ÷ 40% ÷ 10 hr). Therefore, compliance with this rule is expected under regular operating conditions.

$$E_{\text{max}} = 30.57 \text{ lb/hr}$$

$$E_{\text{actual}} = 6.18 \text{ lb/hr}$$

Since the proposed PM emission rate of 6.18 lb/hr is less than the allowable maximum emission rate of 30.57 lb/hr, the thermal desorber is expected to operate in compliance with this rule.

Rule 4301 Fuel Burning Equipment

Section 3.1 defines fuel burning equipment as equipment that produces heat by indirect heat transfer. The burners used in the dryer and oxidizer produce heat by direct heat transfer. Therefore, this rule is not applicable.

Rule 4309 Dryers, Dehydrators, and Ovens

The purpose of this rule is to limit emissions of oxides of nitrogen (NOx) and carbon monoxide (CO) from dryers, dehydrators, and ovens. This rule applies to any dryer, dehydrator, or oven that is fired on gaseous fuel, liquid fuel, or is fired on gaseous and liquid fuel sequentially, and the total rated heat input for the unit is 5.0 million British thermal units per hour (5.0 MMBtu/hr) or greater. Since the proposed dryer in this project will have a heat input rating greater than 5.0 MMBtu, the dryer is subject to the requirements of this rule.

Section 5.0, Requirements

Section 5.0 states that all ppmv limits specified in this section are referenced at dry stack gas conditions and adjusted using an oxygen correction factor of 19% by volume.

Section 5.2 requires that except for dehydrators, NO_x and CO emissions shall not exceed the limits specified in the table below on and after the full compliance schedules specified in Sections 7.1 and 7.3, as appropriate. All ppmv emission limits specified in this section are referenced at dry stack gas conditions and 19 percent by volume stack gas oxygen. Emission concentrations shall be corrected to 19 percent oxygen in accordance with Section 5.0.

NO _x and CO Limits				
Process Description	NO _x Limit (in ppmv)		CO Limit (in ppmv)	
	Gaseous Fuel Fired	Liquid Fuel Fired	Gaseous Fuel Fired	Liquid Fuel Fired
Asphalt/Concrete Plants	4.3	12.0	42	64
Milk, Cheese, and Dairy Processing < 20 MMBtu/hr	3.5	3.5	42	42
Milk, Cheese, and Dairy Processing ≥ 20 MMBtu/hr	5.3	5.3	42	42
Other processes not described above	4.3	4.3	42	42

The dryer in this project performs a process not specifically described; therefore it is subject to the requirements of the "Other processes not described above" listed in the table above.

For the dryer:

- the proposed NO_x emission factor is 4.3 ppmvd @ 19% O₂ (0.0492 lb/MMBtu), and
- the proposed CO emission factor is 42 ppmvd @ 19% O₂ (0.2924 lb/MMBtu).

Therefore, compliance with this section is expected.

A permit condition listing the emissions limits will be listed on the permit as shown in the DEL section above.

Section 5.3 states that the applicable emission limits in Section 5.2 shall not apply during start-up or shutdown provided an operator complies with the requirements specified below.

The facility has not requested relaxed emission limit requirements for these units during startup or shutdown, therefore this section does not apply.

Section 5.4, Monitoring Requirements

Section 5.4.1 states that except for dehydrators, the operator of any unit subject to the applicable emission limits in Sections 4.3.2, or 5.2 shall monitor emissions using one of the techniques specified in Sections 5.4.1.1 or 5.4.1.2.

Section 5.4.1.1 states the first technique as the installation and maintenance of an APCO-approved CEMS for NO_x, and oxygen that meets the following requirements.

- 40 CFR Part 51, and
- 40 CFR Parts 60.7 and 60.13 (except subsection h), and

- 40 CFR Part 60 Appendix B (Performance Specifications), and
- 40 CFR Part 60 Appendix F (Quality Assurance Procedures), and
- The applicable provisions of District Rule 1080 (Stack Monitoring).
- The APCO shall only approve CEMS that meets the requirements of Sections 5.4.1.1.1 through 5.4.1.1.5 of this rule.

Section 5.4.1.2 states the second technique as the installation and maintenance of an alternate emissions monitoring method that meets the requirements of Sections 5.4.1.2.1 through 5.4.1.2.3 of this rule.

Section 5.4.1.2.1 states that the APCO shall not approve an alternative monitoring system unless it is documented that continued operation within ranges of specified emissions-related performance indicators or operational characteristics provides a reasonable assurance of compliance with applicable emission limits.

Section 5.4.1.2.2 states that the approved alternate emission monitoring system shall monitor operational characteristics necessary to assure compliance with the emission limit. Operational characteristics shall be one or more of the following:

- Periodic NO_x exhaust emission concentrations,
- Periodic exhaust oxygen concentration,
- Flow rate of reducing agent added to exhaust,
- Catalyst inlet and exhaust temperature,
- Catalyst inlet and exhaust oxygen concentration,
- Periodic flue gas recirculation rate,
- Other surrogate operating parameter(s) that demonstrate compliance with the emission limit.

Since operation of the unit subject to this rule are very similar to the operation of the units subject to the requirements of District Rule 4306, *Boilers, Steam Generators, and Process Heaters – Phase 3*, the pre-approved alternate monitoring plans in District Policy SSP-1105 will be considered approved alternate monitoring plans for District Rule 4309 compliance.

In order to satisfy the requirements of District Rule 4309, the applicant has proposed to use pre-approved alternate monitoring scheme A (pursuant to District Policy SSP-1105), which requires that monitoring of NO_x, CO, and O₂ exhaust concentrations shall be conducted at least once per month (in which a source test is not performed) using a portable analyzer. The following conditions will be incorporated into the permit in order to ensure compliance with the requirements of the proposed alternate monitoring plan:

- {3741} The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]

- {3742} If either the NO_x or CO concentrations corrected to 19% O₂ (or no correction if measured above 19% O₂), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309]
- {3743} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4309]
- {3744} The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 19% O₂ (or no correction if measured above 19% O₂), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4309]

Section 5.5, Compliance Determination

Section 5.5.1 states that all emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the PTO.

Section 5.5.2 states that except for as provided in Section 5.5.3, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0.

The following condition will be added to the permit to assure compliance with Sections 5.5.1 and 5.5.2.

- {3713} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rule 4309]

Section 5.5.3 states that notwithstanding the requirements of Section 5.5.2, the APCO, ARB, and US EPA may approve a longer or shorter period before compliance determination, if an operator submits an application for a PTO condition which provides a justification for the requested duration.

Section 5.5.4 states that all CEMS emissions measurements shall be averaged over a period of 15 consecutive minutes to demonstrate compliance with the applicable emission limits of this rule. Any 15-consecutive-minute block average CEMS measurement exceeding the applicable emission limits of this rule shall constitute a violation of this rule.

The facility has not proposed to utilize a CEMS; therefore the requirements of this section are not applicable to the dryer in this project.

Section 5.5.5 states that for emissions monitoring pursuant to Section 5.4.1.2.2.1, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the 15-consecutive-minute period.

The following condition will be added to the permit to assure compliance with this section.

- {3713} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rule 4309]

Section 5.5.6 states that for emissions source testing performed pursuant to Section 6.3.1 to determine compliance with an applicable emission limit of this rule, the arithmetic average of three (3) 30-consecutive-minute test runs shall apply. If two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the unit, even if the averaged emissions of all three test runs are less than the applicable limit. The following condition will be added to the permit to assure compliance with this section.

- {3715} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rule 4309]

Section 6.1, Recordkeeping

Section 6.1.1 states the recordkeeping requirements of a unit that uses CEMS to monitor emissions. Since the applicant has not proposed a CEMS to monitor emissions, the requirements of this section do not apply to the unit in this project.

Section 6.1.2 states that operators using an alternate emissions monitoring system shall maintain the following records on a periodic basis:

- Total hours of operation.
- Type and quantity of fuel used during operations.
- Measurement for each surrogate parameter.
- Range of allowed values for each surrogate parameter.
- The period for recordkeeping shall be specified in the PTO conditions.

Section 6.1.3 only applies to dehydrators; therefore this section is not applicable to the unit in this project.

Section 6.1.4 states that the operator of a unit subject to Section 5.2 and performing start-up or shutdown of that unit shall keep records of the duration of each start-up and each shutdown. The facility has not proposed start-up or shutdown emissions for the dryer in this operation; therefore the requirements of this section do not apply to the dryer in this project.

Section 6.1.5 states the recordkeeping requirements of an operator of any unit operated under the exemption of Section 4.3.

Since the applicant has not applied for the exemption in Section 4.3, the requirements in this section do not apply to the dryer in this project.

Section 6.1.6 states the records and manufacturer's specifications required by Sections 6.1.1 through 6.1.5 shall meet all of the following requirements.

- The records shall be maintained for five (5) calendar years,
- The records shall be made available on-site during normal business hours, and
- The records shall be submitted to the APCO upon request.

The following condition will be added to the permit to assure compliance with this section.

- All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4309]

Section 6.2, Test Methods

Section 6.2 lists the test methods required by the rule. In lieu of the test methods listed below the facility can utilize alternative APCO and US EPA approved test methods.

Pollutant	Units	Test Method Required
Fuel hhv	Fuel hhv shall be certified by third party fuel supplier or:	
	Liquid fuels	ASTM D 240-87 or D 2382-88
	Gaseous fuels	ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89
NO _x	ppmv	EPA Method 7E or ARB Method 100
CO	ppmv	EPA Method 10 or ARB Method 100
Stack Gas O ₂	%	EPA Method 3 or 3A, or ARB Method 100
Stack Gas Velocities	ft/min	EPA Method 2
Stack Gas Moisture Content	%	EPA Method 4

Sine these listed methods apply to source testing, which is not required for this operation, this section does not apply.

Section 6.3.2 states that each unit subject to the requirements in Sections 4.3, or 5.2 shall be initially source tested to determine compliance with the applicable emission limits not later than the applicable full compliance schedule specified in Section 7.0. Thereafter, each unit subject to Section 5.2 emission limits shall be source tested at least once every 24 months. Units subject to Section 5.2 and operating less than 50 days per calendar year shall follow the source test frequency prescribed in Section 6.3.3.

Since this unit will be operated a maximum of 63 days and permanently removed from service immediately thereafter, source testing is not required.

Section 6.3.8 states that for the purpose of determining compliance with an applicable emission limit, the arithmetic average of three (3) 30-consecutive-minute test runs shall apply.

Section 6.3.9 states that if two of the three runs specified by Section 6.3.8 individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the unit, even if the averaged emissions of all three runs is less than the applicable limit.

The requirements of Sections 6.3.8 and 6.3.9 will be satisfied by the condition listed in Section 5.5.6 of this rule evaluation.

Section 6.4 lists the source testing requirements for asphalt/concrete plants. Since this facility is not an asphalt or concrete plant, the requirements of this section do not apply to the dryer in this project.

Conclusion

Conditions will be incorporated into the permit in order to ensure compliance with each section of this rule, see attached draft permits in Appendix G. Therefore, compliance with District Rule 4309 requirements is expected.

Rule 4651 Soil Decontamination Operations

District Rule 4651 applies to the excavation and treatment of soil that has been contaminated by organic liquid as a result of leakage from storage or transfer facilities, from accidental spillage, or other deposition.

Section 4.1.4 states that this rule shall not apply to soil contaminated solely by a known VOC-containing liquid or a petroleum liquid that has an initial boiling point of 302°F or higher, as determined by Section 6.5.1, provided that the soil is not heated above ambient temperature and samples of the contaminating liquid can be obtained.

