



**MAR 29 2013**

Gerardo C. Rios, Chief  
Permits Office  
Air Division  
U.S. EPA - Region IX  
75 Hawthorne St  
San Francisco, CA 94105

Re: **Proposed Authorities to Construct / Certificate of Conformity (Minor Mod)  
District Facility # S-382  
Project # S-1124364**

Dear Mr. Rios:

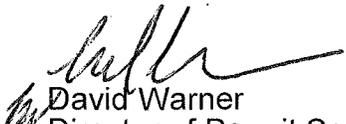
Enclosed for your review is the District's engineering evaluation of an application for Authorities to Construct for Occidental of Elk Hills Inc., located at Section 34, Township 30S, Range 24E in the Kern County Light Oil Western stationary source, which has been issued a Title V permit. Occidental of Elk Hills Inc. is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. The project is for the installation of the new 34S Oil Treating and Water Processing Facility.

Enclosed is the engineering evaluation of this application and proposed Authorities to Construct # S-382-832-0 through '839-0 with Certificate of Conformity. After demonstrating compliance with the Authorities to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,



David Warner  
Director of Permit Services

Enclosures  
cc: Homero Ramirez, Permit Services

Seyed Sadredin  
Executive Director/Air Pollution Control Officer

---

**Northern Region**  
4800 Enterprise Way  
Modesto, CA 95356-8718  
Tel: (209) 557-6400 FAX: (209) 557-6475

**Central Region (Main Office)**  
1990 E. Gettysburg Avenue  
Fresno, CA 93726-0244  
Tel: (559) 230-6000 FAX: (559) 230-6061

**Southern Region**  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
Tel: 661-392-5500 FAX: 661-392-5585





**MAR 29 2013**

Raymond Rodriguez  
Occidental of Elk Hills Inc.  
10800 Stockdale Hwy  
Bakersfield, CA 93311

**Re: Proposed Authorities to Construct / Certificate of Conformity (Minor Mod)  
District Facility # S-382  
Project # S-1124364**

Dear Mr. Rodriguez:

Enclosed for your review is the District's analysis of your application for Authorities to Construct for the facility identified above. You have requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The project is for the installation of the new 34S Oil Treating and Water Processing Facility.

After addressing any EPA comments made during the 45-day comment period, the Authorities to Construct will be issued to the facility with a Certificate of Conformity. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,



David Warner  
Director of Permit Services

Enclosures  
cc: Homero Ramirez, Permit Services

**Seyed Sadredin**  
Executive Director/Air Pollution Control Officer

---

**Northern Region**  
4800 Enterprise Way  
Modesto, CA 95356-8718  
Tel: (209) 557-6400 FAX: (209) 557-6475

**Central Region (Main Office)**  
1990 E. Gettysburg Avenue  
Fresno, CA 93726-0244  
Tel: (559) 230-6000 FAX: (559) 230-6061

**Southern Region**  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
Tel: 661-392-5500 FAX: 661-392-5585



**San Joaquin Valley Air Pollution Control District**  
**Authority to Construct Application Review**  
New Oil Treating and Water Processing Facility

Facility Name:	Occidental of Elk Hills Inc.	Date:	March 18, 2013
Mailing Address:	10800 Stockdale Highway Bakersfield, CA 93311	Engineer:	Homero Ramirez
Contact Person:	Raymond Rodriguez	Lead Engineer:	Richard Karrs <i>ABOVE ARE</i>
Telephone:	(661) 412-6263		MAR 18 2013
Application #(s):	S-382-832-0 through '839-0		
Project #:	S-1124364		
Deemed Complete:	January 10, 2013		

---

## **I. Proposal**

Occidental of Elk Hills Inc (OEHI) requests Authorities to Construct (ATCs) for the installation of its new 34S Oil Treating and Water Processing Facility which will process crude oil and water from nearby wells. The oil treating and water processing facility will consist of various tanks and equipment served by a vapor control system, including an inlet separator and emergency vent system (S-382-832), a free water knockout vessel (S-382-833), a produced water tank and associated pumps (S-382-834), a wet oil tank and associated pumps (S-382-385), a backwash tank and associated pumps (S-382-836), a filter charge tank (S-382-837), an injection water tank (S-382-838), and a floatation cell vessel (S-382-839). The vapor control system vents to the existing field gas gathering system.

OEHI received their Title V Permit on May 31, 2001. This modification can be classified as a Title V minor modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. OEHI must apply to administratively amend their Title V permit.

