



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

JAN 30 2014



HEALTHY AIR LIVING™

Shams Hasan
E&B Natural Resources
34740 Merced Avenue
Bakersfield, CA 93908

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: S-4034
Project Number: S-1134445

Dear Mr. Hasan:

Enclosed for your review and comment is the District's analysis of E&B Natural Resources' application for an Authority to Construct for installing vapor control on four crude oil storage tanks, transferring the location of one crude oil storage tank, and installing a new 300 bbl crude oil storage tank, at various locations within then Light Oil Western stationary source.

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. Steve Davidson of Permit Services at (661) 392- 5618.

Sincerely,

David Warner
Director of Permit Services

DW:SDD/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
Oil Field Tank

Facility Name: E&B Natural Resources
Mailing Address: 34740 Merced Avenue
Bakersfield, CA 93908

Date: November 25, 2013
Engineer: Steve Davidson
Lead Engineer: Allan Phillips *ASURAGE*

Contact Person: Shams Hasan
Telephone: (661) 616-4664

JAN 17 2014

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E-Mail: sfaulk@ix.netcom.com

Application #(s): S-4034-13-3, '-14-4, '-15-3, '-20-1, and '-31-0

Project #: S-1134445

Deemed Complete: November 22, 2013

I. Proposal

E&B Natural Resources (E&B) has requested Authorities to Construct (ATCs) permits for the following:

- Install a vapor control system vented to a gas plant and gas sales pipeline to two tanks (S-4034-13-3 and '-14-4) at the AML lease.
- Transfer tank S-4034-20 from the FE Smith lease to the CWOD lease.
- Install a vapor control system vented to a gas plant on two tanks (S-4034-15-3 and '-20-1) at the CWOD lease.
- Install one 300 BBL tank with pv vent at the FE Smith Lease.

BACT and offsets are not required. Public notice is required.

Facility S-4034 is a Rule 2530 source and therefore Rule 2520 is not applicable.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 2530	Federally Enforceable Operating Permit (12/18/08)
Rule 4001	New Source Performance Standards,

Subpart Kb (Amended 4/14/99) - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) Is not applicable. This subpart does not apply to vessels with a design capacity $\leq 1,589.874 \text{ m}^3$ ($\leq 420,000$ gallons) used for petroleum or condensate stored, processed, or treated prior to custody transfer. The capacity of these tanks is $\leq 420,000$

gallons, and they store crude oil prior to custody transfer; therefore, this subpart does not apply to the tanks in this project.

Subpart OOOO (Adopted 8/16/2012) - Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution.

Rule 4101 Visible Emissions (02/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4409 Components at Light Crude Oil Production facilities, Natural Gas Facilities, and Natural Gas Processing Facilities (4/20/05)
Rule 4623 Storage of Organic Liquids (05/19/05)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
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 located at the following locations within then Light Oil Western stationary source:

Permit #	Section	Township	Range	Lease
S-4034-13-3	NE 17	30S	21W	AML
S-4034-14-4	NE 17	30S	21W	AML
S-4034-15-3	NW 22	30S	21W	COWD
S-4034-20-1	NW 22	30S	21W	COWD
S-4034-31-0	NE 23	30S	21W	FE Smith

See project location map is included in **Appendix B**.

IV. Process Description

The tanks receive production prior to custody transfer. VOC emissions from tanks S-4034-13-3, and '-14-4 are controlled by a shared vapor control system in accordance with S-4034-13-3 permit conditions. VOC emissions from tanks S-4034-15-3, and '-20-1 are controlled by a shared vapor control system in accordance with S-4034-15-3 permit conditions. The vapor control systems collects vapors from the tanks and routes the uncondensed vapors to a gas plant or sales gas pipeline.

Tank S-4034-31-0 will be equipped with a pressure-vacuum (PV) relief vent valve set to within 10% of the maximum allowable working pressure of the tank. The PV-valve will reduce VOC wind induced emissions from the tank vent.

The project results in a net decrease in VOC emissions from the tanks. The plot plans of leases are found in Appendix B.

V. Equipment Listing

Pre-Project Equipment Description:

S-4034-13-2: 2000 BBL FIXED ROOF CRUDE OIL STOCK TANK #20S179 WITH P/V VALVE (AML LEASE)

S-4034-14-3: 2000 BBL FIXED ROOF CRUDE OIL STOCK TANK #20S180 WITH P/V VALVE AND TRUCK LOADOUT CONNECTION WITH DRY BREAK COUPLERS AND VAPOR BALANCE PIPING (AML LEASE)

S-4034-15-2: 2000 BBL FIXED ROOF CRUDE OIL STOCK TANK #T-2GM20 (CWOD LEASE)

S-4034-20-0: 1000 BBL FIXED ROOF CRUDE OIL STORAGE TANK T-1GM43 WITH P/V RELIEF VALVE (F.E. SMITH LEASE)

Proposed Modification:

- Install a vapor control system vented to a gas plant and gas sales pipeline to two tanks (S-4034-13-3 and '-14-4) at the AML lease.
- Transfer tank S-4034-20 from the FE Smith lease to the CWOD lease.
- Install a vapor control system vented to a gas plant on two tanks (S-4034-15-3 and '-20-1) at the CWOD lease.
- Install one 300 BBL tank with pv vent at the FE Smith Lease.

S-4034-13-3: MODIFICATION OF 2000 BBL FIXED ROOF CRUDE OIL STOCK TANK #20S179 WITH P/V VALVE (AML LEASE): INSTALL VAPOR RECOVERY SYSTEM SHARED WITH TANK S-4034-14

S-4034-14-4: MODIFICATION OF 2000 BBL FIXED ROOF CRUDE OIL STOCK TANK #20S180 WITH P/V VALVE AND TRUCK LOADOUT CONNECTION WITH DRY BREAK COUPLERS AND VAPOR BALANCE PIPING (AML LEASE): INSTALL VAPOR RECOVERY SYSTEM SHARED WITH TANK S-4034-13

S-4034-15-3: MODIFICATION OF 2000 BBL FIXED ROOF CRUDE OIL STOCK TANK #T-2GM20 (CWOD LEASE): INSTALL VAPOR RECOVERY SYSTEM SHARED WITH TANK S-4034-20

S-4034-20-3: MODIFICATION OF 1000 BBL FIXED ROOF CRUDE OIL STORAGE TANK T-1GM43 WITH P/V RELIEF VALVE (F.E. SMITH LEASE): TRANSFER LOCATION TO NW/4 SEC: 22, T30S/R21E AND INSTALL VAPOR RECOVERY SYSTEM SHARED WITH TANK 15

300 BBL FIXED ROOF CRUDE OIL STOCK TANK WITH P/V RELIEF VALVE (FE SMITH LEASE)

Post Project Equipment Description:

S-4034-13-3: 2000 BBL FIXED ROOF CRUDE OIL STOCK TANK #20S179 WITH VAPOR CONTROL SYSTEM SHARED WITH TANKS-4034-14 (AML LEASE)

S-4034-14-4: 2000 BBL FIXED ROOF CRUDE OIL STOCK TANK #20S180 VENTED TO VAPOR CONTROL SYSTEM LISTED ON TANK S-4034-13 AND TRUCK LOADOUT CONNECTION WITH DRY BREAK COUPLERS AND VAPOR BALANCE PIPING (AML LEASE)

S-4034-15-3: 2000 BBL FIXED ROOF CRUDE OIL STOCK TANK #T-2GM20 WITH VAPOR CONTROL SYSTEM SHARED WITH TANK S-4034-20 (CWOD LEASE)

S-4034-20-3: 1000 BBL FIXED ROOF CRUDE OIL STORAGE TANK T-1GM43 VENTED TO VAPOR CONTROL SYSTEM LISTED ON TANK S-4034-13 (F.E. SMITH LEASE)

S-4034-31-0: 300 BBL FIXED ROOF CRUDE OIL STOCK TANK WITH PV RELIEF VALVE (FE SMITH LEASE)

VI. Emission Control Technology Evaluation

S-4034-13-3, '-14-4, '-15-3, and '-20-1:

The tank vapor control systems collect vapors from the tanks, remove entrained liquid in knockout vessels and scrubber vessels, condenses gases in heat exchangers and routes the uncondensed vapors to a gas plant or a gas sales pipeline. The efficiency of the vapor control systems are at least 95%.

S-4034-31-0:

The tank will be equipped with a pressure-vacuum (PV) relief vent valve set to within 10% of the maximum allowable working pressure of the tank. The PV-valve will reduce VOC wind induced emissions from the tank vent.

VII. General Calculations

A. Assumptions

- Facility will operate 24 hours per day, 7 days per week, and 52 weeks per year.
- The tanks emit only volatile organic compounds (VOCs),

Pre-Project S-4034-13-3, '-14-4, '-15-3, '-20-1 and Post Project '-31-0:

- The tank paint conditions are good, the color is gray, and the shade is medium.
- Tank temperature, 100° F (unheated)
- VOCs molecular weight, 50 lb/lbmol

Permit	TVP (psia)	RVP (psia)	Throughput (BBL/day)
S-4034-13-1	2.9	2.75	115
S-4034-14-3	2.9	2.75	90
S-4034-15-2	2.9	2.75	115
S-4034-20-0	1.67	1.52	123

Post Project S-4034-13-3, '-14-4, '-15-3, and '-20-1:

- The fugitive emissions for all tanks are calculated using California Implementation Guidelines for Estimating Mass Emissions of fugitive Hydrocarbon Leaks at Petroleum Facilities, CAPCOA/CARB, February 1999 "revised screening" emissions factors.
- Only fugitive VOCs emitted from components in gas service are calculated.
- Fugitive emissions from heavy oil liquid service components are negligible.
- The percentage of VOCs of the total hydrocarbons is 100%.

Post Project '-31-0:

- The tank paint conditions are good, the color is gray, and the shade is medium.
- Tank temperature, 100° F (unheated)
- VOCs molecular weight, 50 lb/lbmol

Permit	TVP (psia)	RVP (psia)	Throughput (BBL/day)
S-4034-31-0	2.0	2.0	100

B. Emission Factors

Pre-project PE's for each permit unit and the post project PE for tank S-4034-31-0 will be based on the results from the District's Microsoft Excel spreadsheet, "Tank Emissions - Fixed Roof Crude Oil 26 API & Higher" located in Appendix C. The spreadsheet for tanks was developed using the equations for fixed-roof tanks from EPA AP-42, Chapter 7.1.

Post project emissions for tanks S-4034-13-3, '-14-4, '-15-3, and '-20-1 will be calculated pursuant to California Implementation Guidelines for Estimating Mass Emissions of fugitive Hydrocarbon Leaks at Petroleum Facilities, CAPCOA/CARB, February 1999, using the "revised screening" emissions factors (see Appendix C for a calculation spreadsheets showing the emission factors used and the resulting emissions)

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The following table summarizes the pre-project potential to emit for units included in this project.

Permit unit	VOC - Daily PE1 (lb/day)	VOC - Annual PE1 (lb/Year)
S-4034-13-1	15.1	5507
S-4034-14-3	13.4	4885
S-4034-15-2	15.1	5507
S-4034-20-0	6.6	2393

2. Post Project Potential to Emit (PE2)

The following table summarizes the post project potential to emit for units included in this project.

Permit unit	VOC - Daily PE1 (lb/day)	VOC - Annual PE1 (lb/Year)
S-4034-13-3 (tank)	0.5	183
S-4034-13-3 (VCU)	0.4	146
S-4034-14-4	0.5	183
S-4034-15-3 (tank)	0.5	183
S-4034-15-3 (VCU)	0.4	146
S-4034-20-1	0.5	183
S-4034-31-0	2.3	858

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.

SSPE1 (lb/year) ¹					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	3103	158	1308	17,681	69,275

¹Calculated with the District SSPE calculator. See Appendix D

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
SSPE1	3103	158	1308	17,681	69,275
- S-4034-13-1					<5507>
- S-4034-14-3					<4885>
- S-4034-15-2					<5507>
- S-4034-20-0					<2393>
+ S-4034-13-3					329
+ S-4034-14-4					183
+ S-4034-15-3					329
+ S-4034-20-1					183
+ S-4034-31-0	0	0	0	0	858
SSPE2	3103	158	1308	17,681	52,865

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	3103	158	1308	17,681	69,275
Facility emissions – post project	3103	158	1308	17,681	52,865
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	Yes

This source is an existing Major Source for VOC emissions and will remain a Major Source for VOC. No change in other pollutants are proposed or expected 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)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination (tons/year)							
	NO2	VOC ²	SO2	CO	PM	PM10	CO2e
Estimated Facility PE before Project Increase	1.6	34.6	0.1	8.8	0.7	0.7	< 100,000
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
PSD Major Source ? (Y/N)	N	N	N	N	N	N	N

²for simplicity, fugitive emissions are included in this total.