The result of over 2,000 detected contaminants in the soil show (see Appendix C) that contaminants have an initial boiling point of 302°F or higher³. Additionally, soil is only heated

³ Given the large number of samples and the incredibly small number of detections of β -BHC that has a boiling point less than 302°F, emissions resulting from β -BHC has been determined to be negligible with respect to other detected chemicals and project emissions (products of combusting contaminants and fuel and from fugitive emissions).

in a controlled environment where vapors are vented to a thermal oxidizer; therefore, the requirements of this rule do not apply.

Rule 4701 Internal Combustion Engines – Phase 1

The purpose of this rule is to limit the emissions of nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines. Except as provided in Section 4.0, the provisions of this rule apply to any internal combustion engine, rated greater than 50 bhp, that requires a PTO.

The proposed engines are also subject to District Rule 4702, Internal Combustion Engines. Since emissions limits of District Rule 4702 and all other requirements are equivalent or more stringent than District Rule 4701 requirements, compliance with District Rule 4702 requirements will satisfy requirements of District Rule 4701.

Rule 4702 Internal Combustion Engines – Phase 2

The purpose of this rule is to limit the emissions of nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines.

This rule applies to any internal combustion engine with a rated brake horsepower greater than 50 horsepower.

This operation uses an engine greater than 50 bhp; therefore this rule is applicable.

Section 5.2.4 requires that a compression-ignited engine comply with the applicable emission limits/standards listed on Table 4 below:

Engine Type	Emission Limit/ Standard	Compliance Date
1. Non-Certified Compression-Ignited Engine		
a. Greater than 50 bhp but not more than 500 bhp	EPA Tier 3 or Tier 4	1/1/2010
b. Greater than 500 bhp but not more than 750 bhp and less than 1000 annual operating hours	EPA Tier 3	1/1/2010
c. Greater than 750 bhp and less than 1000 annual operating hours	EPA Tier 4	7/1/2011
d. Greater than 500 bhp and greater than or equal to 1000 annual operating hours	80 ppm NOx, 2,000 ppm CO, 750 ppm VOC	1/1/2008 or, if owner has an agreement to electrify, comply by 1/1/2010
2. Certified Compression-Ignited Engine		
a. EPA Certified Tier 1 or Tier 2 Engine	EPA Tier 4	1/1/2015 or 12 years after installation date, but not later than 6/1/2018
b. EPA Certified Tier 3 or Tier 4 Engine	Meet Certified Compression-Ignited Engine Standard in effect at time of installation	At time of installation

Since the engine listed on permit S-8249-2 is a Tier 2 engine, it is subject to category 2.a in the above table. Additionally, since this engine will not operate beyond this year compliance will be achieved upon it's removal.

Sections 5.3 – 5.5 state requirements for CEMs and emission reduction requirements. This engine is not equipped with CEMs nor will they utilize a percent emissions reduction to comply with this rule. Therefore, these sections are not applicable.

Section 5.6 applies to spark-ignited IC engines. The engine in this operation is compression-ignited. Therefore this section does not apply.

Section 5.7 requires the compression-ignited engines to comply with one of the following:

- 5.7.1 Operate the engine exclusively on PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases; or
- 5.7.2 Limit gaseous fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet; or
- 5.7.3 Use California Reformulated Gasoline for gasoline-fired spark-ignited engines; or
- 5.7.4 Use California Reformulated Diesel for compression-ignited engines; or
- 5.7.5 Operate the engine on liquid fuel that contains no more than 15 ppm sulfur, as determined by the test method specified in Section 6.4.6; or

5.7.6 Install and properly operate an emission control system that reduces SO₂ emissions by at least 95% by weight as determined by the test method specified in Section 6.4.6.

Therefore, the following condition will be listed on the permit to ensure compliance:

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4702 and 4801, and 17 CCR 93115]

Section 5.8 applies to spark-ignited engines and engines in an Alternative Emissions Control Plan (AECPP); the engines in this project are compression-ignition and not part of an AECPP, therefore this section does not apply.

Section 5.9 requires the following monitoring for compression-ignited engines:

- 5.9.2 Properly operate and maintain each engine as recommended by the engine manufacturer or emission control system supplier.
- 5.9.3 Monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.
- 5.9.4 Install and operate a nonresettable elapsed time meter.

The following conditions will be listed on the permits to ensure compliance with this section:

- This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]
- This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702 and 17 CCR 93115]

Section 5.10 requires monitoring for engines complying with Sections 5.7.2, 5.7.5 or 5.7.6. The engines at this facility will be limited to CARB certified diesel fuel (Section 5.7.4); therefore, these monitoring requirements do not apply.

Section 5.11 applies to permit exempt equipment registrations (PEER). None of these engines will be operating under a PEER at this time (the engines powering the radial stacker and screener are exempt from a permit as they are considered motor vehicles).

Section 6.1 requires that the owner of an engine listed in Section 6.1.1 submit to the APCO an APCO-approvable emission control plan.

Since the engine already complies with the requirements of Section 5.1, no emission control plan is necessary.

Section 6.2.1 requires that the owner of an engine subject to the requirements of Section 5.1 shall maintain an engine operating log to demonstrate compliance with this rule. This information shall be retained for a period of at least five years, shall be readily available, and be made available to the APCO upon request. The engine operating log shall include, on a monthly basis, the following information:

6.2.1.1 Total hours of operation,

- 6.2.1.2 Type of fuel used,
- 6.2.1.3 Maintenance or modifications performed,
- 6.2.1.4 Monitoring data,
- 6.2.1.5 Compliance source test results, and
- 6.2.1.6 Any other information necessary to demonstrate compliance with this rule.
- 6.2.1.7 For an engine subject to Section 8.0, the quantity (cubic feet of gas or gallons of liquid) of fuel used on a daily basis.

Therefore, the following condition will be listed on the permits to ensure compliance.

- The operator shall maintain a monthly operating log for this engine that includes all of the following information: The time and date of engine operation, total hours of operation, type of fuel used, any maintenance or modifications performed, and all monitored operational characteristics. [District Rule 4702 and 17 CCR 93115]

Section 6.3 specifies source testing requirements and **Section 6.4** lists test methods that apply to engines listed in Section 6.3.1. This engine is not listed in Section 6.3.1; therefore, this section does not apply.

Section 6.5 specifies the requirements for the Inspection and Monitoring (I&M) Plan.

Pursuant to Section 6.5.1, an I&M plan is not required for the compression-ignited engines as it has not been retrofitted with an exhaust control device nor is it part of an AECP.

Section 7.0, lists requirements for compliance schedules. The engine will be in compliance with this rule; therefore, this section does not apply.

Section 8.0, applies to permittees who chose to operate under an Alternative Emission Control Plan. This operation will not operate under such a plan; therefore, this section does not apply.

Compliance with Rule 4702 is expected.

Rule 4801 Sulfur Compounds

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO₂, on a dry basis averaged over 15 consecutive minutes.

Using the ideal gas equation and the emission factors presented in Section VII, the sulfur compound emissions are calculated as follows:

$$\text{Volume SO}_2 = \frac{nRT}{P}$$

With:

$N = \text{moles SO}_2$

$T (\text{Standard Temperature}) = 60^\circ\text{F} = 520^\circ\text{R}$

$P (\text{Standard Pressure}) = 14.7 \text{ psi}$

$R (\text{Universal Gas Constant}) = \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}}$

S-8429-1:

EPA F-Factor for Natural Gas: 8,710 dscf/MMBtu at 68 °F, equivalent to

$$\text{Corrected } F - \text{factor} = \left(\frac{8,710 \text{ dscf}}{\text{MMBtu}} \right) \times \left(\frac{60^\circ\text{F} + 459.6}{68^\circ\text{F} + 459.6} \right) = 8,578 \frac{\text{dscf}}{\text{MMBtu}} \text{ at } 60^\circ\text{F}$$

$$\frac{0.0164 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 11.33 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 11.33 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

Since 11 ppmv is $\leq 2,000$ ppmv, the gas fired equipment is expected to comply with Rule 4801. Therefore, the following condition will be listed on the ATC to ensure compliance:

- Rotary drum dryer and Thermal oxidizer shall only be fired on PUC natural gas. [District Rules 2201 and 4801]

S-8429-2:

$$\frac{0.000015 \text{ lb} - \text{S}}{\text{lb} - \text{fuel}} \times \frac{7.1 \text{ lb}}{\text{gal}} \times \frac{64 \text{ lb} - \text{SO}_2}{32 \text{ lb} - \text{S}} \times \frac{1 \text{ MMBtu}}{9,051 \text{ scf}} \times \frac{1 \text{ gal}}{0.137 \text{ MMBtu}} \times \frac{1 \text{ lb} - \text{mol}}{64 \text{ lb} - \text{SO}_2} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} - \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times 1,000,000 = 1.0 \text{ ppmv}$$

Since 1.0 ppmv is $\leq 2,000$ ppmv, the engine is expected to comply with Rule 4801. Therefore, the following condition will be listed on the ATC to ensure compliance:

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4702, 4801 and 17 CCR 93115]

Therefore compliance with District Rule 4801 requirements is expected.

Rule 8011 General Requirements

The provisions of this rule are applicable to specified outdoor fugitive dust sources. The definitions, exemptions, requirements, administrative requirements, recordkeeping requirements, and test methods set forth in this rule are applicable to all Rules under Regulation VIII (Fugitive PM10 Prohibitions) of the Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. The rule was amended in August 19, 2004.

The following conditions will ensure compliance with this rule:

- Disturbances of soil related to any construction, demolition, excavation, extraction, or other earthmoving activities shall comply with the requirements for fugitive dust control in District Rule 8021 unless specifically exempted under Section 4.0 of Rule 8021 or Rule 8011. [District Rules 8011 and 8021]
- [An owner/operator shall submit a Dust Control Plan to the APCO prior to the start of any construction activity on any site that will include 10 acres or more of disturbed surface area for residential developments, or 5 acres or more of disturbed surface area for non-residential development, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials on at least three days. [District Rules 8011 and 8021]
- An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041 Section 5.0, unless specifically exempted under Section 4.0 of Rule 8041 (8/19/04) or Rule 8011(8/19/04). [District Rules 8011 and 8021]
- Whenever open areas are disturbed, or vehicles are used in open areas, the facility shall comply with the requirements of Section 5.0 of District Rule 8051, unless specifically exempted under Section 4.0 of Rule 8051 or Rule 8011. [District Rules 8011 and 8051]
- Any paved road or unpaved road shall comply with the requirements of District Rule 8061 unless specifically exempted under Section 4.0 of Rule 8061 or Rule 8011. [District Rules 8011 and 8061]
- Water, gravel, roadmix, or chemical/organic dust stabilizers/suppressants, vegetative materials, or other District-approved control measure shall be applied to unpaved vehicle travel areas as required to limit Visible Dust Emissions to 20% opacity and comply with the requirements for a stabilized unpaved road as defined in Section 3.59 of District Rule 8011. [District Rule 8011 and 8071]
- Where dusting materials are allowed to accumulate on paved surfaces, the accumulation shall be removed daily or water and/or chemical/organic dust stabilizers/suppressants shall be applied to the paved surface as required to maintain continuous compliance with the requirements for a stabilized unpaved road as defined in Section 3.59 of District Rule 8011 and limit Visible Dust Emissions (VDE) to 20% opacity. [District Rule 8011 and 8071].
- On each day that 50 or more Vehicle Daily Trips or 25 or more Vehicle Daily Trips with 3 axles or more will occur on an unpaved vehicle/equipment traffic area, permittee shall apply water, gravel, roadmix, or chemical/organic dust stabilizers/suppressants, vegetative materials, or other District-approved control measure as required to limit Visible Dust Emissions to 20% opacity and comply with the requirements for a stabilized unpaved road as defined in Section 3.59 of District Rule 8011. [District Rule 8011 and 8071]
- Whenever any portion of the site becomes inactive, Permittee shall restrict access and periodically stabilize any disturbed surface to comply with the conditions for a stabilized surface as defined in Section 3.58 of District Rule 8011. [District Rules 8011 and 8071]
- Records and other supporting documentation shall be maintained as required to demonstrate compliance with the requirements of the rules under Regulation VIII only for those days that a control measure was implemented. Such records shall include the type of control measure(s) used, the location and extent of coverage, and the date, amount, and frequency of application of dust suppressant, manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. Records shall be kept for one year following project completion that results in the termination of all dust generating activities. [District Rules 8011, 8031, and 8071]

Rule 8021 Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities

The purpose of this rule is to limit fugitive dust emissions from construction, demolition, excavation, extraction, and other earthmoving activities. The rule was amended in August 19, 2004.