## **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 4001            New Source Performance Standards
- Subpart Kb 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 is not applicable. This subpart does not apply to storage vessels with uncontrolled VOC emissions of less than 6 tons per year.
- Rule 4409            Components at Light Crude Oil Production Facilities, Natural Gas Production Facilities, and Natural Gas Processing Facilities (4/30/05)
- Rule 4623            Storage of Organic Liquids (5/19/05)
- 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 34S Oil Treating and Water Processing Facility in the SW/4 Section 34, Township 30S, Range 23E at OEHI's Light Oil Western stationary source in Kern County. The equipment will not be located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

### IV. Process Description

Crude oil production usually contains significant amounts of produced water and may contain associated gas which must be separated from the production, prior to crude oil dehydration. Consequently, upon arrival at the 34S Oil Treating and Water Processing Facility, produced crude oil and water will be routed to an inlet separator (three phase separator vessel) where the emulsified crude oil, water and associated gas are phase separated into constituent streams. The produced water from the inlet separator is routed to a free water knockout (FWKO) vessel where it undergoes separation of "wet" crude oil from free water. The free water is then routed to a floatation cell treating vessel where residual crude oil and fines are removed from the produced water.

Clean water from the floatation cell will contain less than 35 mg of hydrocarbons per liter. The clean water will be sent to a new filtering and injection system consisting of a filter charge tank, nut shell lifters and an injection water tank. The oil treating and water processing facility will require an additional small backwash tank to collect fluids during filter backwash operations. OEHI is requesting permits for the filter charge tanks, injection water tanks, and backwash tanks, which will be connected to a vapor recovery system.

Crude oil from the inlet separator, the free water knockout, produced water tank, as well as oil skimmed from the treating vessel will be routed to a new wet oil tank and then to the existing 18G facility for further treating and sales.

The overhead gas from the inlet separator and free water knockout vessel will be collected by the existing off-gas booster compressors (permits S-382-822 and -823) at 34S. Vapors from the depurator vessel and the tanks will be recovered by the low pressure gas collection compressors (permits S-382-820 and -821) at 34S. Both the off-gas booster compressors and low pressure gas collection compressors send the collected gas to an existing glycol dehydration unit (permit S-382-819) at 34S.

This facility will require the installation of a low pressure emergency relief system which will be used to route gases away from the facility during emergency events. The system will result in a small amount of fugitive VOC emissions from piping components. Any liquids captured in the scrubber will be removed from the tank for disposal.

For additional process information refer to the flow schematic diagrams in Attachment A.

## **V. Equipment Listing**

- S-382-832-0: 32,000 GALLON INLET SEPARATOR (V-100) SERVED BY VAPOR RECOVERY SYSTEM, WITH EMERGENCY VENT KNOCKOUT DRUM AND EMERGENCY VENT STACK
- S-382-833-0: 12,000 GALLON FREE WATER KNOCKOUT VESSEL (V-200) SERVED BY VAPOR RECOVERY SYSTEM
- S-382-834-0: 10,000 BBL PRODUCED WATER TANK (T-400) AND DEGASSING BOOT SERVED BY VAPOR RECOVERY SYSTEM, WITH WET OIL PUMP(S) AND PRODUCED WATER PUMP(S)
- S-382-835-0: 5,000 BBL WET OIL TANK (T-300) AND DEGASSING BOOT SERVED BY VAPOR RECOVERY SYSTEM, WITH OIL TRANSFER PUMP(S) AND WATER DRAW PUMP(S)
- S-382-836-0: 3,000 BBL BACKWASH TANK (T-600) SERVED BY VAPOR RECOVERY SYSTEM, WITH BACKWASH WATER PUMP(S)
- S-382-837-0: 5,000 BBL FILTER CHARGE TANK (T-410) SERVED BY VAPOR RECOVERY SYSTEM
- S-382-838-0: 10,000 BBL INJECTION WATER TANK (T-500) SERVED BY VAPOR RECOVERY SYSTEM
- S-382-839-0: 12,600 GALLON FLOTATION CELL VESSEL (V-410) SERVED BY VAPOR RECOVERY SYSTEM, WITH FLOTATION CELL SKIM PUMP(S)

## VI. Emission Control Technology Evaluation

The tank vapor control system collects vapors from the equipment and removes entrained liquid in knockout vessels and scrubber vessels, condenses vapors in heat exchangers, and routes the uncondensed vapors to the field gas gathering system. The efficiency of the vapor control system is at least 99%.