As shown above, the facility is not an existing major source for PSD for at least one pollutant. Therefore the facility is not an existing major source for PSD.

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.

Pursuant to Rule 2201, a Clean Emissions Unit is defined as an emissions unit that is "equipped with an emissions control technology with a minimum control efficiency of at least 95% or is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

The tanks are equipped with PV Vent, which meets the requirements for achieved-in-practice BACT. Therefore, BE=PE1.

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 source is not included in the 28 specific source categories specified in 40 CFR 51.165, the increases in fugitive emissions are not included in the SB 288 Major Modification calculation. However, for simplicity, Fugitive emissions will be included in these calculations.

Since this facility is a major source for VOC, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	0	50,000	No
SO _x	0	80,000	No
PM ₁₀	0	30,000	No
VOC	858 ³	50,000	No

³Emission less than or equal to 0.5 lbs/day for tanks S-4034-13-3, '-14-4, '-15-3, and '-20-1

Since none of the SB 288 Major Modification Thresholds are surpassed with 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 source is not included in the 28 specific source categories specified in 40 CFR 51.165, the increases in fugitive emissions are not included in the Federal Major Modification determination. (Tanks S-4034-13-3, '-14-4, '-15-3, and '-20-1)

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. Emission decreases may not cancel out the increases for this determination.

Step 1

For new emissions units, the increase in emissions is equal to the PE2 for each new unit included in this project.

For permit unit S-4034-31-0:

$$PE2_{VOC} = 858 \text{ lb/year}$$

The project's combined total emission increases are equal to the emissions of unit S-4034-31-0 and compared to the Federal Major Modification Thresholds in the following table.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO _x *	0	0	No
VOC*	858	0	Yes
PM ₁₀	0	30,000	No
PM _{2.5}	0	20,000	No
SO _x	0	80,000	No

Since there is an increase in VOC emissions, this project constitutes a Federal Major Modification, and no further analysis is required.

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

Rule 2410 applies to pollutants for which the District is in attainment or for unclassified, pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀
- Greenhouse gases (GHG): CO₂, N₂O, CH₄, HFCs, PFCs, and SF₆

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

The facility is NOT an existing PSD Major Source but is an existing source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

I. Potential to Emit for New or Modified Emission Units vs PSD Major Source Thresholds

As a screening tool, the project potential to emit from all new and modified units is compared to the PSD major source threshold, and if total project potential to emit from all new and modified units is below this threshold, no further analysis will be needed.

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). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination: Potential to Emit (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	0	0.4	0	0	0	0	0
PSD Major Source threshold	250	250	250	250	250	250	100,000
New PSD Major Source?	N	N	N	N	N	N	N

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

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix F.

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*:

- Any new emissions unit with a potential to emit exceeding two pounds per day,
- The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- 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 install a tank with a PE greater than 2 lb/day for VOC. BACT is triggered for VOC since the PE is greater than 2 lbs/day.

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

$$\text{AIPE} = \text{PE2} - \text{HAPE}$$

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)

PE2 = Post-Project Potential to Emit, (lb/day)

HAPE = Historically Adjusted Potential to Emit, (lb/day)

$$\text{HAPE} = \text{PE1} \times (\text{EF2}/\text{EF1})$$

Where,

PE1 = The emissions unit's PE prior to modification or relocation, (lb/day)

EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1

EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

$$\text{AIPE} = \text{PE2} - (\text{PE1} \times (1))$$

AIPE (lb/day)			
Permit Unit	PE2	PE1	AIPE
S-4034-13	15.1	0.9	-14.2
S-4034-14	13.4	0.4	-13.0
S-4034-15	15.1	0.9	-14.2
S-4034-20	6.6	0.4	-6.2

As demonstrated above, the AIPE is not greater than 2.0 lb/day for any tank being modified in this project. Therefore, BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 above, this project does not constitute an SB 288 Major Modification. Therefore, BACT is not triggered.

As discussed in Sections VII.C.8 above, this project does constitute a Federal Major Modification for VOC emissions. Therefore, BACT is triggered for VOC for all emissions units in the project for which there is an emission increase (S-4034-31-0).

2. BACT Guideline

BACT Guideline 7.3.1, applies to Petroleum and Petrochemical Production – Fixed Roof Organic Liquid Storage or Processing Tank, < 5,000 bbl tank capacity (see Appendix G)

3. Top-Down BACT Analysis

The applicant is proposing to use PV relief valve on the tank vent set to within 10% of maximum allowable pressure. The technologically feasible option of waste gas incinerated in steam generator, heater treater, or other fired equipment; transfer of noncondensable vapors to gas pipeline; reinjection to formation (if appropriate wells are available); or equal and inspection and maintenance program at 99% control are not cost effective; the following proposed equipment satisfies the BACT requirement (see BACT Guideline 7.3.1):

VOC: pressure and vacuum (PV) relief valve on tank vent set to within 10% of maximum allowable pressure

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	3103	158	1308	17,681	52,865
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	Yes

2. Quantity of Offsets Required

As seen above, the facility is an existing Major Source for VOC and the SSPE2 is greater than the offset thresholds. Therefore, offset calculations will be required for this project.

The quantity of offsets in pounds per year for VOC is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) = $(\Sigma[PE2 - BE] + ICCE) \times DOR$, for all new or modified emissions units in the project,

Where,

PE2 = Post Project Potential to Emit, (lb/year)

BE = Baseline Emissions, (lb/year)

ICCE = Increase in Cargo Carrier Emissions, (lb/year)

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

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 = HAE

As calculated in Section VII.C.6 above, the BE from units S-4034-13-3, '-14-4, '-15-3, and '-20-1 are equal to the PE1 since the units are Clean Emissions Units.

Since Unit 4034-31-0 is zero, BE = 0

Also, There are no increases in cargo carrier emissions. Therefore offsets can be determined as follows:

Offsets Required (lb/year) = $([PE2 - BE] + ICCE) \times DOR$

Offsets Required (lb/year)			
Permit Unit	PE2	BE	PE2- BE
S-4034-13-3	329	5507	-5178
S-4034-14-4	183	4885	-4702
S-4034-15-3	329	5507	-5178
S-4034-20-1	183	2393	-2210
S-4034-31-0	858	0	858
Total Offsets Required			-16,410

As demonstrated in the calculation above, the amount of offsets is zero. Therefore, 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. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

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

As demonstrated in Section VII.C.8, this project is an Federal Major Modification. Therefore, public noticing for Federal Major Modification purposes is required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant, therefore public noticing for PE > 100 lb/day purposes is not 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	3103	3103	20,000 lb/year	No
SO _x	158	158	54,750 lb/year	No
PM ₁₀	1308	1308	29,200 lb/year	No
CO	17,681	17,681	200,000 lb/year	No
VOC	69,275	52,865	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	3103	3103	0	20,000 lb/year	No
SO _x	158	158	0	20,000 lb/year	No
PM ₁₀	1308	1308	0	20,000 lb/year	No
CO	17,681	17,681	0	20,000 lb/year	No
VOC	52,865	69,275	-16,410	20,000 lb/year	No

As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb/year; therefore public noticing for SSIPE purposes is not required.

2. Public Notice Action

As discussed above, public noticing is required for this project for VOC emissions exceeding the Federal major Modification threshold. 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.

Proposed Rule 2201 (DEL) Conditions:

S-4034-13-3, '-14-4, '-15-3, and '-20-1:

DELs for the emission units in this project will be included on the ATCs in the form of fugitive component emissions limits in lb VOC/day. The permittee will be required to maintain accurate records of fugitive component counts and resulting emission calculations to validate the DEL.

- VOC fugitive emissions from the components in gas service on tank (if permit includes the vapor control system Insert: and tank vapor collection system) shall not exceed XX.X lb/day. [District Rule 2201] N
- Permittee shall maintain accurate component count for tank according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201] N

S-4034-31-0:

DELs for the emission units in this project will be included on the ATCs in the form of tanks' throughput and the tank contents' maximum true vapor pressure (TVP). The permittee will be required to maintain accurate records of tank content TVP and tanks monthly average daily throughput to validate the DEL. The following conditions will be placed on the permit to ensure compliance:

- VOC emission rate from the tank shall not exceed 2.3 lb/day [District Rule 2201] N
- {2480} This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 2.0 psia under all storage conditions. [District Rules 2201 and 4623] N
- Crude oil throughput shall not exceed 100 barrels per day based on a monthly average. [District Rule 4623] N

1. Source Testing

S-4034-13-3, '-14-4, '-15-3, and '-20-1:

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

S-4034-31-0:

The permittee will be required to perform periodic TVP testing using the latest EPA and CARB approved version of the Lawrence Berkeley National Laboratory "Test Method for Vapor Pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph" to validate non-applicability of Rule 4623. The testing shall be conducted once every 24 month period or every time when the source of liquid stored is changed.

2. Monitoring

S-4034-13-3, '-14-4, '-15-3, and '-20-1:

Fugitive emissions monitoring is required. The following permit conditions will ensure continued compliance:

- Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rules 2201 and 4623]
- Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rules 2201 and 4623]
- Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rules 2201 and 4623]
- Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rules 2201 and 4623]
- Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rules 2201 and 4623]
- If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rules 2201 and 4623]

- Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rules 2201 and 4623]

S-4034-31-0:

Monitoring is not required.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following condition(s) are listed on the permit to operate:

S-4034-13-3, '-14-4, '-15-3, and '-20-1:

- *The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 2201]*
- *{2490} All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 2201 & 4623] N*

S-4034-31-0:

- Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 2201] N
- All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 2201] N

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. However, an AAQA modeling for criteria pollutants was not performed since there are no standards for VOCs. Refer to **Appendix D** of this document for the Risk management Review.

H. Alternate Siting Analysis

Since the project will provide oil storage and processing at the location E&B currently operates, the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures on a much greater scale, and would therefore result in a much greater impact.

Rule 2520 Federally Mandated Operating Permits

Since this facility's emissions exceed the major source thresholds of District Rule 2201, this facility is a major source. However, this facility has elected to comply with Rule 2530, exempts it from the requirements of Rule 2520.

Rule 2530 Federally Enforceable Potential to Emit

The purpose of this rule is to restrict the emissions of a stationary source so that the source may elect to be exempt from the requirements of Rule 2520. Pursuant to Rule 2530, since this facility has elected exemption from the requirements of Rule 2520 by ensuring actual emissions from the stationary source in every 12-month periods to not exceed the following: $\frac{1}{2}$ the major source thresholds for NO_x, VOCs, CO, and PM₁₀; 50 tons per year SO₂; 5 tons per year of a single HAP; 12.5 tons per year of any combination of HAPs; 50 percent of any lesser threshold for a single HAP as the EPA may establish by rule; and 50 percent of the major source threshold for any other regulated air pollutant not listed in Rule 2530.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates the New Source Performance Standards from 40 CFR Part 60. 40 CFR Part 60, Subparts, K, Ka, Kb, and OOOO and could potentially apply to the storage tanks located at this facility.

40 CFR Part 60, Subparts, K, Ka, and Kb could potentially apply to the storage tanks located at this facility. However, pursuant to 40 CFR 60.110 (b), 60.110(a) (b), and 60.110(b) (b), these subparts do not apply to storage vessels less than 10,000 bbls, used for petroleum or condensate, that is stored, processed, and/or treated at a drilling and production facility prior to custody transfer.

40 CFR Part 60, Subpart OOOO—Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution (constructed, reconstructed, or modified after 8/23/11) applies to single storage vessel, located in the oil and natural gas production segment, natural gas processing segment or natural gas transmission and storage segment. The subject tanks are subject to this subpart. However, Subpart OOOO has no standards for tanks with annual VOC emissions less than 6 tons per year. Therefore, the subject tanks are not an affected facility and subpart OOOO does not apply.

Therefore, the requirements of this subpart are not applicable to this project.

Rule 4101 - Visible Emissions

Rule 4101 states that 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.