This rule applies to any construction, demolition, excavation, extraction, and other earthmoving activities, including, but not limited to, land clearing, grubbing, scraping, travel on site, and travel on access roads to and from the site. This rule also applies to the construction of new landfill disposal sites or modification to existing landfill disposal sites prior to commencement of landfilling activities.

Section 5.0 requires that no person shall perform any construction, demolition, excavation, extraction, or other earthmoving activities unless the appropriate requirements in sections 5.1 and 5.2 are sufficiently implemented to limit VDE to 20% opacity. In addition to the requirements of this rule, a person shall comply with all other applicable requirements of Regulation VIII.

The following conditions will ensure compliance with this rule:

- Disturbances of soil related to any construction, demolition, excavation, extraction, or other earthmoving activities shall comply with the requirements for fugitive dust control in District Rule 8021 unless specifically exempted under Section 4.0 of Rule 8021 or Rule 8011. [District Rules 8011 and 8021]
- {An owner/operator shall submit a Dust Control Plan to the APCO prior to the start of any construction activity on any site that will include 10 acres or more of disturbed surface area for residential developments, or 5 acres or more of disturbed surface area for non-residential development, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials on at least three days. [District Rules 8011 and 8021]
- An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041 Section 5.0, unless specifically exempted under Section 4.0 of Rule 8041 (8/19/04) or Rule 8011(8/19/04). [District Rules 8011 and 8021]

Rule 8041 Carryout and Trackout

The purpose of this rule is to limit fugitive dust emissions from carryout and trackout. The rule was amended in August 19, 2004.

This rule applies to all sites that are subject to Rules 8021 (Construction, Demolition, Excavation, Extraction, and other Earthmoving Activities), 8031 (Bulk Materials), and 8071 (Unpaved Vehicle and Equipment Traffic Areas) where carryout or trackout has occurred or may occur.

Section 5.0 requires that an owner/operator shall sufficiently prevent or cleanup carryout and trackout as specified in sections 5.1 through 5.8. In addition to the requirements of this rule, a person shall comply with all other applicable requirements of Regulation VIII. The use of blower devices, or dry rotary brushes or brooms, for removal of carryout and trackout on public

roads is expressly prohibited. The removal of carryout and trackout from paved public roads does not exempt an owner/operator from obtaining state or local agency permits which may be required for the cleanup of mud and dirt on paved public roads.

The following condition will ensure compliance with this rule:

- An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041 Section 5.0, unless specifically exempted under Section 4.0 of Rule 8041 (8/19/04) or Rule 8011(8/19/04). [District Rules 8011 and 8021]

Rule 8051 Open Areas

The purpose of this rule is to limit fugitive dust emissions from open areas. The rule was amended in August 19, 2004.

This rule applies to any open area having 3.0 acres or more of disturbed surface area that has remained undeveloped, unoccupied, unused, or vacant for more than seven days.

Section 5.0 requires that whenever open areas are disturbed or vehicles are used in open areas, the owner/operator shall implement one or a combination of control measures indicated in Table 8051-1 to comply with the conditions of a stabilized surface at all times and to limit VDE to 20% opacity. In addition to the requirements of this rule, a person shall comply with all other applicable requirements of Regulation VIII.

The following condition will ensure compliance with this rule:

- Whenever open areas are disturbed, or vehicles are used in open areas, the facility shall comply with the requirements of Section 5.0 of District Rule 8051, unless specifically exempted under Section 4.0 of Rule 8051 or Rule 8011. [District Rules 8011 and 8051]

Rule 8061 Paved and Unpaved Roads

The purpose of this rule is to limit fugitive dust emissions from paved and unpaved roads by implementing control measures and design criteria. The rule was amended in August 19, 2004.

This rule applies to any new or existing public or private paved or unpaved road, road construction project, or road modification project.

The following condition will ensure compliance with this rule:

- Any paved road or unpaved road shall comply with the requirements of District Rule 8061 unless specifically exempted under Section 4.0 of Rule 8061 or Rule 8011. [District Rules 8011 and 8061]

Rule 8071 Unpaved Vehicle/Equipment Traffic Area

The purpose of this rule is to limit fugitive dust emissions from unpaved vehicle and equipment traffic areas by implementing control measures and design criteria.

This rule applies to any unpaved vehicle/equipment traffic area of 1.0 acre or larger.

The following conditions will ensure compliance with this rule:

- Water, gravel, roadmix, or chemical/organic dust stabilizers/suppressants, vegetative materials, or other District-approved control measure shall be applied to unpaved vehicle travel areas as required to limit Visible Dust Emissions to 20% opacity and comply with the requirements for a stabilized unpaved road as defined in Section 3.59 of District Rule 8011. [District Rule 8011 and 8071]
- Where dusting materials are allowed to accumulate on paved surfaces, the accumulation shall be removed daily or water and/or chemical/organic dust stabilizers/suppressants shall be applied to the paved surface as required to maintain continuous compliance with the requirements for a stabilized unpaved road as defined in Section 3.59 of District Rule 8011 and limit Visible Dust Emissions (VDE) to 20% opacity. [District Rule 8011 and 8071]
- On each day that 50 or more Vehicle Daily Trips or 25 or more Vehicle Daily Trips with 3 axles or more will occur on an unpaved vehicle/equipment traffic area, permittee shall apply water, gravel, roadmix, or chemical/organic dust stabilizers/suppressants, vegetative materials, or other District-approved control measure as required to limit Visible Dust Emissions to 20% opacity and comply with the requirements for a stabilized unpaved road as defined in Section 3.59 of District Rule 8011. [District Rule 8011 and 8071]
- Whenever any portion of the site becomes inactive, Permittee shall restrict access and periodically stabilize any disturbed surface to comply with the conditions for a stabilized surface as defined in Section 3.58 of District Rule 8011. [District Rules 8011 and 8071]
- Records and other supporting documentation shall be maintained as required to demonstrate compliance with the requirements of the rules under Regulation VIII only for those days that a control measure was implemented. Such records shall include the type of control measure(s) used, the location and extent of coverage, and the date, amount, and frequency of application of dust suppressant, manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. Records shall be kept for one year following project completion that results in the termination of all dust generating activities. [District Rules 8011, 8031, and 8071]

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

Code of Federal Regulations (CFR), Title 40, Part 89

The term "non-road" is defined in Title 40 Code of Federal Regulations (CFR) Part 89 (Control Of Emissions From New and In-Use Nonroad Compression-Ignition Engines). Like District "transportable" engines, federal "non-road" engines are also mobile.

Per 40 CFR Part 89, non-road engines include compression ignited engines that, by itself or in or on a piece of equipment, is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indications of transportability include but are not limited to wheels, skids, carrying handles, dollies, trailers, or platforms.

An internal combustion engine is NOT a non-road engine if:

1. The engine is used to propel a motor vehicle or a vehicle used solely for competition; or is subject to standards promulgated under section 202 of the Clean Air Act; or
2. The engine is regulated by a New Source Performance Standard promulgated under section 111 of the Clean Air Act; or
3. The engine will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site (i.e. footprint) at a building, structure, facility, or installation. Any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least 2 years) and that operates at that single location approximately three months (or more) each year.

In addition, there are several categories that are not included in the definition of non-road (or subject to 40 CFR 89). These categories are:

1. Aircraft Engines
2. Mining Engines
3. Locomotive Engines
4. Marine Engines
5. Hobby Engines (less than 50 cc per cylinder)
6. Tier 4 Engines that are subject to emissions standards under 40 CFR Part 1039

The proposed engine meets the definition of a non-road engine, and is therefore subject to this part.

40 CFR Part 89 identifies emissions certification requirements for new non-road engines. There are no emission requirements for existing engines.

Pursuant to 40 CFR Part 89, Appendix A to Subpart A:

"EPA believes that states are not precluded (*or prevented*) under section 209 from regulating the use and operation of non-road engines, such as regulations on hours of usage, daily mass emission limits, or sulfur limits on fuel; nor are permits regulating such operations precluded (*or prevented*), once the engine is no longer new. EPA believes that states are precluded from requiring retrofitting of used nonroad engines except that states are permitted to adopt and enforce any such retrofitting requirements identical to California requirements which have been authorized by EPA under section 209 of the Clean Air Act."

Therefore, beyond the requirements of Part 89, local authorities can only regulate the use and operation of non-road engines such as regulations on the hours of usage, daily mass emission limits, or sulfur limits on fuel. Local authorities cannot require retrofitting of used nonroad

engines except those that are identical to California requirements that have been authorized by EPA, e.g. in the California Code of Regulations (CCR).

The proposed engines reflects the latest available certification for the applicable rated power category; therefore, this part is satisfied.

California Code of Regulations (CCR), Title 13 (Motor Vehicles), Division 3 (Air Resources Board), Chapter 9 (Off-Road Vehicles and Engines Pollution Control Devices), Article 4 (Off-Road Compression-Ignition Engines and Equipment)

§ 2420 - Applicability:

This article is applicable to new heavy-duty compression-ignited engines produced on or after January 1, 1996 and all other new 2000 model year and later off-road compression-ignition engines, with the exception of all engines and equipment that fall within the scope of the preemption of Section 209(e) (1) (A) of the Federal Clean Air ACT and as defined by regulation of the U.S. Environmental Protection Agency. The engine proposed falls under the applicability of this article since they are "off-road" as defined below.

§ 2421 - Definitions

Like District "transportable" engines and federal "non-road" engines, California "off-road" engines are also mobile. "Off-road" engines are defined as:

"(A) Except as specified in paragraph (B) of this definition, an off-road compression-ignition engine is any internal combustion engine:

1. In or on a piece of equipment that is self-propelled or serves as a dual purpose by both propelling itself and performing another function and is primarily used off the highways (such as garden tractors, off-highway mobile cranes and bulldozers); or
2. In or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers); or
3. That, by itself or in or on a piece of equipment, is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to wheels, skids, carrying handles, dolly, trailer, or platform.

(B) An internal combustion engine is not an off-road compression-ignition engine if:

1. The engine is used to propel a vehicle subject to the emission standards contained in Title 13, California Code of Regulations, Sections 1950-1978, or a vehicle used solely for competition, or is subject to standards promulgated under Section 202 of the federal Clean Air Act (42 U.S.C. 7521); or
2. The engine is regulated by a federal New Source Performance Standard promulgated under Section 111 of the federal Clean Air Act (42 U.S.C. 7511); or

3. The engine otherwise included in paragraph (A) 3 of this definition remains or will remain at a location for more than 12 consecutive months or a shorter time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at a single location approximately three months (or more) each year. This paragraph does not apply to an engine after the engine is removed from the location."