## VII. General Calculations

### A. Assumptions

- The equipment will operate a maximum of 24 hr/day and 365 day/yr.
- VOC content of fugitive emissions is assumed to be 100% by weight.
- Only fugitive VOCs emitted from components in gas service are calculated.
- The scrubber and emergency vent will only be used during emergencies. Therefore, emissions of VOC from the knockout drum listed on S-382-828 (during emergency only) are not included in offsets calculations (per Rule 2201 Section 4.6.2).
- Emissions from the vent scrubber (S-382-832-0) and emergency vent scrubber horizontal tank (S-382-832-0) are based on a liquid with a Reid Vapor Pressure of 5 psia with no working losses. The Tanks 4.0 calculations are included in Attachment B.

### B. Emission Factors

Fugitive VOC emissions have been quantified for Average Leak Rate (ALR) equations with a leak threshold (other equipment) in EPA, "Protocol for Estimating Leak Emissions" (EPA – 453/R-95-017, November 1995) Table 5-7, "Equation Relating Average Leak Rate to Fraction Leaking at Oil and Gas Production Operation Units" (Attachment B). The leak threshold is 2000 ppm for all emissions units except for the production tanks which have a leak threshold of 10,000 ppmv. In calculating the DEL associated with fugitive emissions, the "LKFRAC" term in these equations, representing the number of allowable leaks, was assumed to be zero.

### C. Calculations

#### 1. Pre-Project Potential to Emit (PE1)

Since these are new emissions units, PE1 = 0 for all pollutants.

**2. Post Project Potential to Emit (PE2)**

Equipment Description		VOC Emissions		
		Emission Unit (lb/day)	Permit Unit (lb/day)	Permit Unit (lb/yr)
S-382-832	Inlet Separator V-100	0.151	0.73	265.5
	Emergency Vent System VS-142 Fugitives	0.072		
	Emergency Vent Knockout Drum Breathing Losses	0.504		
S-382-833	Free Water Knockout Drum V-200	0.208	0.21	75.8
S-382-834	Produced Water Tank T-400	0.188	0.37	136.0
	Wet Oil Pumps	0.103		
	Produced Water Pumps	0.082		
S-382-835	Wet Oil Tank T-300	0.156	0.28	103.6
	Wet Oil Water Draw Pump	0.041		
	Wet Oil Tank Oil Transfer Pump	0.086		
S-382-836	Backwash Tank T-600	0.164	0.24	88.4
	Backwash Tank Pumps	0.079		
S-382-837	Filter Charge Tank T-410	0.081	0.08	29.4
S-382-838	Injection Water Tank T-500	0.062	0.06	22.6
S-382-839	Flotation Cell V-410 and Skim Pumps	0.146	0.15	53.4
Emission Total			2.12	774.8
Permitted Emissions Subject to Offsets (Per Rounding Policy) <sup>1</sup>			0.73	265.5

**PE2**

Permit unit	VOC PE2 (lb/day)	VOC PE2 (lb/yr)
S-382-832	0.7	266
S-382-833	0.2	76
S-382-834	0.4	136
S-382-835	0.3	104
S-382-836	0.2	88
S-382-837	0.1	29
S-382-838	0.1	23
S-382-839	0.1	53
Total		775

The project results in an increase in VOC emissions of 775 lb-VOC/yr. Assuming the emissions are 100% methane (CH<sub>4</sub>), which has a global warming potential (GWP) for methane of 23 lb-CO<sub>2</sub>e/lb-CH<sub>4</sub>, the increase is 17,825 lb-CO<sub>2</sub>e/yr (8.9 tons CO<sub>2</sub>e/yr), which is much less than the GHG significance threshold of 230 metric tons-CO<sub>2</sub>e/yr.

<sup>1</sup> Per District rounding policy APR-1130, for the purposes of determining whether New and Modified Source Review (NSR) rule requirements are triggered, increases in maximum daily permitted emissions of 0.5 lb/day or less are rounded to zero.

The emissions profiles are included in Attachment C.

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

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

Since facility emissions are already above the Offset and Major Source Thresholds for VOC emissions, SSPE1 calculations are not necessary.

### **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.

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.

### **5. 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. However, for the purposes of determining major source status, the SSPE2 shall not include 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.”

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.

### **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.

S-382-832 through '839:

Since these are all new emissions unit, BE = PE1 = 0 for all pollutants.

## 7. SB 288 Major Modification

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

Since this 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. Only the non-fugitive emission increases (from the emergency vent knockout drum) will be used for the SB 288 Major Modification calculation.