As long as the equipment is properly maintained and operated, compliance with visible emissions limits is expected under normal operating conditions.

Rule 4102 - Public 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.

An HRA is not required for a project with a total facility prioritization score of less than or equal to one. According to the Technical Services Memo for this project (**Appendix E**), the total facility prioritization score including this project was less than or equal to one. Therefore, no future analysis is required to determine the impact from this project and compliance with the District's Risk Management Policy is expected.

Rule 4623, Storage of Organic Liquids

This rule applies to any tank with a capacity of 1,100 gallons or greater in which any organic liquid is placed, held, or stored.

S-4034-13-3, '-14-4, '-15-3, and '-20-1:

The affected tanks are served by a vapor control system that has a control efficiency of at least 95%. This rule also requires the tank and tank vapor control system to be maintained in a leak-free condition. Leak-free is defined in the rule as no readings on a portable VOC detection device greater than 10,000 ppmv above background and no dripping of organic liquid at a rate of more than 3 drops per minute.

Applicant has elected to participate in the voluntary tank preventive inspection, maintenance, and tank cleaning program. Tank cleaning will be conducted according to the requirements of Table 6.

S-4034-31-0:

According to the information provided by the applicant, E&B produces on average less than 6,000 barrels per day of crude oil from all operations within the county and does not engage in refining, transportation, or marketing of refined petroleum products. Therefore, under Section 3.29 of this rule and District Rule 1020, Section 3.45, this facility is a small producer. Therefore, the following condition shall be placed on the ATC:

- {2491} Permittee's crude oil production shall average less than 6,000 bbl/day from all operations within kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rule 4623] N

Applicant also states that the crude oil TVP is 2.0 and the tank has a 300 bbl capacity. Daily throughput is expected to be 100 bbls. Therefore the following conditions will apply:

- This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 2.0 psia under all storage conditions. [District Rules 2201 & 4623] N
- Crude oil throughput shall not exceed 100 barrels per day based on a monthly average. [District Rules 2201 & 4623] N
- {2486} This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in leak-free condition except when the operating pressure exceeds the valve's set pressure. [District Rules 2201 & 4623] N
- {Modified 2910} Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank upon initial start-up, at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rules 2201 & 4623] N
- {2911} The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. [District Rules 2201 & 4623] N
- The TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rules 2201 & 4623] N
- {2912} Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rules 2201 & 4623] N

- {2497} Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 2201] N
- {2490} All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 2201 and 4623] N

All Tanks:

Compliance with the requirements of this rule is expected.

Rule 4409 Component at Light Crude Oil Production Facilities, Natural Gas Production Facilities, and Natural Gas Processing Facilities

This rule applies to components containing or contacting VOC streams at light crude oil production facilities, natural gas production facilities, and natural gas processing facilities.

Per Section 4.1, the requirements of this rule shall not apply to components subject to Rule 4623 (Storage of Organic Liquids); to components included in the inspection and maintenance (I&M) program implemented pursuant to Section 5.7 of Rule 4623; or to components subject to Rule 4401 (Steam Enhanced Crude Oil Production Well Vents). Thus, the components associated with the tanks will not be subject to this rule. The components associated with the vapor control system shall be subject to this rule.

The tanks in this project are subject to Rule 4623, except for components associated with the vapor control system located greater than 5 feet away from the tank. All such components subject to this rule will be included in the leak detection and repair (LDAR) program. E&B will submit an update to its Rule 4409 compliance plan to include the equipment for the proposed project prior to commencing operation under the ATCs authorized by this project.

The following condition will be placed on permit S-2058-3 to ensure compliance with applicable Rule 4409 requirements:

- Components associated with vapor control system shall comply with all Rule 4409 requirements. [District Rule 4409]

Therefore, compliance with this rule is expected.

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.

California Environmental Quality Act (CEQA)

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 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; and
- 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.

Greenhouse Gas (GHG) Significance Determination

The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

District CEQA Findings

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), (CEQA Guidelines §15381). The District's engineering evaluation of the project (this document) demonstrates that compliance with District rules and permit conditions would reduce Stationary Source emissions from the project to levels below the District's significance thresholds for criteria pollutants. The District has determined that no additional findings are required (CEQA Guidelines §15096(h)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue ATCs S-4034-13-3, '-14-4, '-15-3, '-20-1, and '-31-0 subject to the permit conditions on the attached draft ATC in Appendix A.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-4034-13-3	3020-05S-D	2000 BBLs	\$75
S-4034-14-4	3020-05S-D	2000 BBLs	\$75
S-4034-15-3	3020-05S-D	2000 BBLs	\$75
S-4034-20-1	3020-05S-C	1000 BBLs	\$63
S-4034-31-0	3020-05S-B	300 BBLs	\$44

Appendixes

- A: Current PTO(s)
- B: Maps and Plot Plans
- C: Calculations
- D: SSPE Calculation
- E: HRA Summary
- F: Quarterly Net Emissions Change
- G: BACT Guideline and Analysis
- H: Emission Profile(s)
- I: Compliance Certification
- J: Draft ATC

APPENDIX A

Current PTOs

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-4034-13-1

EXPIRATION DATE: 12/31/2016

SECTION: 17 **TOWNSHIP:** 30S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

2000 BBL FIXED ROOF CRUDE OIL STOCK TANK #20S179 WITH P/V VALVE (AML LEASE)

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Permittee's crude oil production shall average less than 6,000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rule 4623]
3. The tank shall be equipped with a fixed roof with no holes or openings. [District Rules 2201 and 4623]
4. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623]
5. This tank shall be in a gas-tight condition. A gas-tight condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623. [District Rule 4623]
6. Total tank fluid throughput shall not exceed 115 bbl/day. [District Rules 2201 and 4623]
7. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 2.9 psia under all storage conditions. [District Rules 2201 and 4623]
8. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at startup and at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank. [District Rule 4623]
9. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank. [District Rule 4623]
10. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623]
11. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623]
12. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

13. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623]
14. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201, 4623]
15. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623]
16. The permittee shall not emit more than one half of the major source threshold based on a rolling 12-month summary of actual emissions. [District Rule 2530, 6.1]
17. The permittee shall maintain a record of the rolling 12-month summary of actual emissions from permitted operations. This record shall be kept on site and made available to the District upon request. [District Rule 2530, 6.1]

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-4034-14-3

EXPIRATION DATE: 12/31/2016

SECTION: 17 **TOWNSHIP:** 30S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

2000 BBL FIXED ROOF CRUDE OIL STOCK TANK #20S180 WITH P/V VALVE AND TRUCK LOADOUT CONNECTION WITH DRY BREAK COUPLERS AND VAPOR BALANCE PIPING (AML LEASE)

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Permittee's crude oil production shall average less than 6,000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rule 4623]
3. The tank shall be equipped with a fixed roof with no holes or openings. [District Rules 2201 and 4623]
4. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623]
5. This tank shall be in a gas-tight condition. A gas-tight condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623. [District Rule 4623]
6. Total tank fluid throughput shall not exceed 90 bbl/day. [District Rules 2201 and 4623]
7. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 2.9 psia under all storage conditions. [District Rules 2201 and 4623]
8. Permittee shall conduct true vapor pressure (TVP) and API gravity testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank. [District Rule 4623]
9. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623]
10. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623]
11. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623]
12. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

13. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201, 4623]
14. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623]
15. The permittee shall not emit more than one half of the major source threshold based on a rolling 12-month summary of actual emissions. [District Rule 2530, 6.1]
16. The permittee shall maintain a record of the rolling 12-month summary of actual emissions from permitted operations. This record shall be kept on site and made available to the District upon request. [District Rule 2530, 6.1]

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-4034-15-2

EXPIRATION DATE: 12/31/2016

SECTION: 22 **TOWNSHIP:** 30S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

2000 BBL FIXED ROOF CRUDE OIL STOCK TANK #T-2GM20 (CWOD LEASE)

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Permittee's crude oil production shall average less than 6,000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rule 4623]
3. The tank shall be equipped with a fixed roof with no holes or openings. [District Rules 2201 and 4623]
4. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623]
5. This tank shall be in a gas-tight condition. A gas-tight condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623. [District Rule 4623]
6. Total tank fluid throughput shall not exceed 115 bbl/day. [District Rules 2201 and 4623]
7. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 2.9 psia under all storage conditions. [District Rules 2201 and 4623]
8. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at startup and at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank. [District Rule 4623]
9. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank. [District Rule 4623]
10. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623]
11. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623]
12. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

13. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623]
14. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201, 4623]
15. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623]
16. The permittee shall not emit more than one half of the major source threshold based on a rolling 12-month summary of actual emissions. [District Rule 2530, 6.1]
17. The permittee shall maintain a record of the rolling 12-month summary of actual emissions from permitted operations. This record shall be kept on site and made available to the District upon request. [District Rule 2530, 6.1]

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-4034-20-0

EXPIRATION DATE: 12/31/2016

SECTION: NE23 **TOWNSHIP:** 30S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

1000 BBL FIXED ROOF CRUDE OIL STORAGE TANK T-1GM43 WITH P/V RELIEF VALVE (F.E. SMITH LEASE)

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Permittee's crude oil production shall average less than 6,000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rule 4623]
3. The tank shall be equipped with a fixed roof with no holes or openings. [District Rules 2201 and 4623]
4. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623]
5. This tank shall be in a gas-tight condition. A gas-tight condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623. [District Rule 4623]
6. Total tank fluid throughput shall not exceed 123 bbl/day. [District Rules 2201 and 4623]
7. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 1.67 psia under all storage conditions. [District Rules 2201 and 4623]
8. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank. [District Rule 4623]
9. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623]
10. For crude oil with an API gravity of greater than 26 degrees, the TVP shall be determined by measuring the Reid Vapor Pressure (RVP) using the latest version of ASTM D 323 (Test Method for Vapor Pressure for Petroleum Products) and converting the RVP to TVP at the maximum liquid storage temperature using the procedures in Rule 4623, Appendix B. [District Rules 1081 and 4623]
11. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623]
12. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201, 4623]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

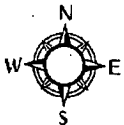
These terms and conditions are part of the Facility-wide Permit to Operate.

13. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623]
14. The permittee shall not emit more than one half of the major source threshold based on a rolling 12-month summary of actual emissions. [District Rule 2530, 6.1]
15. The permittee shall maintain a record of the rolling 12-month summary of actual emissions from permitted operations. This record shall be kept on site and made available to the District upon request. [District Rule 2530, 6.1]

These terms and conditions are part of the Facility-wide Permit to Operate.

APPENDIX B
Maps and Plot Plans

E&B Natural Resources, Inc.