§ 2423 - Emission Standards:

The engines involved with this project are certified at the highest Tier available for the model years. The following table lists the standard requirements of Title 13 CCR, Section 2423 to the emissions factors for the diesel-fired IC engines reflect CARB/EPA certification (for each proposed engine family (for CO emissions). The proposed IC engines meet the certified limits and therefore meets the requirements of this subsection.

Source	Maximum Rated Power	Model Year	NO _x + VOC	CO	PM
Title 13 CCR, §2423 (certified requirements)	>750 bhp	2006 (Tier 2)*	4.8 g/bhp-hr	2.6 g/bhp-hr	0.15 g/bhp-hr
Meets Standard?			Yes	Yes	Yes

*Interim Tier 4 was required as of 2011 but is not available as a rental engine for this project from engine rental companies in the timeframe required (FYI 324, see project file for correspondence).

California Code of Regulations (CCR), Title 17 (Public Health), Division 3 (Air Resources), Chapter 1 (Air Resources Board), Subchapter 7.5 (Air Toxic Control Measures), Measure 93116 (Portable Diesel Engines)

§ 93116.1 - Applicability

Except as provided in §93116.1(b), all portable engines having a maximum rated hp of 50 bhp and greater and fueled with diesel are subject to this regulation. The proposed engine(s) are portable and are subject to this regulation.

§ 93116.2 - Definitions

Like District "transportable", federal "non-road", and California "off-road" engines, California "portable" engines are also mobile.

(bb) Portable means designed and capable of being carried or moved from one location to another. Indicia of portability include, but are not limited to, wheels, skids, carrying handles,

dolly, trailer, or platform. For the purposes of this regulation, dredge engines on a boat or barge are considered portable. The engine is not portable if:

- (1) the engine or its replacement is attached to a foundation, or if not so attached, will reside at the same location for more than 12 consecutive months. The period during which the engine is maintained at a storage facility shall be excluded from the residency time determination. Any engine, such as a back-up or stand-by engine, that replace engine(s) at a location, and is intended to perform the same or similar function as the engine(s) being replaced, will be included in calculating the consecutive time period. In that case, the cumulative time of all engine(s), including the time between the removal of the original engine(s) and installation of the replacement engine(s), will be counted toward the consecutive time period; or
- (2) the engine remains or will reside at a location for less than 12 consecutive months if the engine is located at a seasonal source and operates during the full annual operating period of the seasonal source, where a seasonal source is a stationary source that remains in a single location on a permanent basis (at least two years) and that operates at that single location at least three months each year; or
- (3) the engine is moved from one location to another in an attempt to circumvent the portable residence time requirements.

§ 93116.2 - Requirements

Fuel and Fuel Additive Requirements:

This regulation stipulates that diesel-fueled portable engines shall use one of the following fuels:

1. CARB Diesel Fuel; or
2. An alternative diesel fuel that has been verified through the Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines; or
3. CARB diesel fuel utilizing fuel additives that have been verified through the Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines.

The proposed engine will use CARB certified diesel fuel.

Diesel PM Standards:

Portable diesel-fueled engines that have not been permitted or registered prior to January 1, 2006, (meaning new engines) are subject to "the most stringent of the federal or California emission standard for nonroad engines".

The proposed engines have the highest available CARB certification for model and year (Tier 2 for rental engines available in the time frame this project is to be completed by).

Fleet Requirements:

The earliest fleet average PM requirement took effect 1/1/2013; however, this operation does not operate a fleet.

California Environmental Quality ACT (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The Department of Toxic Substances Control (DTSC) is the public agency having principal responsibility for approving the project. As such, the DTSC served as the Lead Agency (CCR §15367). In approving the project, the Lead Agency prepared and adopted a Negative Declaration. The Lead agency filed a Notice of Determination, stating that the environmental document was adopted pursuant to the provisions of CEQA and concluding that the project would not have a significant effect on the environment.

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CCR §15381). As a Responsible Agency the District complies with CEQA by considering the environmental document prepared by the Lead Agency, and by reaching its own conclusion on whether and how to approve the project (CCR §15096).

The District has considered the Lead Agency's environmental document. Furthermore, the District has conducted an engineering evaluation of the project, this document, which demonstrates that Stationary Source emissions from the project would be below the District's thresholds of significance for criteria pollutants. Thus, the District finds that through a combination of project design elements, compliance with applicable District rules and regulations, and compliance with District air permit conditions, project specific stationary source emissions will have a less than significant impact on air quality. The District does not have authority over any of the other project impacts and has, therefore, determined that no additional findings are required (CEQA Guidelines §15096(h)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATCs S-8429-1-0 and -2-0 subject to the permit conditions on the attached draft ATCs in **Appendix G**.

X. Billing Information

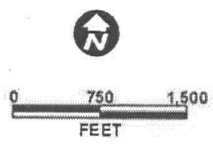
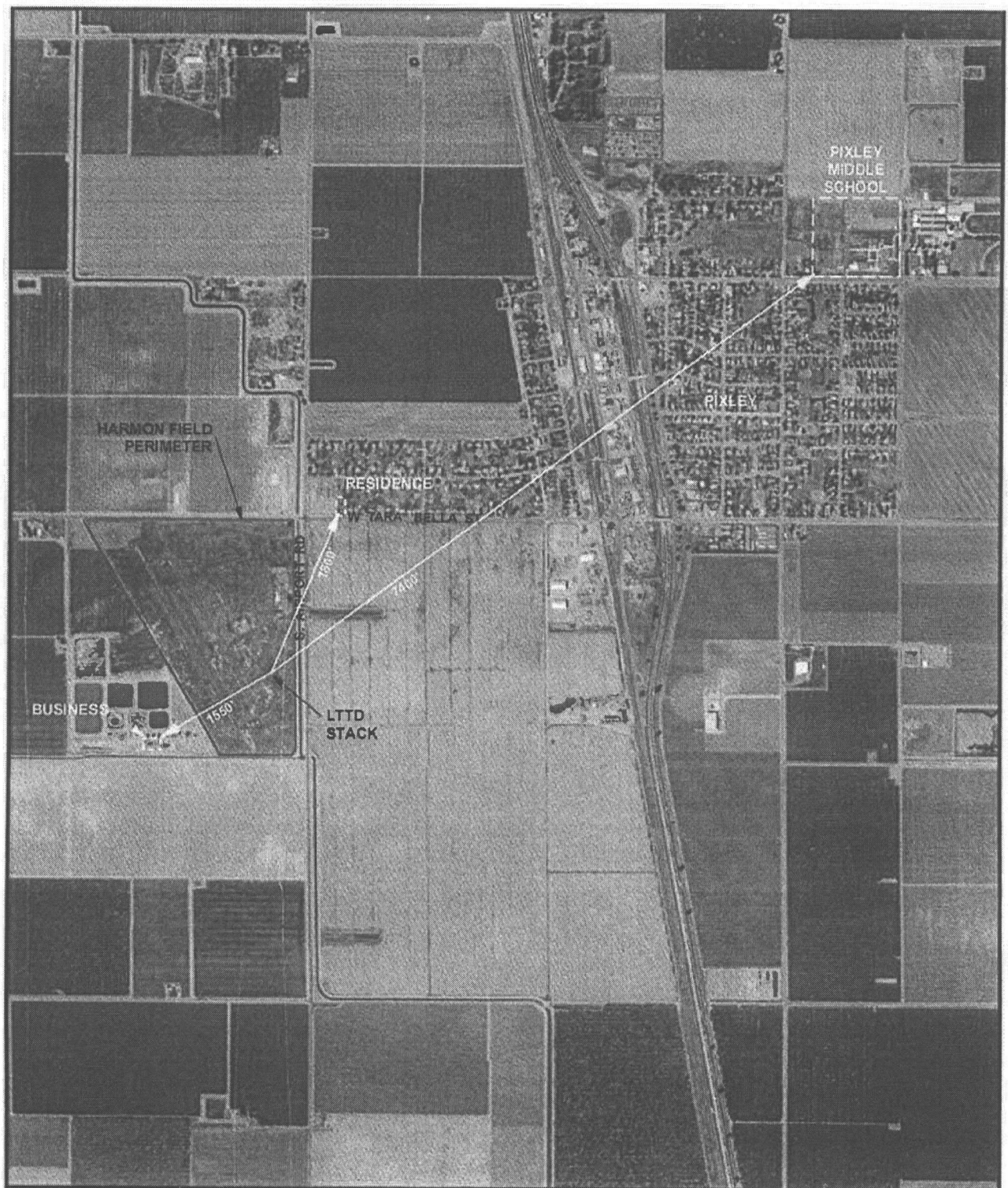
Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-8429-1-0	3020-02-H	146.1 MMBtu/hr	\$1,030.00
S-8429-2-0	3020-10-F	1,372 bhp	\$749.00

Appendices

- A: Aerial Maps
- B: Process Diagrams
- C: Contaminant Boiling Points
- D: BACT Guidelines
- E: BACT Analyses
- F: HRA/AAQA Summary
- G: Draft ATCs

Appendix A

Aerial Maps



PROXIMITY MAP

HARMON FIELD
PIXLEY, CALIFORNIA

BRADY

DATE: Dec 24, 2013
FILE: PermitProximity

FIGURE
1

Harmon Field Excavation Lay out

Haul Routes
Untreated Soil

NOTES:

1. THE LOCATIONS FOR THE EXCAVATION OF CONTAMINATED SOIL ARE APPROXIMATE AND MAY VARY BASED ON THE RESULTS OF ADDITIONAL SAMPLING CONDUCTED BY THE ENGINEER DURING THE EXCAVATION AND TREATMENT PROCESS.
2. THE SEQUENCING OF EXCAVATION (BOTH HORIZONTALLY AND VERTICALLY) MAY BE ADOPTED IN THE FIELD BY THE ENGINEER BASED ON THE TIMING AND RESULTS OF CONTINUOUS SAMPLING.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING ANY SHORING, SHEETING OR BRACING REQUIRED TO SUPPORT EXCAVATION IN COMPLIANCE WITH OSHA REGULATIONS.
4. PORTIONS OF CONTAMINATED SOIL REMOVAL AREA MAY CONTAIN HAZARDOUS MATERIALS FROM GLASS CONTAINERS AND GASES THAT WILL REQUIRE OFFSITE DISPOSAL AT A DRC APPROVED FACILITY.