Since this facility is a major source for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and 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 <sub>x</sub>	0	50,000	No
SO <sub>x</sub>	0	80,000	No
PM <sub>10</sub>	0	30,000	No
VOC	184	50,000	No

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.

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.

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

The project's combined total emission increases are calculated in Attachment B and compared to the Federal Major Modification Thresholds in the following table. Note that any increases of less than 0.5 lb/day round to zero for NSR purposes.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO <sub>x</sub> *	0	0	No
VOC*	0	0	No
PM <sub>10</sub>	0	30,000	No
PM <sub>2.5</sub>	0	20,000	No
SO <sub>x</sub>	0	80,000	No

\*If there is any emission increases in NO<sub>x</sub> or VOC, this project is a Federal Major Modification and no further analysis is required.

Since none of the Federal Major Modification Thresholds are being surpassed with this project, this project does not constitute 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:

- NO<sub>2</sub> (as a primary pollutant)
- SO<sub>2</sub> (as a primary pollutant)
- CO
- PM
- PM<sub>10</sub>
- Greenhouse gases (GHG): CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>, HFCs, PFCs, and SF<sub>6</sub>

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).

In the case the facility is an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project results in a PSD significant increase.

In the case 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.

In the case the facility is new source, the second step of the PSD evaluation is to determine if this new facility will become a new PSD major Source as a result of the project and if so, to determine which pollutant will result in a PSD significant increase.

**I. Project Location Relative to Class 1 Area**

As demonstrated in the “PSD Major Source Determination” Section above, the facility was determined to be a existing major source for PSD. Because the project is not located within 10 km of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

**II. Significance of Project Emission Increase Determination**

**a. Potential to Emit of attainment/unclassified pollutant for New or Modified Emission Units vs PSD Significant Emission Increase Thresholds**

As a screening tool, the potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if total potential to emit from all new and modified units is below this threshold, no futher analysis will be needed.

<b>PSD Significant Emission Increase Determination: Potential to Emit (tons/year)</b>						
	NO2	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	0	0	0	0	0	8.9
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	No	No	No	No	No	No

As demonstrated above, because the project has a total potential to emit from all new and modified emission units below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 due to a significant emission increase 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. As the permit units are new QNEC = PE2/4.

## VIII. Compliance

### Rule 2201 New and Modified Stationary Source Review Rule

#### A. Best Available Control Technology (BACT)

##### 1. BACT Applicability

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

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

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

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

As seen in Section VII.C.2 above, the applicant is proposing emissions units with only VOC emissions. However, none of the emissions units has a PE greater than 2 lb/day. Therefore BACT is not triggered.

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

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

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

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

##### d. SB 288/Federal Major Modification

As discussed in Section VII.C.7 above, this project does not constitute an SB 288 and/or Federal Major Modification for NO<sub>x</sub> emissions. Therefore BACT is not triggered for any pollutant.

**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.

<b>Offset Determination (lb/year)</b>					
	<b>NO<sub>x</sub></b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>CO</b>	<b>VOC</b>
SSPE2	>20,000	>54,750	>29,200	>200,000	>20,000
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets calculations required?	Yes	Yes	Yes	Yes	Yes

**2. Quantity of Offsets Required**

As seen above, the facility is an existing Major Source for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO, and 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 = Historic Actual Emissions (HAE)

The facility is proposing to install all new emissions units; therefore Baseline Emissions are equal to zero. Also, there are no increases in cargo carrier emissions. Offsets can be determined as follows:

$$\text{Offsets Required (lb/year)} = \text{PE2} \times \text{DOR}$$

**PE2**

Permit unit	VOC PE2 (lb/day) <sup>2</sup>	VOC PE2 (lb/yr)
S-382-832	0.7 <sup>3</sup>	266
S-382-833	0.2 → 0	76
S-382-834	0.4 → 0	136
S-382-835	0.3 → 0	104
S-382-836	0.2 → 0	88
S-382-837	0.1 → 0	29
S-382-838	0.1 → 0	23
S-382-839	0.1 → 0	53
Total		775
<b>Total offsets required</b>		<b>266</b>

**VOC:**

**S-382-832**

$$\text{PE2} = 266 \text{ lb VOC/yr}$$

The distance offset ratio (DOR) is 1.0. The amount of VOCs ERCs that need to be withdrawn is calculated as follows:

$$\begin{aligned} \text{Offsets Required (lb/year)} &= 266 \times 1.0 \\ &= 266 \text{ lb-VOC/year} \end{aligned}$$

The quarterly ERCs required are as follows:

$$\text{DOR} = 1.0$$

<u>Pollutant</u>	<u>1<sup>st</sup> Quarter</u>	<u>2<sup>nd</sup> Quarter</u>	<u>3<sup>rd</sup> Quarter</u>	<u>4<sup>th</sup> Quarter</u>
VOC (lb/qtr)	67	67	67	67

The applicant has stated that the facility plans to use ERC certificate S-3982-1 to offset the increases in VOC emissions associated with this project. The ERCs have been reserved as indicated in the table below.