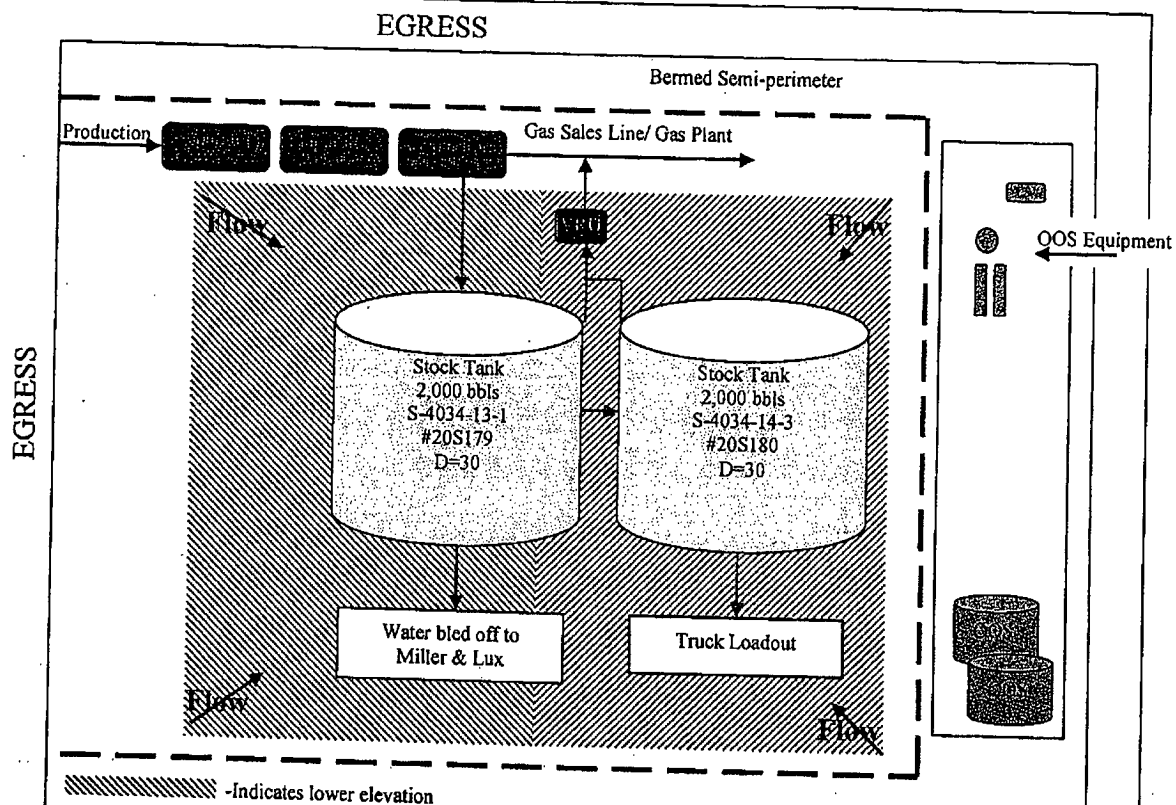


FACILITY IDENTIFICATION: S-4034

SCALE: NONE

DATE: 02/2013

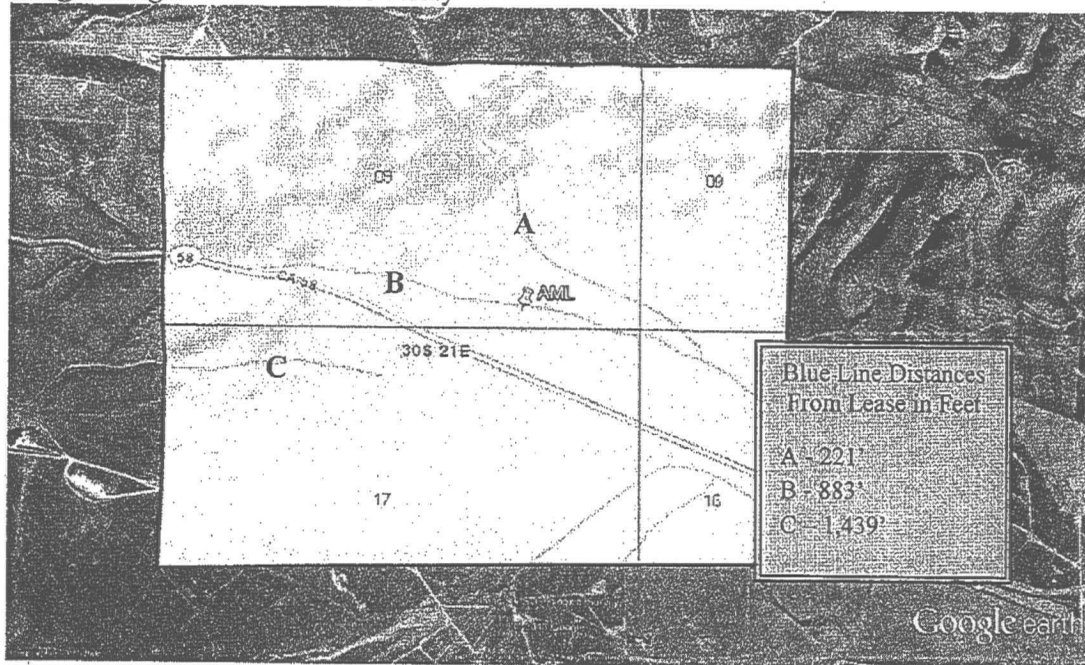
AML Tank Battery Facility Diagram S17/T30S/R21E



Highway 58

AML LEASE

Google Image with DOGGR Overlay



Google Image



E&B Natural Resources, Inc.

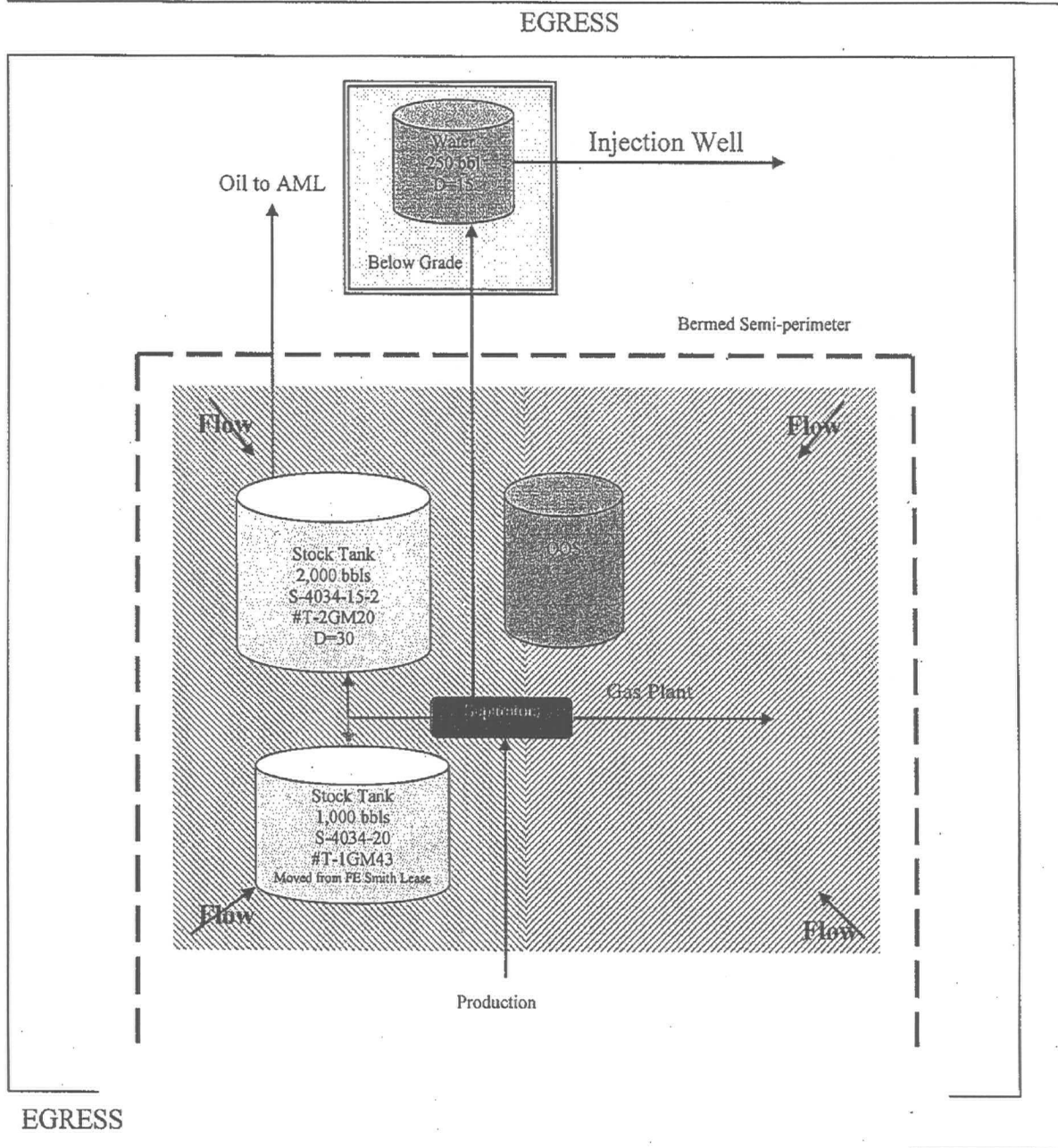


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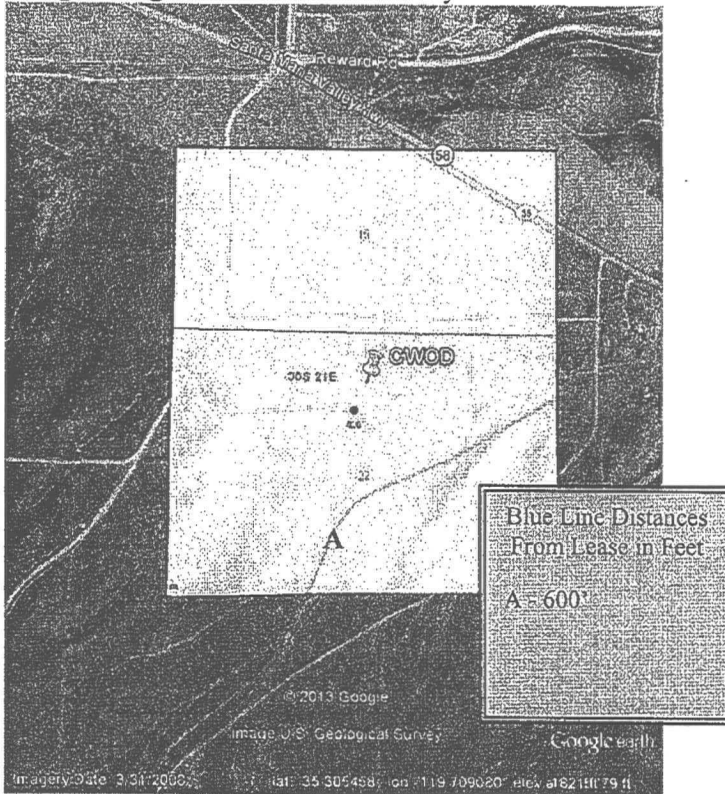
DATE: 02/2013

CWOD Facility Diagram S22/T30S/R21E



-Indicates lower elevation

Google Image with DOGGR Overlay



CWOD LEASE

Google Image



E&B Natural Resources, Inc.