See Sheet 2

H2O Drop Tank

21,000 GL Baker Tanks

1' buried steel sleeve from well to Harmon Property

CONTAMINATED SOIL REMOVAL (<1")
CONTAMINATED SOIL REMOVAL (>1" - SEE SCHEDULES SHEET 7 OF 11)
COORDINATE POINTS
CONTAMINATED SOIL REMOVAL AREAS

SCALE: 1"=100'



REV	DATE	BY	CHKD	DESCRIPTION
01				
02				
03				

MBF
MBF
DGB

HARMON FIELD LOW TEMPERATURE THERMAL DESORPTION SOIL REMEDIATION PROJECT
COUNTY OF TULARE
PIXLEY, CALIFORNIA

BID DRAWINGS
EXCAVATION PLAN
CONTAMINATED SOIL

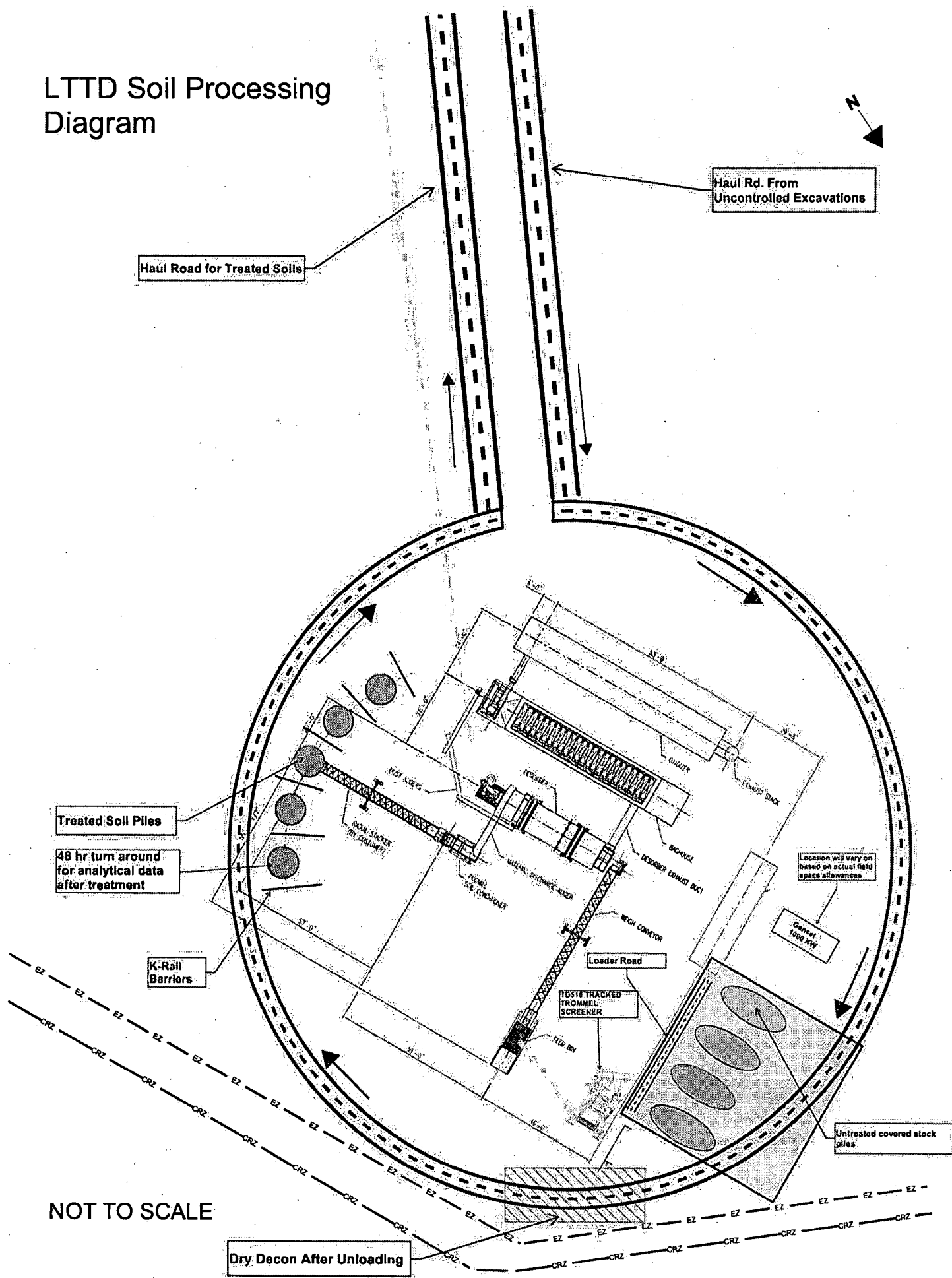


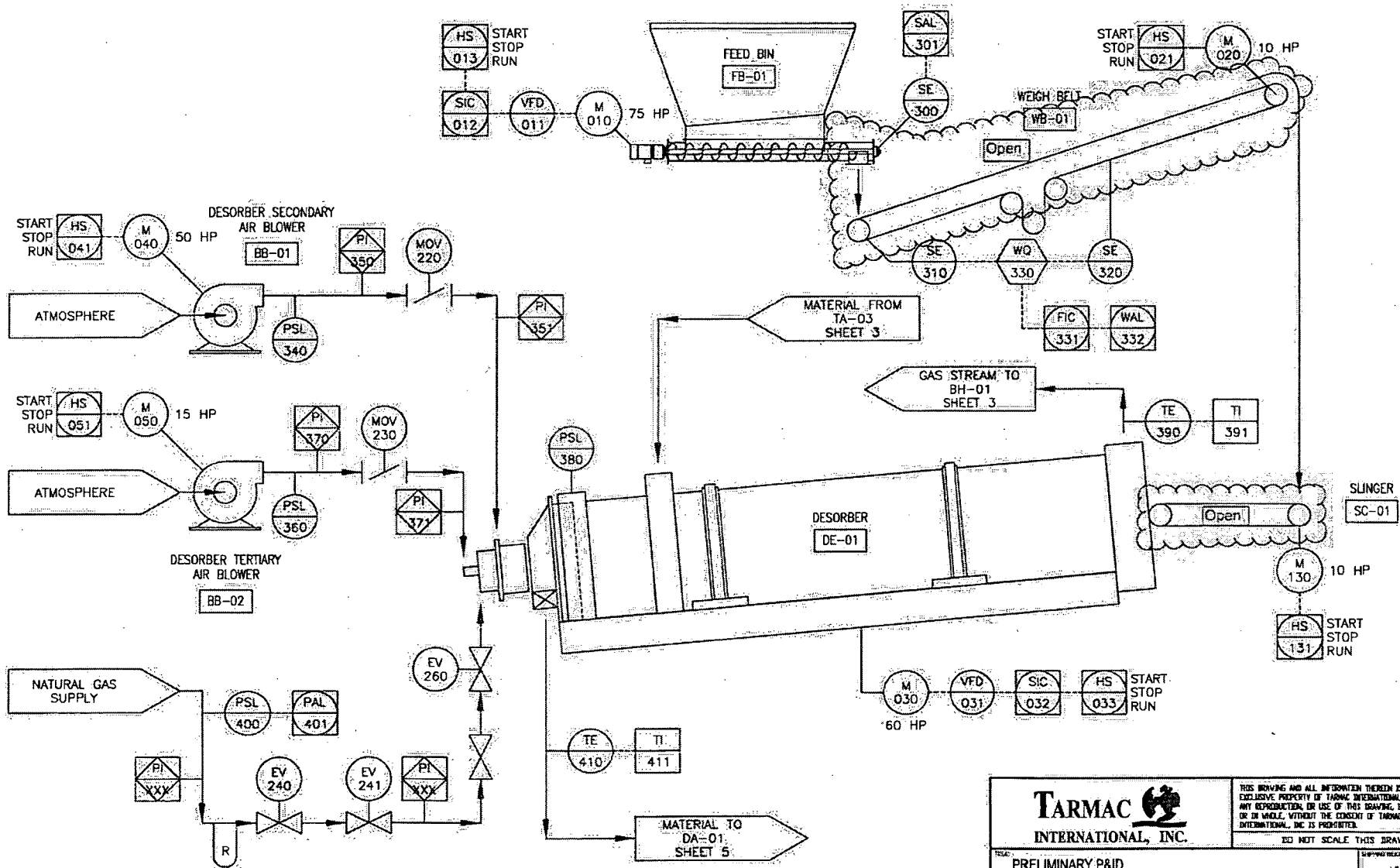
THE ENGINEER SHALL REVIEW AND SEAL THIS DRAWING PRIOR TO CONSTRUCTION WORK OR ANY OTHER USE. IN CONFORMANCE WITH STATE AND LOCAL REGULATIONS.
DATE: 7/19/2013
SHEET: 5 OF 11
CAD REF. NO.: HARMON_06

Appendix B

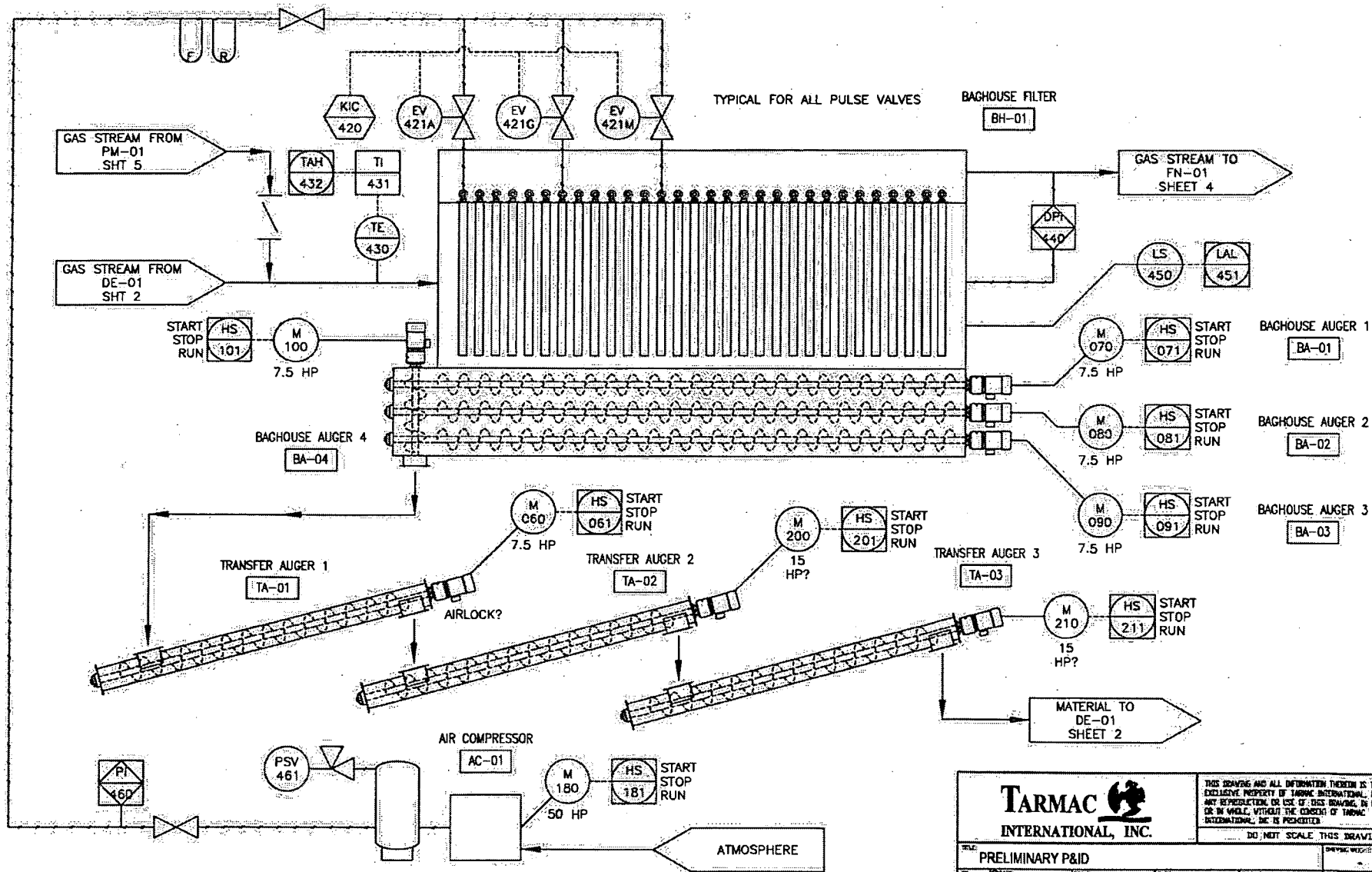
Process Diagrams

LTTD Soil Processing Diagram





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PRELIMINARY P&ID				SHEET NO.: 2 OF 5			
DATE: 12/20/2013	SCALE:	QUOTE: PRE-PID-02	SHEET NO.: CU-1447	2	5	0	0

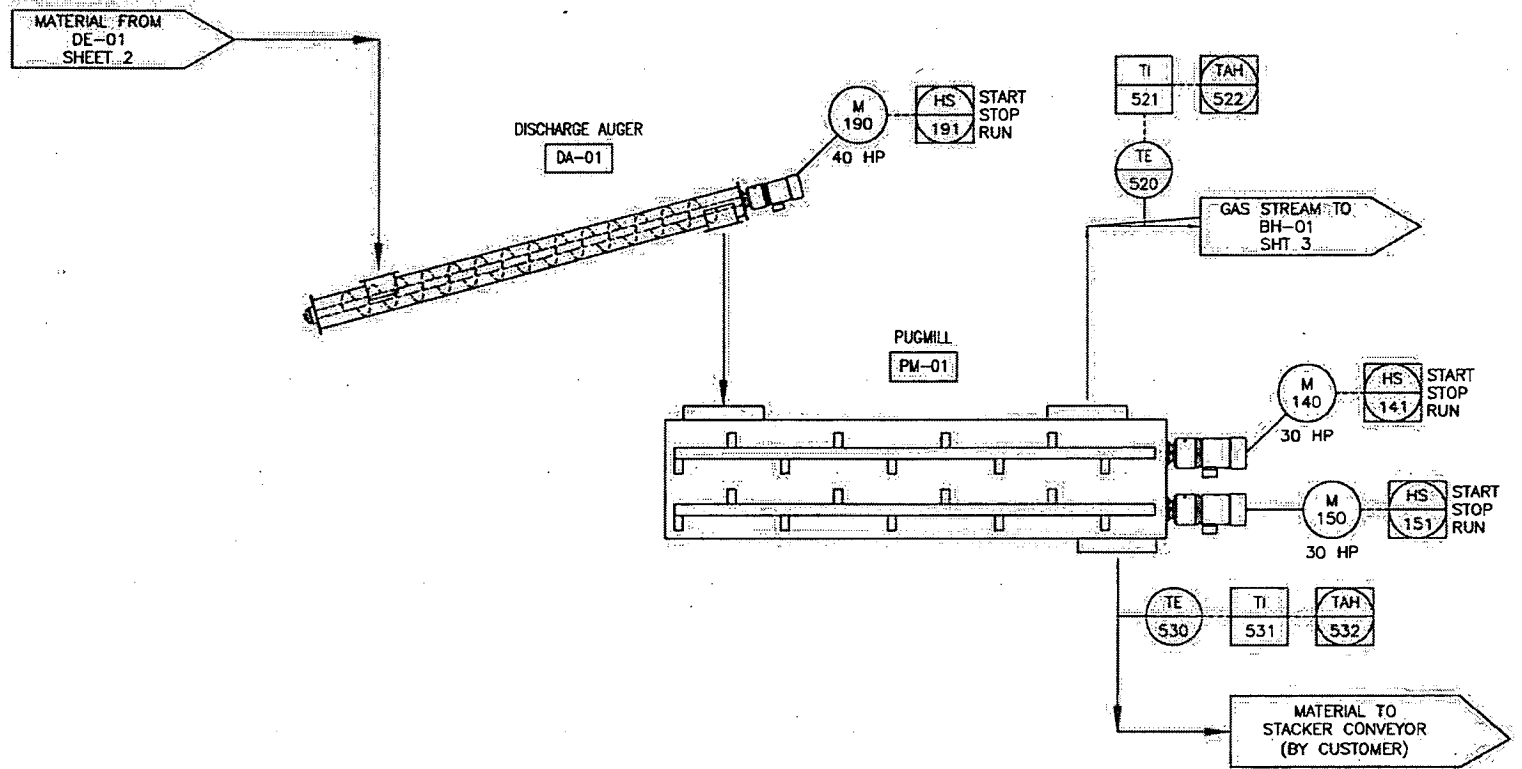


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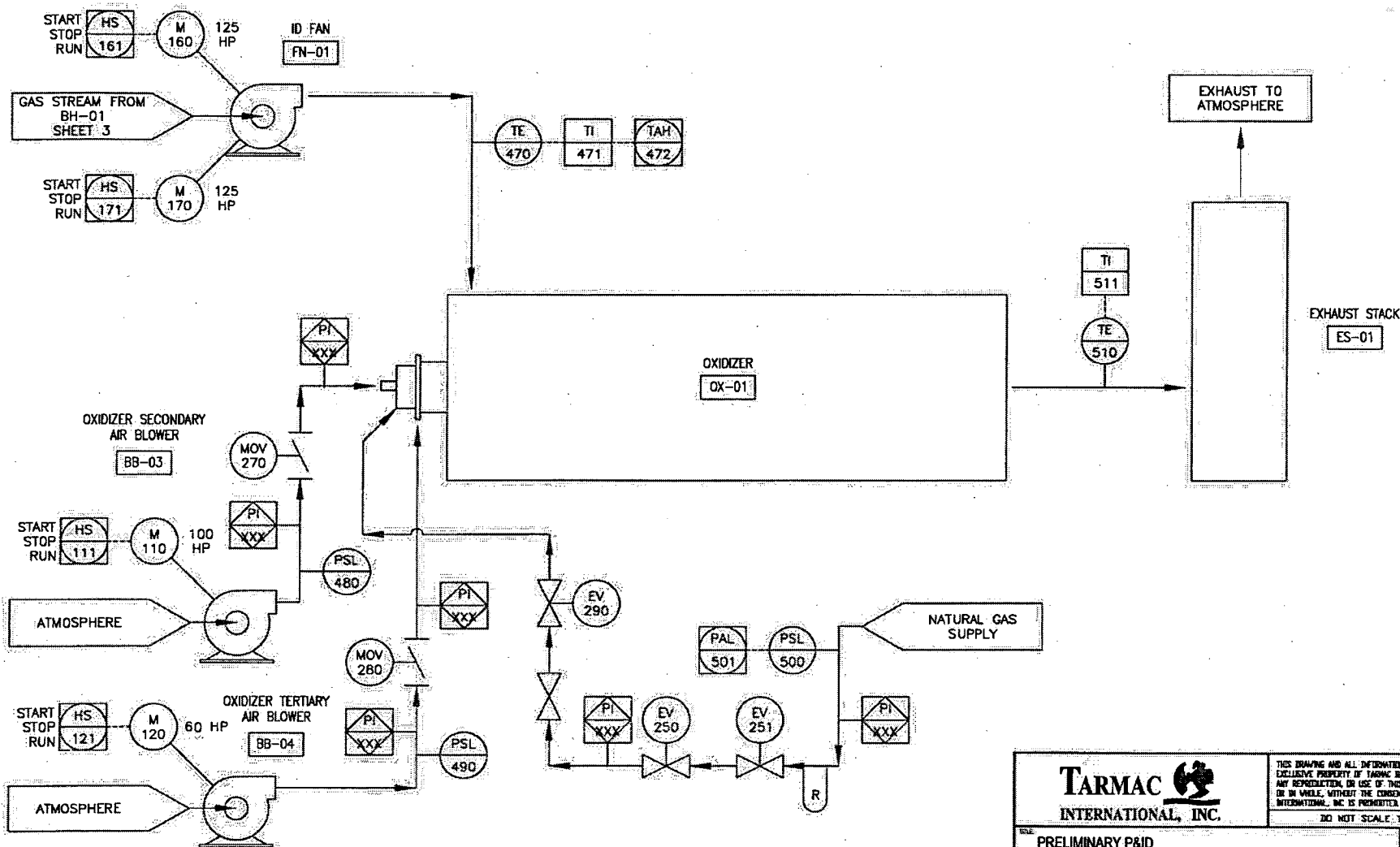
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TITLE: PRELIMINARY P&ID				DRAWING WEIGHT:	
REV	DATE	SCALE	ISSUED	BY	APP'D
GC	12/20/2013		PRE-PID-03	CU-1447	3 5 0



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TITLE: PRELIMINARY P&ID			
BY: GC	DATE: 12/20/2013	PROJECT: PRE-PID-05	DRAWING NO.: CU-1447
		SHEET: 5	TOTAL: 5



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PRELIMINARY P&ID				DO NOT SCALE THIS DRAWING			
TITLE GC	DATE 12/20/2013	SCALE 1" = 10'	DESIGNED BY PRE-PID-04	CHECKED BY CU-1447	DRAWING NO. 4	SHEET NO. 5	TOTAL SHEETS 0

Appendix C

Contaminant Boiling Points

Table 1
Air District Rule 4651 Applicability
Detected Chemicals of Potential Concern
Harmon Field

No.	Chemical	Maximum Detection mg/kg	Number of Detections	Boiling Point °F (°C)
1	Benoyml	0.96	4	<i>decomposes</i>
2	α-BHC	1.3	6	550°F (288°C)
3	β-BHC	0.55	4	140°F (60°C)
4	γ-BHC	2.9	6	613°F (323°C)
5	2,4-D (2,4-Dichlorophenoxyacetic acid)	0.34	1	320°F (160°C)
6	ΣDDT	1,860	1,457	500°F (260°C)
7	DEF (tributylphosphorotrithiolate)	0.035	1	766°F (408°C)
9	Dicamba	0.018	1	619°F (326°C)
10	Dieldrin	0.42	20	725°F (385°C)
12	Dinoseb	190	3	630°F (332°C)
13	Disulfoton	4.7	2	628°F (331°C)
14	Diuron	0.99	3	356°F (180°C)
15	ΣEndosulfan	0.34	12	(554°F-662°F) (290°C-350°C)
16	ΣEndrin	530	469	781°F (416°C)
17	Ethion	0.16	3	302°F (150°C)
19	Methoxychlor	6.5	9	<i>decomposes</i>
21	Ethyl Parathion	0.091	1	315°F (157°C)
22	Toxaphene	3,400	515	311°F (155°C)

Note: Rule 4651 Exempts Volatile Organic Compounds with boiling points greater than or equal to (≥) 302°F (150°C).

Appendix D

BACT Guidelines

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 2.1.7*

Last Update 8/24/1998

Soil Remediation Operation - Thermal Soil Desorber

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
NOx	Low NOx burner and natural gas/LPG firing		
PM10	Fabric filter serving desorber exhaust (99% control efficiency) and Soil covered or adequate moisture content such that visible emissions are less than 5% (90% control efficiency).		
VOC	Thermal or catalytic oxidation (95% control efficiency)		

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This Is a Summary Page for this Class of Source**

IC Engine Powering an Electrical Generator (S-8249-2-0)

Top Down BACT Analysis for NO_x, PM₁₀, and VOC

BACT Guideline 3.2.11, 4th quarter 2008, applies to transportable compression ignited IC engines (non-agricultural and non-electric generating).

Step 1 - Identify All Possible Control Technologies

- 1) LPG/Propane fired engine – Alternate Basic Equipment
- 2) The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range – achieved in Practice

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options to eliminate.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

- 1) LPG/Propane fired engine – Alternate Basic Equipment
- 2) The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range – Achieved in Practice

Step 4 - Cost Effective Analysis

A cost effective analysis must be performed for all control options in the list from step 3 in the order of their ranking to determine the cost effective option with the lowest emissions.