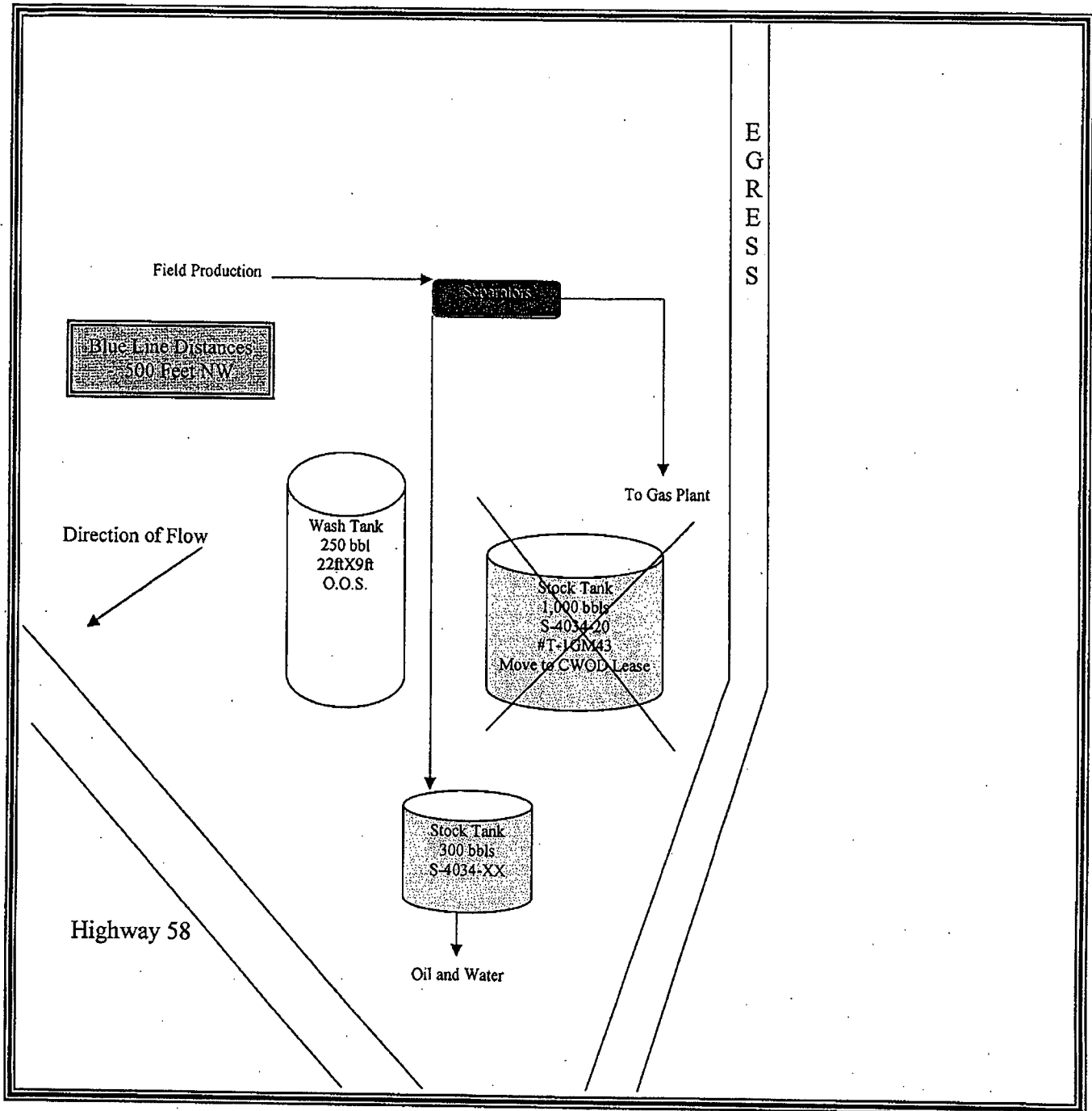


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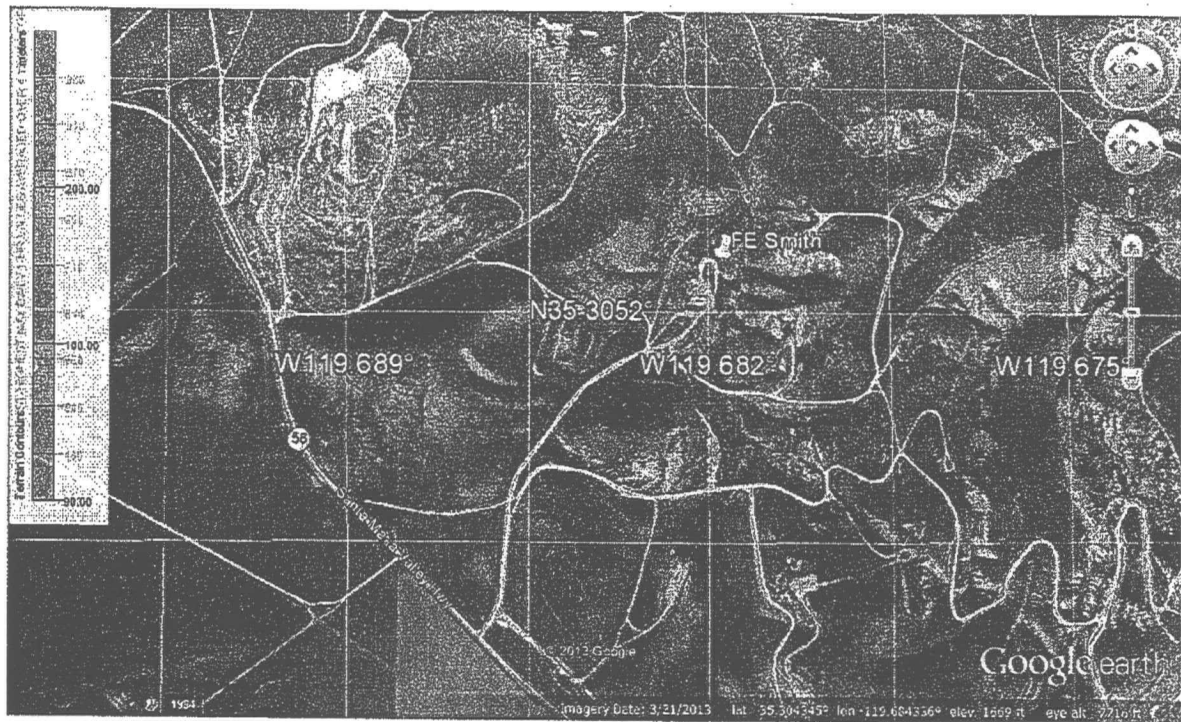
SCALE: NONE

DATE: 02/2013

FE Smith
Facility Diagram
S23/T30S/R21E



E&B Natural Resources
FE Smith Lease





APPENDIX C

Calculations

E&B Natural Resources

VRU

Fugitive Emissions Using Screening Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities

Table IV-2c. Oil and Gas Production
Screening Value Ranges Emission Factors

Percentage of components in vapor service with $\geq 10,000$ ppmv leaks allowed? 0 %

Percentage of components in liquid service with $\geq 10,000$ ppmv leaks allowed? 0 %

Weight percentage of VOC in the total organic compounds in gas? 100 %

Weight percentage of VOC in the total organic compounds in oil? 100 %

Equipment Type	Service	Component Count	Total allowable leaking components	Screening Value EF, TOC		VOC emissions (lb/day)
				< 10,000 ppmv (lb/day/source)	> 10,000 ppmv (lb/day/source)	
Valves	Gas/Light Liquid	30	0	1.852E-03	7.333E+00	0.06
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00
Pump Seals	Gas/Light Liquid	4	0	5.270E-02	4.709E+00	0.21
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A
Others	Gas/Light Liquid	5	0	7.778E-03	7.281E+00	0.04
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00
Connectors	Gas/Light Liquid	100	0	6.349E-04	1.370E+00	0.06
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00
Flanges	Gas/Light Liquid	20	0	1.482E-03	3.228E+00	0.03
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00

* Emission factor not available. All components from equipment type and service will be assessed as < 10,000 ppmv

Total VOC Emissions = 0.40 lb/day

E&B Natural Resources

Tanks

Fugitive Emissions Using Screening Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities

Table IV-2c. Oil and Gas Production
Screening Value Ranges Emission Factors

Percentage of components in vapor service with $\geq 10,000$ ppmv leaks allowed? 0 %
 Percentage of components in liquid service with $\geq 10,000$ ppmv leaks allowed? 0 %
 Weight percentage of VOC in the total organic compounds in gas? 100 %
 Weight percentage of VOC in the total organic compounds in oil? 100 %

Equipment Type	Service	Component Count	Total allowable leaking components	Screening Value EF ⁵ TOC < 10,000 ppmv (lb/day/source)	Screening Value EF ⁵ TOC ≥ 10,000 ppmv (lb/day/source)	VOC emissions (lb/day)
Valves	Gas/Light Liquid	16	0	1.852E-03	7.333E+00	0.03
	Light Crude Oil	24	0	1.005E-03	3.741E+00	0.02
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00
Pump Seals	Gas/Light Liquid	0	0	5.270E-02	4.709E+00	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A
Others	Gas/Light Liquid	10	0	7.778E-03	7.281E+00	0.08
	Light Crude Oil	30	0	6.931E-03	3.757E-01	0.21
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00
Connectors	Gas/Light Liquid	90	0	6.349E-04	1.370E+00	0.06
	Light Crude Oil	60	0	5.291E-04	1.238E+00	0.03
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00
Flanges	Gas/Light Liquid	22	0	1.482E-03	3.228E+00	0.03
	Light Crude Oil	18	0	1.270E-03	1.376E+01	0.02
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00

* Emission factor not available. All components from equipment type and service will be assessed as < 10,000 ppmv

Total VOC Emissions = 0.48 lb/day

TANK ID	TANK USE	SVUAPCD PERMIT #	TANK TYPE H OR V	SHELL DIMENSIONS		CAPACITY (BBL)	ROOF TYPE (C/D)	VENT PSIG	
				D (FT)	Hs (FT)			VAC.	PRESS.
3	Stock	4034-13	VERTICAL	24.5	24.0	2015.2	CONE	-0.03	-0.03

TANK ROOF		PAINT FACTOR	LIQUID DATA				CONSTANT LEVEL?	VAPOR MOL. WT.	VOC CNTRL %EFF (w/w)
COND.	COLOR		TYPE	Ht=H(lx)	Kp	RVP			
GOOD	GRAY	0.68	CRUDE	22.0	0.75	2.75	NO	50.00	0.0

UNCONTROLLED EMISSIONS

CALENDAR		SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/MON)	TURNOVER PER MON.	FAC-(Kn)	VOC (LBM/MONTH)			TOTAL (LBM/QTR)
QUARTER	MONTH						Ls	Lw	TOTAL (Lt)	
FIRST	JANUARY	63.30	1.36	3565	1.93	1.000	95.46	182.19	277.65	977.72
	FEBRUARY	67.50	1.49	3220	1.74	1.000	121.23	180.38	301.61	
	MARCH	71.54	1.63	3565	1.93	1.000	180.58	217.88	398.46	
SECOND	APRIL	76.59	1.81	3450	1.87	1.000	236.24	234.64	470.88	1680.93
	MAY	82.17	2.04	3565	1.93	1.000	307.31	272.25	579.55	
	JUNE	86.51	2.22	3450	1.87	1.000	342.68	287.82	630.50	
THIRD	JULY	88.94	2.34	3565	1.93	1.000	367.14	312.35	679.49	1828.04
	AUGUST	87.00	2.25	3565	1.93	1.000	329.28	300.35	629.63	
	SEPTEMBER	82.28	2.04	3450	1.87	1.000	254.84	264.08	518.92	
FOURTH	OCTOBER	75.71	1.78	3565	1.93	1.000	195.48	238.04	433.52	1020.67
	NOVEMBER	67.78	1.50	3450	1.87	1.000	122.02	194.48	316.50	
	DECEMBER	62.82	1.35	3565	1.93	1.000	90.39	180.26	270.65	

CONTROLLED EMISSIONS (BASED ON MONTHLY CALCULATIONS)

CALENDAR		SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/QTR)	TURNOVER PER QTR.	FAC-(Kn)	VOC (LBM/QTR)		
QUARTER	MONTH						Ls	Lw	TOTAL (Lt)
FIRST	JAN-MAR	67.44	1.50	10350	6	1.000	397	580	978
SECOND	APR-JUN	81.76	2.02	10465	6	1.000	886	795	1681
THIRD	JUL-SEP	86.07	2.21	10580	6	1.000	951	877	1828
FOURTH	OCT-DEC	68.77	1.54	10580	6	1.000	408	613	1021
QUARTERLY AVERAGE		76.01	1.82	10494			661	716	1377
DAILY AVERAGE (LB/DAY, BASED ON MONTHLY CALCULATIONS)							7.2	7.8	15.1
ANNUAL EMISSIONS (LB/YEAR, BASED ON MONTHLY CALCULATIONS)							2643	2865	5507

Tank Emission Calculation Spreadsheet, version 01/23/03

TANK ID	TANK USE	SJVUAPCD PERMIT #	TANK TYPE H OR V	SHELL DIMENSIONS		CAPACITY (BBL)	ROOF TYPE (C/D)	VENT PSIG	
				D (FT)	Hs (FT)			VAC.	PRESS.
3	Stock	4034-13	VERTICAL	24.5	24.0	2015.2	CONE	-0.03	-0.03

TANK ROOF		PAINT FACTOR	LIQUID DATA				CONSTANT LEVEL?	VAPOR MOL. WT.	VOC CNTRL %EFF (w/w)
COND.	COLOR		TYPE	Ht=H(lx)	Kp	RVP			
GOOD	GRAY	0.68	CRUDE	22.0	0.75	2.75	NO	50.00	0.0

UNCONTROLLED EMISSIONS

CALENDAR		SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/MON)	TURNOVER PER MON.	FAC-(Kn)	VOC (LBM/MONTH)			TOTAL (LBM/QTR)
QUARTER	MONTH						Ls	Lw	TOTAL (Lt)	
FIRST	JANUARY	63.30	1.36	2790	1.51	1.000	95.46	142.58	238.04	851.53
	FEBRUARY	67.50	1.49	2520	1.36	1.000	121.23	141.17	262.40	
	MARCH	71.54	1.63	2790	1.51	1.000	180.58	170.52	351.10	
SECOND	APRIL	76.59	1.81	2700	1.46	1.000	236.24	183.63	419.87	1508.17
	MAY	82.17	2.04	2790	1.51	1.000	307.31	213.06	520.37	
	JUNE	86.51	2.22	2700	1.46	1.000	342.68	225.25	567.93	
THIRD	JULY	88.94	2.34	2790	1.51	1.000	367.14	244.45	611.59	1637.44
	AUGUST	87.00	2.25	2790	1.51	1.000	329.28	235.05	564.34	
	SEPTEMBER	82.28	2.04	2700	1.46	1.000	254.84	206.67	461.51	
FOURTH	OCTOBER	75.71	1.78	2790	1.51	1.000	195.48	186.29	381.77	887.46
	NOVEMBER	67.78	1.50	2700	1.46	1.000	122.02	152.20	274.23	
	DECEMBER	62.82	1.35	2790	1.51	1.000	90.39	141.07	231.46	