The District BACT analysis for Transportable Compression – Ignited IC Engines (Non-Agricultural, Non-Electric Generation) dated October 29, 2009 demonstrates (Appendix A) that a LPG/propane fired engine having a rating of ≤1,200 hp is not a cost effective alternative to a diesel engine of the same horsepower rating. The proposed engine having a rating of 1,372 hp exceed the threshold established in the District BACT guidance, and cannot automatically be ruled cost ineffective. However, as the proposed application is of very limited duration and as there is not local immediately available LPG/propane fired engine in this size range, the use of such an engine is not considered feasible for the current application and will not be further evaluated.

Step 5 - Select BACT

BACT for NO_x, PM₁₀, and VOC emissions from the transportable engine is an engine that meets the latest CARB certification standard for the particular horsepower range (as Tier 4I engines of this size are not available, see correspondence from rental companies in project file, they need not be considered per FYI 324). The applicant has proposed an engine that meets the CARB certification standard for the particular horsepower range; therefore BACT for NO_x, PM₁₀, and VOC emissions is satisfied.

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 3.2.11*

Last Update 10/30/2008

Transportable Compression - Ignited IC Engines (Non-Agricultural, Non-Electric Generation)

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range. (Example: a 200 bhp engine proposed in 2007 shall be Tier 3 certified and meet the emission standard of $\leq$ 0.149 g-PM10/bhp-hr)		LPG/Propane Fired Engine
NOx	The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range. (Example: a 200 bhp engine proposed in 2007 shall be Tier 3 certified and meet the emission standard of $\leq$ 0.149 g-PM10/bhp-hr)		LPG/Propane Fired Engine
PM10	The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range. (Example: a 200 bhp engine proposed in 2007 shall be Tier 3 certified and meet the emission standard of $\leq$ 0.149 g-PM10/bhp-hr)		LPG/Propane Fired Engine
SOX	Very Low Sulfur Fuel (0.0015% fuel S by weight)		
VOC	The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range. (Example: a 200 bhp engine proposed in 2007 shall be Tier 3 certified and meet the emission standard of $\leq$ 0.149 g-PM10/bhp-hr)		LPG/Propane Fired Engine

Appendix E

BACT Analyses

Soil Desorption Operation (S-8429-1-0)

Top Down BACT Analysis for NO_x

BACT Guideline 2.1.7, 3rd quarter 1998, applies to soil remediation operations using a thermal soil desorber.

Step 1 - Identify All Possible Control Technologies

- 1) Low NO_x burner fired on natural gas/LPG – Achieved in Practice

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options to eliminate.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

- 1) Low NO_x burner fired on natural gas/LPG – Achieved in Practice

Step 4 - Cost Effective Analysis

Only one control technology is identified and this technology is achieved in practice, therefore, a cost effectiveness analysis is not necessary.

Step 5 - Select BACT

BACT for NO_x emissions from the soil remediation operation is the use of a low NO_x burner fired on natural gas. The applicant has proposed equipment equipped with a low NO_x burner (meeting Rule 4309 requirements) fired on PUC gas; therefore BACT for NO_x emissions is satisfied.

Soil Desorption Operation (S-8429-1-0)

Top Down BACT Analysis for PM₁₀

BACT Guideline 2.1.7, 3rd quarter 1998, applies to soil remediation operations using a thermal soil desorber.

Step 1 - Identify All Possible Control Technologies

- 1) Fabric filter serving desorber exhaust (99% control efficiency) and soil covered or adequate moisture content such that visible emissions are less than 5% (90% control efficiency) – Achieved in Practice

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options to eliminate.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

- 1) Fabric filter serving desorber exhaust (99% control efficiency) and Soil covered or adequate moisture content such that visible emissions are less than 5% (90% control efficiency) – Achieved in Practice

Step 4 - Cost Effective Analysis

Only one control technology is identified and this technology is achieved in practice, therefore, a cost effectiveness analysis is not necessary.

Step 5 - Select BACT

BACT for PM₁₀ emissions from the soil remediation operation is the use of a fabric filter serving the desorber exhaust (99% control efficiency) and soil covered or adequate moisture content such that visible emissions are less than 5%. The applicant has proposed a fabric filter serving the desorber exhaust with an expected 99% control efficiency and soil covered or maintained at an adequate moisture content such that visible emissions are less than 5% (permit condition); therefore BACT for PM₁₀ emissions is satisfied.

Soil Desorption Operation (S-8429-1-0)

Top Down BACT Analysis for VOC

BACT Guideline 2.1.7, 3rd quarter 1998, applies to soil remediation operations using a thermal soil desorber.

Step 1 - Identify All Possible Control Technologies

- 1) Thermal or catalytic oxidation (95% control efficiency) – Achieved in Practice

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options to eliminate.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

- 1) Thermal or catalytic oxidation (95% control efficiency) – Achieved in Practice

Step 4 - Cost Effective Analysis

Only one control technology is identified and this technology is achieved in practice, therefore, a cost effectiveness analysis is not necessary.

Step 5 - Select BACT

BACT for VOC emissions from the soil remediation operation is the use of thermal or catalytic oxidation with 95% control efficiency. The applicant has proposed the use of thermal oxidation with 95% control efficiency; therefore BACT for VOC emissions is satisfied.

Appendix F

HRA/AAQA Summary

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Kris Rickards – Permit Services
From: Leland Villalvazo – Technical Services
Date: April 24, 2014
Facility Name: Tulare County Capital Projects & Facilities
Location: 1494 S. Airport Rd., Pixley
Application #(s): S-8429-1-0 & 2-0
Project #: S-1134795

A. RMR SUMMARY

RMR Summary				
Categories	TRANSPORTABLE SOIL REMEDIATION (Unit 1-0)	TRANSPORTABLE 1,392 DICE (Unit 2-0)	Project Totals	Facility Totals
Prioritization Score	0.01	N/A ¹	0.01	>1
Acute Hazard Index	0.00	N/A ²	0.00	0.00
Chronic Hazard Index	0.00	N/A ²	0.00	0.00
Maximum Individual Cancer Risk	1.04E-09	6.64E-07	6.65E-07	6.65E-07
T-BACT Required?	No	No		
Special Permit Conditions?	Yes	Yes		

1 Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0.

2 Acute and Chronic Hazard Indices were not calculated since there is no risk factor, or the risk factor is so low that the risk has been determined to be insignificant for this type of unit.

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Unit # 1-0

1. This unit's operation shall not exceed 756 hours per calendar year.
2. The exhaust stacks shall vent vertically upward. The vertical exhausts flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction

Unit # 2-0

1. This unit's operation shall not exceed 756 hours per calendar year.
2. Modified {1901} The PM10 emissions rate shall not exceed 0.15 g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rule 2201]

I. Project Description

Technical Services received a request on March 24, 2014, to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the installation of a transportable thermal desorption soil remediation operation consisting of a 96.8 MMBtu/hr thermal oxidizer, 49.3 MMBtu/hr dryer, and a baghouse permitted under unit -1-0. The applicant is also requesting the installation of a 1,372 BHP transportable diesel-fired ICE powering an electrical generator permitted under unit -2-0.

II. Analysis

Toxic emissions for Unit 1-0 were calculated using soil analysis data supplied by the facility and processing engineer, along with Natural Gas process rates used with District approved emission factors for Natural Gas external combustion. For the diesel engine (Unit 2-0), Technical Services used diesel exhaust emissions calculated using the District Diesel Exhaust Risk Screening Spreadsheet. Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0. Therefore, a refined Health Risk Assessment was required and performed for the project. AERMOD was used with point source parameters outlined below and concatenated 4-year meteorological data from Visalia to determine maximum dispersion factors at the nearest residential and business receptors. The dispersion factors were input into the HARP model to calculate the Carcinogenic Risk.

The following parameters were used for the review:

Analysis Parameters (Project Parameters)			
Closest Receptor (m)	350	Location Type	Rural
Type of Receptor	Business		

Analysis Parameters (Unit 1-0 Thermal Oxidizer)			
Source Type	Point	Stack Gas Velocity (m/sec)	14.64
Stack Height (m)	5.94	NG Fuel Usage (mmscf/hr)	0.0986
Stack Diameter (m)	1.37	NG Fuel Usage Increase (mmscf/yr)	74.5
Stack Gas Temperature (K)	1,144		

Analysis Parameters (Unit 1-0 Dryer & Baghouse) (Shared)			
Source Type	Point	Stack Gas Velocity (m/sec)	19.76
Stack Height (m)	6.1	NG Fuel Usage (mmscf/hr)	0.0493
Stack Diameter (m)	1.83	NG Fuel Usage Increase (mmscf/yr)	37.27
Stack Gas Temperature (K)	1625		

Analysis Parameters (Unit 2-0 DICE)			
Source Type	Point*	Stack Gas Velocity (m/sec)	70.82
Stack Height (m)	3.86	PM10 Emissions (lb/hr)	0.45
Stack Diameter (m)	0.25	PM10 Emissions (lb/yr)	343
Stack Gas Temperature (K)	735		

*Per the RMR request form as submitted, the stack has a fixed rain cap and was designated as such in AERMOD's Source Pathway Module during the refined modeling process as per District policy

Technical Services also performed modeling for criteria pollutants CO, NO_x, SO_x, and PM₁₀. Emission rates used for criteria pollutant modeling were:

Unit 1-0 Thermal Oxidizer & Dryer	NO _x	SO _x	CO	PM10
Lbs/hr	7.19	0.42	42.72	1.11
Lbs/yr	5,434	315	32,296	83

Unit 2-0 DICE	NO _x	SO _x	CO	PM10
Lbs/hr	13.79	0.02	7.87	45
Lbs/yr	10,427	12	5,945	343

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Values are in µg/m³

S-1134795	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass ¹	X	X	X	Pass
SO _x	Pass ²	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass ³	Pass ³

*Results were taken from the attached PSD spreadsheet.

¹The project's air quality impact was compared to the 1-hour NO₂ National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures. The predicted 1-hour nitrogen dioxide concentration using the ozone limiting method (OLM) which is a TIER 3 NO₂ NAAQS modeling procedure combined with a background concentration was less than the 1-hour National Ambient Air Quality Standard (NAAQS) for nitrogen dioxide.

²The project's air quality impact was compared to the 1-hour SO₂ NAAQS that became effective on August 23, 2010 using the District's approved procedures.

³The maximum predicted PM₁₀ concentrations from the proposed units' emissions are below EPA's Significant Impact Levels (SILs) as found in 40 CFR Part 51.165 (b)(2).

III. Conclusions

The emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS.

The acute and chronic indices are below 1.0; and the maximum individual cancer risk associated with the project is **6.65E-07**; which is less than the 1 in a million threshold. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on Page 1 of this report must be included for this permit unit.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

IV. Attachments

- A. RMR request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Stack Parameter Worksheet
- D. Prioritization score w/ toxic emissions summary
- E. HARP Risk Report
- F. Facility Summary

Appendix G

Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-8429-1-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: TULARE COUNTY CAPITAL PROJ/FACIL
MAILING ADDRESS: 5953 S. MOONEY AVENUE
VISALIA, CA 93277-9394

LOCATION: 1494 SOUTH AIRPORT ROAD
PIXLEY, CA

EQUIPMENT DESCRIPTION:

TRANSPORTABLE THERMAL DESORPTION SOIL REMEDIATION OPERATION INCLUDING FRONT END LOADED/UNLOADED EXCAVATED MATERIAL, DRYER CONVEYOR BELT, 49.3 MMBTU/HR ROTARY DRUM DRYER WITH A NATURAL GAS FIRED HAUCK MODEL SJPL1260E BURNER SERVED BY A NATURAL GAS FIRED 96.8 MMBTU/HR TARMAC MODEL T259-OX1015 THERMAL OXIDIZER, DISCHARGE AND DUST AUGERS ALL SERVED BY A TARMAC MODEL P-57X14 DUST COLLECTOR, FEED BIN WITH AUGER, WEIGH CONVEYOR BELT, SOIL CONDITIONER, SANDVIK MODEL QA340 MOBILE SCREENER POWERED BY PERMIT EXEMPT IC ENGINE, AND AN EDGE MODEL RTS80 MOBILE RADIAL STACKER POWERED BY A PERMIT EXEMPT IC ENGINE

CONDITIONS

1. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. Visible emissions from the oxidizer (downstream from the baghouse) serving the soil remediation operation shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in one hour. [District Rules 2201 and 4101]
5. All stockpiled soil shall be covered, or shall contain adequate moisture, such that visible emissions do not exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rules 2201 and 4101]
6. {1420} The soil remediation system shall be maintained in proper operating condition at all times. [District Rule 2201]
7. Rotary drum dryer and Thermal oxidizer shall only be fired on PUC natural gas. [District Rules 2201 and 4801]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

Arnaud Marjolle, Director of Permit Services

S-8429-1-0 : Apr 24 2014 8:01AM - KARRSR : Joint Inspection Required with RICKARDX

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8. The baghouse shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201]
9. Baghouse shall operate at all times with a differential pressure between 2 and 6 inches of water column. [District Rule 2201]
10. If at any time baghouse visible emissions exceed 5% opacity or differential pressure is out of range, the soil desorption process shall be shut down until bags can be inspected and repaired or replaced. Records of each occurrence including date, time, and duration shall be maintained. [District Rule 2201]
11. Material removed from the dust collector shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201]
12. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201]
13. PM10 emissions from the baghouse shall not exceed 0.004 gr/dscf. [District Rules 2201 and 4201]
14. Either the VOC control efficiency shall not be less than 95%, or the total VOC emission rate shall not exceed 2 pounds in any one day. [District Rule 2201]
15. Total VOC emissions from combusting VOC in the soil shall not exceed 0.60 pounds per ton of soil processed. [District Rule 2201]
16. Emissions from the combustion of natural gas in the dryer and thermal oxidizer shall not exceed any of the following limits: 4.3 ppmvd NOx @ 19% O2 (equivalent to 0.0492 lb-NOx/MMBtu), 0.0076 lb-PM10/MMBtu, 42 ppmvd CO @ 19% O2 (equivalent to 0.2924 lb-CO/MMBtu), or 0.0055 lb-VOC/MMBtu. If measured O2 concentration is greater than 19%, the corrected NOx or CO concentration is equal to the measured NOx or CO concentration. [District Rules 2201, 4201, and 4309]
17. A non-resettable, totalizing hour-meter to measure the daily operation of the rotary drum dryer shall be installed, utilized and maintained. [District Rule 2201]
18. All equipment shall not be operated more than 12 hours in day nor 756 hours in a year. [District Rule 2201]
19. The amount of soil processed by the thermal desorption unit shall not exceed 400 tons in any day. [District Rule 2201]
20. The total footprint of the decontaminated soil stockpiles shall not exceed 0.344 acres in size. [District Rule 2201]
21. The contaminated soil stockpiles shall be covered with an impervious cover except when soils are being added to or removed from the stockpiles. [District Rule 2201]
22. {1462} The minimum operating temperature for the combustion chamber of the thermal oxidizer shall be maintained at or above 1400 degrees F. [District Rule 2201]
23. {2775} The thermal oxidizer shall be equipped with an operational temperature gauge to indicate the temperature of the combustion chamber. A continuously recording device shall be utilized to indicate the combustion chamber temperature during operation. [District Rule 2201]
24. {1470} The soil remediation system shall not be operated unless the combustion chamber is at or above minimum operating temperature. The system shall automatically terminate operation if the temperature drops below the minimum operating temperature. [District Rule 2201]
25. {1413} Sampling ports adequate for extraction of grab samples, measurement of gas flow rate, and use of an FID, PID, or other District-approved VOC detection device shall be provided for both the influent and the effluent gas streams. [District Rule 1081]
26. {1414} Laboratory samples shall be taken at the initial inspection, under the supervision of the APCD Inspector. Samples shall be taken from both the influent and the effluent gas stream sampling ports. [District Rule 1081]
27. Laboratory samples shall be analyzed for VOCs. [District Rule 2201]

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CONDITIONS CONTINUE ON NEXT PAGE

28. {1416} Measurements to determine the influent and the effluent gas flow rates shall be taken at the initial inspection. Flow rate calculations shall be submitted to the District along with the laboratory sample analysis results. [District Rule 1081]
29. {1417} Initial compliance with VOC emission rate and control efficiency requirements shall be demonstrated by the results of the laboratory sample analysis. The results shall be submitted to the District within 60 days of the test. [District Rule 1081]
30. {403} Ongoing compliance with VOC emission rate and control efficiency requirements shall be demonstrated by sampling both the influent and the effluent gas streams with an FID, PID, or other District-approved VOC detection device. [District Rule 1081]
31. {1356} Sampling to demonstrate ongoing compliance shall be performed at least once per month. [District Rule 1081]
32. {3713} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rule 4309]
33. Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 5 days of initial operation and at least once every month thereafter using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]
34. {3742} If either the NO_x or CO concentrations corrected to 19% O₂ (or no correction if measured above 19% O₂), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309]
35. {3743} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4309]
36. {3744} The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 19% O₂ (or no correction if measured above 19% O₂), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4309]
37. {3463} Differential operating pressure shall be monitored and recorded on each day that the baghouse operates. [District Rule 2201]
38. {3464} Records of all maintenance of the baghouse, including all change outs of filter media, shall be maintained. [District Rule 2201]
39. {3760} Permittee shall maintain records which demonstrate the unit is fired exclusively on PUC quality natural gas. [District Rule 4309]
40. The permittee shall maintain records of the daily contaminated soil throughput (in tons), the daily hours of operation, and the thermal incinerator operating temperature. [District Rule 2201]

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CONDITIONS CONTINUE ON NEXT PAGE

41. {1425} Records of the cumulative running time and the measured influent and effluent VOC concentrations shall be maintained. [District Rule 2201]
42. All records shall be retained for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 2201 and 4309]
43. {3433} Disturbances of soil related to any construction, demolition, excavation, extraction, or other earthmoving activities shall comply with the requirements for fugitive dust control in District Rule 8021 unless specifically exempted under Section 4.0 of Rule 8021 or Rule 8011. [District Rules 8011 and 8021]
44. {3434} An owner/operator shall submit a Dust Control Plan to the APCO prior to the start of any construction activity on any site that will include 10 acres or more of disturbed surface area for residential developments, or 5 acres or more of disturbed surface area for non-residential development, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials on at least three days. [District Rules 8011 and 8021]
45. {3435} An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041 Section 5.0, unless specifically exempted under Section 4.0 of Rule 8041 (8/19/04) or Rule 8011(8/19/04). [District Rules 8011 and 8021]
46. {3436} Whenever open areas are disturbed, or vehicles are used in open areas, the facility shall comply with the requirements of Section 5.0 of District Rule 8051, unless specifically exempted under Section 4.0 of Rule 8051 or Rule 8011. [District Rules 8011 and 8051]
47. {3437} Any paved road or unpaved road shall comply with the requirements of District Rule 8061 unless specifically exempted under Section 4.0 of Rule 8061 or Rule 8011. [District Rules 8011 and 8061]
48. {3438} Water, gravel, roadmix, or chemical/organic dust stabilizers/suppressants, vegetative materials, or other District-approved control measure shall be applied to unpaved vehicle travel areas as required to limit Visible Dust Emissions to 20% opacity and comply with the requirements for a stabilized unpaved road as defined in Section 3.59 of District Rule 8011. [District Rule 8011 and 8071]
49. {3439} Where dusting materials are allowed to accumulate on paved surfaces, the accumulation shall be removed daily or water and/or chemical/organic dust stabilizers/suppressants shall be applied to the paved surface as required to maintain continuous compliance with the requirements for a stabilized unpaved road as defined in Section 3.59 of District Rule 8011 and limit Visible Dust Emissions (VDE) to 20% opacity. [District Rule 8011 and 8071]
50. {3440} On each day that 50 or more Vehicle Daily Trips or 25 or more Vehicle Daily Trips with 3 axles or more will occur on an unpaved vehicle/equipment traffic area, permittee shall apply water, gravel, roadmix, or chemical/organic dust stabilizers/suppressants, vegetative materials, or other District-approved control measure as required to limit Visible Dust Emissions to 20% opacity and comply with the requirements for a stabilized unpaved road as defined in Section 3.59 of District Rule 8011. [District Rule 8011 and 8071]
51. {3441} Whenever any portion of the site becomes inactive, Permittee shall restrict access and periodically stabilize any disturbed surface to comply with the conditions for a stabilized surface as defined in Section 3.58 of District Rule 8011. [District Rules 8011 and 8071]
52. {3442} Records and other supporting documentation shall be maintained as required to demonstrate compliance with the requirements of the rules under Regulation VIII only for those days that a control measure was implemented. Such records shall include the type of control measure(s) used, the location and extent of coverage, and the date, amount, and frequency of application of dust suppressant, manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. Records shall be kept for one year following project completion that results in the termination of all dust generating activities. [District Rules 8011, 8031, and 8071]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-8429-2-0

LEGAL OWNER OR OPERATOR: TULARE COUNTY CAPITAL PROJ/FACIL
MAILING ADDRESS: 5953 S. MOONEY AVENUE
VISALIA, CA 93277-9394

LOCATION: 1494 SOUTH AIRPORT ROAD
PIXLEY, CA

EQUIPMENT DESCRIPTION:

TRANSPORTABLE NON-ROAD 1,372 BHP (CONTINUOUS) CATERPILLAR MODEL XQ1000 TIER 2 CERTIFIED
DIESEL-FIRED IC ENGINE POWERING AN ELECTRICAL GENERATOR

CONDITIONS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
4. Operation of this engine shall not exceed 12 hours per day nor 756 hours per year. [District Rules 2201 and 4102]
5. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO-approved alternative. [District Rules 2201 and 4702, 17 CCR 93115]
6. Permittee shall properly operate and maintain engine and monitor the operational characteristics of the engine as recommended by the engine manufacturer. [District Rule 4702]
7. Emission rates from this unit shall not exceed any of the following limits: NOx (as NO2) 4.56 g/hp-hr; VOC (as methane) 0.24 g/hp-hr; CO 2.6 g/hp-hr; or SOx (as SO2) 0.0051 g/hp-hr. [District Rules 2201 and 4702]
8. The PM10 emissions rate from the engine shall not exceed 0.15 g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201, 4102, and 4201]
9. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4701, 4702, 4801, 17 CCR 93115]

CONDITIONS CONTINUE ON NEXT PAGE

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Sayed Sadredin, Executive Director, APCO

Arnaud Marjolle, Director of Permit Services

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10. This nonroad transportable engine shall not be operated at one location for more than 12 consecutive months and shall meet all the requirements of a nonroad transportable engine, per CFR Title 40 Part 89. [District Rule 4702 and 17 CCR 93115]
11. The operator shall maintain a monthly operating log for this engine that includes all of the following information: The time and date of engine operation, total hours of operation, type of fuel used, any maintenance or modifications performed, and all monitored operational characteristics. [District Rule 4702 and 17 CCR 93115]
12. All records shall be retained for a minimum of five years, and shall be made available for District inspection upon request. [District Rule 2201]

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