CONTROLLED EMISSIONS (BASED ON MONTHLY CALCULATIONS)

CALENDAR		SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/QTR)	TURNOVER PER QTR.	FAC-(Kn)	VOC (LBM/QTR)		
QUARTER	MONTH						Ls	Lw	TOTAL (Lt)
FIRST	JAN-MAR	67.44	1.50	8100	4	1.000	397	454	852
SECOND	APR-JUN	81.76	2.02	8190	4	1.000	886	622	1508
THIRD	JUL-SEP	86.07	2.21	8280	4	1.000	951	686	1637
FOURTH	OCT-DEC	68.77	1.54	8280	4	1.000	408	480	887
QUARTERLY AVERAGE		76.01	1.82	8213			661	560	1221
DAILY AVERAGE (LB/DAY, BASED ON MONTHLY CALCULATIONS)							7.2	6.1	13.4
ANNUAL EMISSIONS (LB/YEAR, BASED ON MONTHLY CALCULATIONS)							2643	2242	4885

Tank Emission Calculation Spreadsheet, version 01/23/03

TANK ID	TANK USE	SJVUAPCD PERMIT #	TANK TYPE H OR V	SHELL DIMENSIONS		CAPACITY (BBL)	ROOF TYPE (C/D)	VENT PSIG	
				D (FT)	Hs (FT)			VAC.	PRESS.
3	Stock	4034-13	VERTICAL	24.5	24.0	2015.2	CONE	-0.03	-0.03

TANK ROOF		PAINT FACTOR	LIQUID DATA				CONSTANT LEVEL?	VAPOR MOL. WT.	VOC CNTRL %EFF (w/w)
COND.	COLOR		TYPE	Ht=H(lx)	Kp	RVP			
GOOD	GRAY	0.68	CRUDE	22.0	0.75	2.75	NO	50.00	0.0

UNCONTROLLED EMISSIONS

CALENDAR		SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/MON)	TURNOVER PER MON.	FAC-(Kn)	VOC (LBM/MONTH)			TOTAL (LBM/QTR)
QUARTER	MONTH						Ls	Lw	TOTAL (Lt)	
FIRST	JANUARY	63.30	1.36	3565	1.93	1.000	95.46	182.19	277.65	977.72
	FEBRUARY	67.50	1.49	3220	1.74	1.000	121.23	180.38	301.61	
	MARCH	71.54	1.63	3565	1.93	1.000	180.58	217.88	398.46	
SECOND	APRIL	76.59	1.81	3450	1.87	1.000	236.24	234.64	470.88	1680.93
	MAY	82.17	2.04	3565	1.93	1.000	307.31	272.25	579.55	
	JUNE	86.51	2.22	3450	1.87	1.000	342.68	287.82	630.50	
THIRD	JULY	88.94	2.34	3565	1.93	1.000	367.14	312.35	679.49	1828.04
	AUGUST	87.00	2.25	3565	1.93	1.000	329.28	300.35	629.63	
	SEPTEMBER	82.28	2.04	3450	1.87	1.000	254.84	264.08	518.92	
FOURTH	OCTOBER	75.71	1.78	3565	1.93	1.000	195.48	238.04	433.52	1020.67
	NOVEMBER	67.78	1.50	3450	1.87	1.000	122.02	194.48	316.50	
	DECEMBER	62.82	1.35	3565	1.93	1.000	90.39	180.26	270.65	

CONTROLLED EMISSIONS (BASED ON MONTHLY CALCULATIONS)

CALENDAR		SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/QTR)	TURNOVER PER QTR.	FAC-(Kn)	VOC (LBM/QTR)		
QUARTER	MONTH						Ls	Lw	TOTAL (Lt)
FIRST	JAN-MAR	67.44	1.50	10350	6	1.000	397	580	978
SECOND	APR-JUN	81.76	2.02	10465	6	1.000	886	795	1681
THIRD	JUL-SEP	86.07	2.21	10580	6	1.000	951	877	1828
FOURTH	OCT-DEC	68.77	1.54	10580	6	1.000	408	613	1021
QUARTERLY AVERAGE		76.01	1.82	10494			661	716	1377
DAILY AVERAGE (LB/DAY, BASED ON MONTHLY CALCULATIONS)							7.2	7.8	15.1
ANNUAL EMISSIONS (LB/YEAR, BASED ON MONTHLY CALCULATIONS)							2643	2865	5507

Tank Emission Calculation Spreadsheet, version 01/23/03

TANK ID	TANK USE	SJVUAPCD PERMIT #	TANK TYPE H OR V	SHELL DIMENSIONS		CAPACITY (BBL)	ROOF TYPE (C/D)	VENT PSIG	
				D (FT)	Hs (FT)			VAC.	PRESS.
3	Storage	4034-20	VERTICAL	21.2	16.0	1005.9	CONE	-0.03	-0.03

TANK ROOF		PAINT FACTOR	LIQUID DATA				CONSTANT LEVEL?	VAPOR MOL. WT.	VOC CNTRL %EFF (w/w)
COND.	COLOR		TYPE	Ht=H(lx)	Kp	RVP			
GOOD	GRAY	0.68	CRUDE	22.0	0.75	1.52	NO	50.00	0.0

UNCONTROLLED EMISSIONS

CALENDAR		SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/MON)	TURNOVER PER MON.	FAC-(Kn)	VOC (LBM/MONTH)			TOTAL (LBM/QTR)
QUARTER	MONTH						Ls	Lw	TOTAL (Lt)	
FIRST	JANUARY	63.30	0.82	3813	2.76	1.000	20.74	117.06	137.81	456.46
	FEBRUARY	67.50	0.89	3444	2.49	1.000	26.54	114.75	141.29	
	MARCH	71.54	0.96	3813	2.76	1.000	39.88	137.49	177.37	
SECOND	APRIL	76.59	1.06	3690	2.67	1.000	52.83	146.85	199.68	695.73
	MAY	82.17	1.18	3813	2.76	1.000	69.80	169.22	239.02	
	JUNE	86.51	1.29	3690	2.67	1.000	78.85	178.19	257.04	
THIRD	JULY	88.94	1.35	3813	2.76	1.000	85.12	193.03	278.15	761.94
	AUGUST	87.00	1.30	3813	2.76	1.000	75.89	185.87	261.76	
	SEPTEMBER	82.28	1.19	3690	2.67	1.000	57.91	164.12	222.03	
FOURTH	OCTOBER	75.71	1.04	3813	2.76	1.000	43.62	149.17	192.79	478.76
	NOVEMBER	67.78	0.89	3690	2.67	1.000	26.73	123.64	150.37	
	DECEMBER	62.82	0.81	3813	2.76	1.000	19.63	115.97	135.60	

CONTROLLED EMISSIONS (BASED ON MONTHLY CALCULATIONS)

CALENDAR		SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/QTR)	TURNOVER PER QTR.	FAC-(Kn)	VOC (LBM/QTR)		
QUARTER	MONTH						Ls	Lw	TOTAL (Lt)
FIRST	JAN-MAR	67.44	0.89	11070	8	1.000	87	369	456
SECOND	APR-JUN	81.76	1.18	11193	8	1.000	201	494	696
THIRD	JUL-SEP	86.07	1.28	11316	8	1.000	219	543	762
FOURTH	OCT-DEC	68.77	0.92	11316	8	1.000	90	389	479
QUARTERLY AVERAGE		76.01	1.07	11224			149	449	598
DAILY AVERAGE (LB/DAY, BASED ON MONTHLY CALCULATIONS)							1.6	4.9	6.6
ANNUAL EMISSIONS (LB/YEAR, BASED ON MONTHLY CALCULATIONS)							598	1795	2393

Tank Emission Calculation Spreadsheet, version 01/23/03

TANK ID	TANK USE	SVUAPCD PERMIT #	TANK TYPE H OR V	SHELL DIMENSIONS		CAPACITY (BBL)	ROOF TYPE (C/D)	VENT PSIG	
				D (FT)	Hs (FT)			VAC.	PRESS.
3	Stock	4034-31-0	VERTICAL	16.5	8.0	304.7	CONE	-0.03	-0.03

TANK ROOF		PAINT FACTOR	LIQUID DATA				CONSTANT LEVEL?	VAPOR MOL. WT.	VOC CNTRL %EFF (w/w)
COND.	COLOR		TYPE	HI=H(lx)	Kp	RVP			
GOOD	GRAY	0.68	CRUDE	7.0	0.75	2.00	NO	50.00	0.0

UNCONTROLLED EMISSIONS

CALENDAR		SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/MON)	TURNOVER PER MON.	FAC-(Kn)	VOC (LBM/MONTH)			TOTAL (LBM/QTR)
QUARTER	MONTH						Ls	Lw	TOTAL (Lt)	
FIRST	JANUARY	63.30	0.88	3100	16.28	0.323	10.44	33.22	43.66	151.51
	FEBRUARY	67.50	0.98	2800	14.70	0.323	13.65	33.09	46.74	
	MARCH	71.54	1.07	3100	16.28	0.323	20.91	40.19	61.11	
SECOND	APRIL	76.59	1.20	3000	15.75	0.323	28.34	43.58	71.92	259.37
	MAY	82.17	1.36	3100	16.28	0.323	38.32	50.94	89.26	
	JUNE	86.51	1.49	3000	15.75	0.323	44.02	54.17	98.19	
THIRD	JULY	88.94	1.57	3100	16.28	0.323	47.95	58.97	106.92	287.14
	AUGUST	87.00	1.51	3100	16.28	0.323	42.44	56.56	99.00	
	SEPTEMBER	82.28	1.36	3000	15.75	0.323	31.80	49.42	81.23	
FOURTH	OCTOBER	75.71	1.18	3100	16.28	0.323	23.31	44.16	67.47	159.63
	NOVEMBER	67.78	0.98	3000	15.75	0.323	13.77	35.69	49.46	
	DECEMBER	62.82	0.87	3100	16.28	0.323	9.85	32.85	42.70	

CONTROLLED EMISSIONS (BASED ON MONTHLY CALCULATIONS)

CALENDAR		SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/QTR)	TURNOVER PER QTR.	FAC-(Kn)	VOC (LBM/QTR)		
QUARTER	MONTH						Ls	Lw	TOTAL (Lt)
FIRST	JAN-MAR	67.44	0.98	9000	47	0.323	45	107	152
SECOND	APR-JUN	81.76	1.35	9100	48	0.323	111	149	259
THIRD	JUL-SEP	86.07	1.48	9200	48	0.323	122	165	287
FOURTH	OCT-DEC	68.77	1.01	9200	48	0.323	47	113	160
QUARTERLY AVERAGE		76.01	1.20	9125			81	133	214
DAILY AVERAGE (LB/DAY, BASED ON MONTHLY CALCULATIONS)							0.9	1.5	2.3
ANNUAL EMISSIONS (LB/YEAR, BASED ON MONTHLY CALCULATIONS)							325	533	858

Tank Emission Calculation Spreadsheet, version 01/23/03

APPENDIX D

SSPE Calculations

Detailed SSPE Report

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	4034	0	0						0
S	4034	1	4	0	0	0	0	2300	0
S	4034	2	2	0	0	0	0	1705	0
S	4034	5	0	0	0	0	0	708	0
S	4034	6	0	0	0	0	0	708	0
S	4034	7	0	0	0	0	0	726	0
S	4034	8	0	0	0	0	0	716	0
S	4034	13	1	0	0	0	0	7528	0
S	4034	14	3	0	0	0	0	5116	0
S	4034	15	2	0	0	0	0	7528	0
S	4034	16	1	0	0	0	0	3589	1
S	4034	17	1	0	0	0	0	3589	1
S	4034	18	1	0	0	0	0	4567	1
S	4034	19	1	0	0	0	0	864	0
S	4034	20	0	0	0	0	0	2746	0
S	4034	21	1	621	54	359	4176	640	0
S	4034	22	1	0	0	0	0	2096	0
S	4034	23	0	0	0	0	0	13562	0
S	4034	24	0	0	0	0	0	4097	0
S	4034	25	2	2482	104	949	13505	2330	0
S	4034	26	0	0	0	0	0	292	0
S	4034	27	0	0	0	0	0	1570	0
S	4034	28	0	0				100	0
S	4034	29	0	0	0	0	0	1099	0
S	4034	30	0	0	0	0	0	1099	0

Saturday, November 23, 2013

Page 1 of 2

Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

<i>Region Facility</i>	<i>Unit Mod</i>	<i>NOx</i>	<i>SOx</i>	<i>PM10</i>	<i>CO</i>	<i>VOC</i>	<i>Number of Outstanding ATCs</i>
<i>SSPE (lbs)</i>		3103	158	1308	17681	69275	

Saturday, November 23, 2013

Page 2 of 2

Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

APPENDIX E

HRA Summary

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Steve Davidson, AQE – Permit Services
From: Joe Aguayo– Technical Services
Date: December 19, 2013
Facility Name: E&B Natural Resources
Location: 3 Locations within LOWSS
Application #(s): S-4034-13-3, -14-4, -15-13, -20-1, -31-0
Project #: S-1134445

A. RMR SUMMARY

RMR Summary					
Categories	Tanks AML (Units 13-3 14-4)	Tanks CWOD (Units 15-3 20-1)	Tanks FE Smith (Units 20-1 31-0)	Project Totals	Facility Totals
Prioritization Score	0.0	0.0	0.0	0.0	<1.0
Acute Hazard Index	N/A ¹	N/A ¹	N/A ¹	N/A	N/A
Chronic Hazard Index	N/A ¹	N/A ¹	N/A ¹	N/A	N/A
Maximum Individual Cancer Risk (10 ⁻⁶)	N/A ¹	N/A ¹	N/A ¹	N/A	N/A
T-BACT Required?	No	No	No		
Special Permit Conditions?	No	No	No		

¹ Acute and Chronic Hazard Index and Maximum Individual Cancer Risk were not calculated since the total facility prioritization score was less than 1.0.

Proposed Permit Conditions

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

Units # 13-3, -14-4, -15-13, -20-1, -31-0

No special conditions are required.

B. RMR REPORT

I. Project Description

Technical Services received a request on December 4, 2013, to perform an Ambient Air Quality Analysis and a Risk Management Review for a proposed installation of a 300 bbl fixed roof crude oil stock tank with p/v relief valve (Unit 31-0) and for proposed modifications to existing liquid storage tanks. The modifications consisted of the installation of: equipping tanks with vapor control (units

13-3, 14-4, 15-3, 20-1) and transferring one liquid storage tank from the CWOD lease to the FE Smith lease (unit 20-1).

II. Analysis

Toxic emissions for this proposed unit were calculated using emission factors for fugitives from oilfield sources. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905, March 2, 2001), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEARTs database. The prioritization score for this proposed unit was less than 1.0 (see RMR Summary Table). Therefore, no further analysis was necessary.

The following parameters were used for the review:

Analysis Parameters			
Unit 13-3, -14-4, -15-13, -20-1, -31-0			
VOC emissions (lb/yr)	878	Max Hours per Year	8760
Closest Receptor (m)	304.8		

AAQA modeling for criteria pollutants was not performed since there are no standards for VOCs.

III. Conclusion

The prioritization score is less than 1.0. In accordance with the District's *Risk Management Policy*, the project is approved without Toxic Best Available Control Technology (T-BACT).

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.

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

IV. Attachments

- A. RMR request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Toxic emissions summary
- D. Prioritization score
- E. Facility Summary

APPENDIX F

Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall be calculated as follows:

$QNEC = PE2 - PE1$, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.

PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.

PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

$$PE2_{\text{quarterly}} = PE2_{\text{annual}} \div 4 \text{ quarters/year}$$

$$PE1_{\text{quarterly}} = PE1_{\text{annual}} \div 4 \text{ quarters/year}$$

S-4034-13-3: Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	0	0	0
SO _x	0	0	0
PM ₁₀	0	0	0
CO	0	0	0
VOC	83	1377	-1294

S-4034-14-4: Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	0	0	0
SO _x	0	0	0
PM ₁₀	0	0	0
CO	0	0	0
VOC	46	1221	-1075

S-4034-15-3: Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	0	0	0
SO _x	0	0	0
PM ₁₀	0	0	0
CO	0	0	0
VOC	83	1377	-1294

S-4034-20-1: Quarterly NEC [QNEC]			
-----------------------------------	--	--	--

	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	0	0	0
SO _x	0	0	0
PM ₁₀	0	0	0
CO	0	0	0
VOC	46	598	-552

S-4034-31-0: Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	0	0	0
SO _x	0	0	0
PM ₁₀	0	0	0
CO	0	0	0
VOC	215	0	215

APPENDIX G

BACT Guideline and Analysis

Per » B A C T » Bact Guideline.asp?category Level1=7&category Level2=3&category Level3=1&last Update=10 » 1 :

Back

**Best Available Control Technology (BACT) Guideline 7.3.1
Last Update: 10/1/2002**

**Petroleum and Petrochemical Production - Fixed Roof Organic Liquid
Storage or Processing Tank, < 5,000 bbl Tank capacity ****

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	PV-vent set to within 10% of maximum allowable pressure	99% control (Waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of noncondensable vapors to gas pipeline; reinjection to formation (if appropriate wells are available); or equal).	

**** Converted from Determinations 7.1.11 (10/01/02).**

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. For background
information, see Permit Specific BACT Determinations on Details Page.**

Top Down BACT Analysis (S-4034-31-0)

VOC emissions may occur when the produced fluids from the crude oil production wells enter the oil storage tanks.

Step 1 - Identify All Possible Control Technologies

BACT Guideline 7.3.1 lists the controls that are considered potentially applicable to fixed-roof organic liquid storage or processing tank <5,000 bbl tank capacity. The VOC control measures are summarized below.

Technologically feasible:

99% control (Waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program,

Transfer of uncondensed vapors to gas pipeline or reinjection to formation (if appropriate wells are available).

Achieved in Practice:

PV vent set to within 10% of maximum allowable pressure.

Step 2 - Eliminate Technologically Infeasible Options

All of the above identified control options are technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Transfer of uncondensed vapors to gas pipeline or reinjection to formation (if appropriate wells are available).
2. Waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program at 99% control, or
3. PV vent set to within 10% of maximum allowable pressure.

Step 4 - Cost Effectiveness Analysis

Applicant has provided a quote of \$70,715.80 for the installation of a vapor control (see below).

The annualized capital cost is

AP = $(P) \{[(i) (1 + i)^n] / [(1 + i)^n - 1]\}$, where
AP = Equivalent Annual Capital Cost of Control Equip.
P = Present value of the control equipment, including installation cost. \$XX,XXX
i = interest rate (use 10% per policy)
n = equipment life (assume 10 years per policy)

$$AP = (P) \{[(0.1) (1 + 0.1)^{10}] / [(1 + 0.1)^{10} - 1]\}$$
$$AP = (P) \times (0.16274) = (\$70,715) (0.1627) = \$11,505.33/\text{year}$$

For calculation of the amount of VOCs removed from each tank (emissions unit) with the vapor control system, 99% control is assumed. The VOCs removed annually are

$$858 \text{ lb/year} \times 99\% = 849 \text{ lb-VOC/year}$$

$$\text{Tons/yr} = 849 \text{ lb/yr} / 2000 \text{ lb/ton} = 0.42 \text{ tons/yr}$$

$$\text{Annualized cost} = \$11,505.33/\text{yr} / 0.42 \text{ tons/yr}$$
$$= \$27,394/\text{ton}$$

This exceeds the cost effectiveness threshold for VOCs of \$17,500/ton. Therefore the vapor control system is not cost effective.

Step 5 - Select BACT

PV vent set to within 10% of maximum allowable pressure.

APPENDIX H

Emissions Profile

Permit #: S-4034-13-3	Last Updated
Facility: E&B NATURAL RESOURCES	01/16/2014 DAVIDSOS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	332.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.9
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-1294.0
Q2:	0.0	0.0	0.0	0.0	-1294.0
Q3:	0.0	0.0	0.0	0.0	-1294.0
Q4:	0.0	0.0	0.0	0.0	-1264.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-4034-14-4	Last Updated
Facility: E&B NATURAL RESOURCES	01/16/2014 DAVIDSOS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	183.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.4
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-1176.0
Q2:	0.0	0.0	0.0	0.0	-1176.0
Q3:	0.0	0.0	0.0	0.0	-1176.0
Q4:	0.0	0.0	0.0	0.0	-1176.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-4034-15-3	Last Updated
Facility: E&B NATURAL RESOURCES	01/16/2014 DAVIDSOS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	332.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.9
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-1294.0
Q2:	0.0	0.0	0.0	0.0	-1294.0
Q3:	0.0	0.0	0.0	0.0	-1294.0
Q4:	0.0	0.0	0.0	0.0	-1294.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-4034-20-1	Last Updated
Facility: E&B NATURAL RESOURCES	01/16/2014 DAVIDSOS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	183.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.4
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-553.0
Q2:	0.0	0.0	0.0	0.0	-553.0
Q3:	0.0	0.0	0.0	0.0	-553.0
Q4:	0.0	0.0	0.0	0.0	-553.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-4034-31-0	Last Updated
Facility: E&B NATURAL RESOURCES	11/28/2013 DAVIDSOS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	858.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	2.3
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	215.0
Q2:	0.0	0.0	0.0	0.0	215.0
Q3:	0.0	0.0	0.0	0.0	215.0
Q4:	0.0	0.0	0.0	0.0	215.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

[illegible]

E&B Natural Resources

January 17, 2014

Mr. Leonard Scandura
Manager of Permit Services
San Joaquin Valley Unified APCD
34946 Flyover Court
Bakersfield, CA 93308

RECEIVED
JAN 21 2014
SJVAPCD
Southern Region

Subject: Compliance Certification – S-1134445

Dear Mr. Scandura:

I hereby certify that all major Stationary Sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in California, which are subject to emission limitations, are in compliance or on a schedule for compliance with all applicable emission limitations and standards.

Alternative siting analysis is required for any project, which constitutes a New Major Source or a Federal Major Modification.

The current project occurs at existing facilities. The applicant proposes to modify existing tanks and add new tanks to the existing source.

Since the project will utilize existing equipment at the same location, the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures on a much greater scale, and would therefore result in a much greater impact.



Signature

HSE SUPERVISOR
Title

APPENDIX J

Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-4034-13-3

LEGAL OWNER OR OPERATOR: E&B NATURAL RESOURCES

MAILING ADDRESS: ATT: SHAMS HASAN
1600 NORRIS ROAD
BAKERSFIELD, CA 93308

LOCATION: LIGHT OIL WESTERN

SECTION: 17 TOWNSHIP: 30S RANGE: 21E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 2000 BBL FIXED ROOF CRUDE OIL STOCK TANK #20S179 WITH P/V VALVE (AML LEASE):
INSTALL VAPOR RECOVERY SYSTEM SHARED WITH TANK S-4034-14

CONDITIONS

1. Components associated with vapor control system shall comply with all Rule 4409 requirements. [District Rule 4409]
2. The tank shall be equipped with a vapor control system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor control system shall be APCO-approved and maintained in leak-free condition. Vapors shall be discharged to a gas plant or sales gas pipeline. [District Rules 2201 and 4623]
3. Except as otherwise provided in this permit, the operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2080]
4. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201 and 4623]
5. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rules 2201 and 4623]
6. Any tank gauging or sampling device on a tank vented to the vapor control system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]

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.

Sayed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

S-4034-13-3 : Jan 28 2014 12:05PM - DAVIDSOS : Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

7. VOC fugitive emissions from the components in gas service on tank and tank vapor collection system shall not exceed 0.9 lb/day. [District Rule 2201]
8. Permittee shall maintain accurate component count for tank according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201]
9. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. [District Rule 2201 & 4623]
10. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rule 2201 & 4623]
11. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rules 2201 & 4623]
12. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rules 2201 & 4623]
13. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rules 2201 & 4623]
14. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rules 2201 & 4623]
15. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rules 2201 & 4623]
16. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rules 2201 & 4623]
17. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rules 2201 & 4623]
18. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623]

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CONDITIONS CONTINUE ON NEXT PAGE

19. This tank shall be degassed before commencing interior cleaning by following one of the following options: 1) exhausting VOCs contained in the tank vapor space to an APCO-approved vapor recovery system until the organic vapor concentration is 5,000 ppmv or less, or is 10 percent or less of the lower explosion limit (LEL), whichever is less, or 2) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable liquid until 90 percent or more of the maximum operating level of the tank is filled. Suitable liquids are organic liquids having a TVP of less than 0.5 psia, water, clean produced water, or produced water derived from crude oil having a TVP less than 0.5 psia, or 3) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable gas. Degassing shall continue until the operator has achieved a vapor displacement equivalent to at least 2.3 times the tank capacity. Suitable gases are air, nitrogen, carbon dioxide, or natural gas containing less than 10 percent VOC by weight. [District Rule 4623]
20. The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 2201]
21. During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623]
22. To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rule 4623]
23. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623]
24. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623]
25. During sludge removal, the operator shall control emissions from the sludge receiving vessel by operating an APCO-approved vapor control device that reduces emissions of organic vapors by at least 95%. [District Rule 4623]
26. Permittee shall only transport removed sludge in closed, liquid leak-free containers. [District Rule 4623]
27. Permittee shall store removed sludge, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rule 4623]
28. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 4623]
29. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 2201 & 4623]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-4034-14-4

LEGAL OWNER OR OPERATOR: E&B NATURAL RESOURCES

MAILING ADDRESS: ATT: SHAMS HASAN
1600 NORRIS ROAD
BAKERSFIELD, CA 93308

LOCATION: LIGHT OIL WESTERN

SECTION: 17 TOWNSHIP: 30S RANGE: 21E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 2000 BBL FIXED ROOF CRUDE OIL STOCK TANK #20S180 WITH P/V VALVE AND TRUCK LOADOUT CONNECTION WITH DRY BREAK COUPLERS AND VAPOR BALANCE PIPING (AML LEASE): INSTALL VAPOR RECOVERY SYSTEM SHARED WITH TANK S-4034-13

CONDITIONS

1. Components associated with vapor control system shall comply with all Rule 4409 requirements. [District Rule 4409]
2. The tank shall be equipped with a vapor control system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor control system shall be APCO-approved and maintained in leak-free condition. Vapors shall be discharged to a gas plant or sales gas pipeline. [District Rules 2201 and 4623]
3. Except as otherwise provided in this permit, the operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2080]
4. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 2201 and 4623]
5. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rules 2201 and 4623]
6. Any tank gauging or sampling device on a tank vented to the vapor control system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]

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

DAVID WARNER, Director of Permit Services

S-4034-14-4 : Jan 28 2014 12:06PM - DAVIDSON : Joint Inspection NOT Required

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7. VOC fugitive emissions from the components in gas service on tank shall not exceed 0.4 lb/day. [District Rule 2201]
8. Permittee shall maintain accurate component count for tank according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201]
9. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. [District Rule 4623]
10. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rule 4623]
11. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rules 2201 & 4623]
12. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rules 2201 & 4623]
13. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rules 2201 & 4623]
14. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rules 2201 & 4623]
15. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rules 2201 & 4623]
16. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rules 2201 & 4623]
17. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rules 2201 & 4623]
18. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623]

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CONDITIONS CONTINUE ON NEXT PAGE

19. This tank shall be degassed before commencing interior cleaning by following one of the following options: 1) exhausting VOCs contained in the tank vapor space to an APCO-approved vapor recovery system until the organic vapor concentration is 5,000 ppmv or less, or is 10 percent or less of the lower explosion limit (LEL), whichever is less, or 2) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable liquid until 90 percent or more of the maximum operating level of the tank is filled. Suitable liquids are organic liquids having a TVP of less than 0.5 psia, water, clean produced water, or produced water derived from crude oil having a TVP less than 0.5 psia, or 3) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable gas. Degassing shall continue until the operator has achieved a vapor displacement equivalent to at least 2.3 times the tank capacity. Suitable gases are air, nitrogen, carbon dioxide, or natural gas containing less than 10 percent VOC by weight. [District Rule 4623]
20. The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 2201]
21. During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623]
22. To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rule 4623]
23. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623]
24. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623]
25. During sludge removal, the operator shall control emissions from the sludge receiving vessel by operating an APCO-approved vapor control device that reduces emissions of organic vapors by at least 95%. [District Rule 4623]
26. Permittee shall only transport removed sludge in closed, liquid leak-free containers. [District Rule 4623]
27. Permittee shall store removed sludge, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rule 4623]
28. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 4623]
29. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 2201 & 4623]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-4034-15-3

LEGAL OWNER OR OPERATOR: E&B NATURAL RESOURCES
MAILING ADDRESS: ATT: SHAMS HASAN
1600 NORRIS ROAD
BAKERSFIELD, CA 93308

LOCATION: LIGHT OIL WESTERN

SECTION: 22 TOWNSHIP: 30S RANGE: 21E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 2000 BBL FIXED ROOF CRUDE OIL STOCK TANK #T-2GM20 (CWOD LEASE): INSTALL VAPOR RECOVERY SYSTEM SHARED WITH TANK S-4034-20

CONDITIONS

1. Components associated with vapor control system shall comply with all Rule 4409 requirements. [District Rule 4409]
2. The tank shall be equipped with a vapor control system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor control system shall be APCO-approved and maintained in leak-free condition. Vapors shall be discharged to a gas plant or sales gas pipeline. [District Rules 2201 and 4623]
3. Except as otherwise provided in this permit, the operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 4623]
4. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 2201 and 4623]
5. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rules 2201 and 4623]
6. Any tank gauging or sampling device on a tank vented to the vapor control system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]

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

DAVID WARNER, Director of Permit Services

S-4034-15-3 : Jan 28 2014 12:06PM - DAVIDBOS : Joint Inspection NOT Required

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7. VOC fugitive emissions from the components in gas service on tank and tank vapor collection system shall not exceed 0.9 lb/day. [District Rule 2201]
8. Permittee shall maintain accurate component count for tank according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201]
9. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. [District Rule 4623]
10. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rule 4623]
11. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rules 2201 & 4623]
12. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rules 2201 & 4623]
13. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rules 2201 & 4623]
14. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rules 2201 & 4623]
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16. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rules 2201 & 4623]
17. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rules 2201 & 4623]
18. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623]

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CONDITIONS CONTINUE ON NEXT PAGE

19. This tank shall be degassed before commencing interior cleaning by following one of the following options: 1) exhausting VOCs contained in the tank vapor space to an APCO-approved vapor recovery system until the organic vapor concentration is 5,000 ppmv or less, or is 10 percent or less of the lower explosion limit (LEL), whichever is less, or 2) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable liquid until 90 percent or more of the maximum operating level of the tank is filled. Suitable liquids are organic liquids having a TVP of less than 0.5 psia, water, clean produced water, or produced water derived from crude oil having a TVP less than 0.5 psia, or 3) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable gas. Degassing shall continue until the operator has achieved a vapor displacement equivalent to at least 2.3 times the tank capacity. Suitable gases are air, nitrogen, carbon dioxide, or natural gas containing less than 10 percent VOC by weight. [District Rule 4623]
20. The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 2201]
21. During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623]
22. To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rule 4623]
23. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623]
24. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623]
25. During sludge removal, the operator shall control emissions from the sludge receiving vessel by operating an APCO-approved vapor control device that reduces emissions of organic vapors by at least 95%. [District Rule 4623]
26. Permittee shall only transport removed sludge in closed, liquid leak-free containers. [District Rule 4623]
27. Permittee shall store removed sludge, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rule 4623]
28. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 4623]
29. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 2201 & 4623]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-4034-20-1

LEGAL OWNER OR OPERATOR: E&B NATURAL RESOURCES

MAILING ADDRESS: ATT: SHAMS HASAN
1600 NORRIS ROAD
BAKERSFIELD, CA 93308

LOCATION: LIGHT OIL WESTERN

SECTION: NW 22 TOWNSHIP: 30S RANGE: 21E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 1000 BBL FIXED ROOF CRUDE OIL STORAGE TANK T-1GM43 WITH P/V RELIEF VALVE (F.E. SMITH LEASE); TRANSFER LOCATION TO NW/4 SEC: 22, T30S/R21E AND INSTALL VAPOR RECOVERY SYSTEM SHARED WITH TANK 15

CONDITIONS

1. Components associated with vapor control system shall comply with all Rule 4409 requirements. [District Rule 4409]
2. The tank shall be equipped with a vapor control system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor control system shall be APCO-approved and maintained in leak-free condition. Vapors shall be discharged to a gas plant or sales gas pipeline. [District Rules 2201 and 4623]
3. Except as otherwise provided in this permit, the operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2080]
4. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 2201 and 4623]
5. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rules 2201 and 4623]
6. Any tank gauging or sampling device on a tank vented to the vapor control system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

S-4034-20-1: Jan 28 2014 12:05PM - DAVIDGOS : Joint Inspection NOT Required

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7. VOC fugitive emissions from the components in gas service on tank and tank vapor collection system shall not exceed 0.4 lb/day. [District Rule 2201]
8. Permittee shall maintain accurate component count for tank according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201]
9. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. [District Rule 4623]
10. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rule 4623]
11. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rules 2201 & 4623]
12. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rules 2201 & 4623]
13. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rules 2201 & 4623]
14. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rules 2201 & 4623]
15. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rules 2201 & 4623]
16. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rules 2201 & 4623]
17. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rules 2201 & 4623]
18. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623]

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CONDITIONS CONTINUE ON NEXT PAGE

19. This tank shall be degassed before commencing interior cleaning by following one of the following options: 1) exhausting VOCs contained in the tank vapor space to an APCO-approved vapor recovery system until the organic vapor concentration is 5,000 ppmv or less, or is 10 percent or less of the lower explosion limit (LEL), whichever is less, or 2) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable liquid until 90 percent or more of the maximum operating level of the tank is filled. Suitable liquids are organic liquids having a TVP of less than 0.5 psia, water, clean produced water, or produced water derived from crude oil having a TVP less than 0.5 psia, or 3) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable gas. Degassing shall continue until the operator has achieved a vapor displacement equivalent to at least 2.3 times the tank capacity. Suitable gases are air, nitrogen, carbon dioxide, or natural gas containing less than 10 percent VOC by weight. [District Rule 4623]
20. The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 2201]
21. During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623]
22. To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rule 4623]
23. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623]
24. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623]
25. During sludge removal, the operator shall control emissions from the sludge receiving vessel by operating an APCO-approved vapor control device that reduces emissions of organic vapors by at least 95%. [District Rule 4623]
26. Permittee shall only transport removed sludge in closed, liquid leak-free containers. [District Rule 4623]
27. Permittee shall store removed sludge, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rule 4623]
28. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 4623]
29. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 2201 & 4623]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-4034-31-0

LEGAL OWNER OR OPERATOR: E&B NATURAL RESOURCES
MAILING ADDRESS: ATT: SHAMS HASAN
1600 NORRIS ROAD
BAKERSFIELD, CA 93308

LOCATION: LIGHT OIL WESTERN

SECTION: NE 23 **TOWNSHIP:** 30S **RANGE:** 21E

EQUIPMENT DESCRIPTION:
300 BBL FIXED ROOF CRUDE OIL STOCK TANK WITH P/V RELIEF VALVE (FE SMITH LEASE)

CONDITIONS

1. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than (insert proposed TVP) 2.0 psia under all storage conditions. [District Rules 2201 & 4623]
2. The tank shall be equipped with a fixed roof with no holes or openings [District Rule 2201]
3. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in leak-free condition except when the operating pressure exceeds the valve's set pressure [District Rules 2201 & 4623]
4. VOC emission rate from the tank shall not exceed 2.3 lb/day. [District Rule 2201]
5. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 2201]
6. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. [District Rule 2201]
7. Crude oil throughput shall not exceed 100 barrels per day based on a monthly average. [District Rule 2201]
8. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit [District Rule 4623]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services
S-4034-31-0: Jan 28 2014 12:08PM - DAVIDSOS : Joint Inspection NOT Required

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9. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rule 2201]
10. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 2201 and 4623]
11. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623]
12. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 2201]
13. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection [District Rules 2201 & 4623]
14. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 2201 and 4623]
15. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 2201 and 4623]

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