<sup>2</sup> District policy APR 1130 states that IPEs less than or equal to 0.5 lb/day to be set to zero for purposes of providing emission offsets. This change allows an IPE that rounds to 0.5 lb/day, e.g. less than 0.54 lb/day, to be set to zero for purposes of providing emission offsets.

<sup>3</sup> Fugitive emissions associated with emergency venting equipment are not included in the offsets calculation.

Reserved in PAS

ERC #	1 <sup>st</sup> Qtr	2 <sup>nd</sup> Qtr	3 <sup>rd</sup> Qtr	4 <sup>th</sup> Qtr
S-3982-1 (lb/qtr)	67	67	67	67

**Proposed Rule 2201 (offset) Conditions:**

**S-382-832**

- Prior to operating equipment under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: VOC: 67 lb/quarter. Offsets include the applicable offset ratio specified in Section 4.8 of Rule 2201 (as amended 4/21/11). [District Rule 2201]
- ERC Certificate Number S-3982-1 (or certificate split from this certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

**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 SSIPE 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 VII.C.7, this project does not constitute an SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

**b. PE > 100 lb/day**

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 <sub>x</sub>	>20,000 lb/year	>20,000 lb/year	20,000 lb/year	No
SO <sub>x</sub>	>54,750 lb/year	>54,750 lb/year	54,750 lb/year	No
PM <sub>10</sub>	>29,200 lb/year	>29,200 lb/year	29,200 lb/year	No
CO	>200,000 lb/year	>200,000 lb/year	200,000 lb/year	No
VOC	>20,000 lb/year	>20,000 lb/year	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 <sub>x</sub>	>20,000 lb/year	>20,000 lb/year	0	20,000 lb/year	No
SO <sub>x</sub>	>54,750 lb/year	>54,750 lb/year	0	20,000 lb/year	No
PM <sub>10</sub>	>29,200 lb/year	>29,200 lb/year	0	20,000 lb/year	No
CO	>200,000 lb/year	>200,000 lb/year	0	20,000 lb/year	No
VOC	>20,000 lb/year	>20,000 lb/year	775	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, this project will not result in emissions, for any pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will not be required for this project.

## **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.

DELs for the equipment 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.

## **E. Compliance Assurance**

### **1. Source Testing**

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

### **2. Monitoring**

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 Rule 2201]
- 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 Rule 2201]

- 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 Rule 2201]
- 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 Rule 2201]
- 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 Rule 2201]
- 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 Rule 2201]
- 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 2201]

### **3. Recordkeeping**

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following conditions will appear on the permits:

- The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 2201]
- Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 1070]

#### **4. Reporting**

No reporting is required to demonstrate compliance with Rule 2201.

#### **Rule 2520 Federally Mandated Operating Permits**

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit.

In accordance with Rule 2520, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
  - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
  - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

As discussed above, the facility has applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment/minor modification application.

#### **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.

Provided the equipment in this project is properly maintained and operated, compliance with visible emissions limits is expected.

## **Rule 4102 Nuisance**

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

### **California Health & Safety Code 41700 (Health Risk Assessment)**

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

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 (Attachment D), 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 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. OEHI 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 the permit to ensure compliance with applicable Rule 4409 requirements:

- Components associated with vapor control system shall comply with all Rule 4409 requirements listed in the facility wide permit. [District Rule 4409]

Therefore, compliance with this rule 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. Therefore, the tanks (under permits S-382-834-0 through -838-0) in this project are subject to Rule 4623.

Section 5.1 states that an operator shall not place, hold, or store organic liquid in any tank unless such tank is equipped with a VOC control system. The equipment in this project will be served by a shared vapor control system, which will meet the specification of Section 5.6. As such, the equipment shall be fully enclosed and shall be maintained in a leak-free condition, and the VOC control device shall control VOC emissions by 95%. 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.

Additionally, the applicant requests that the applications for this project serve notice that the new tanks in this project (S-382-834-0 through -838-0) will be included in the voluntary tank preventive inspection, maintenance, and tank cleaning program. Tank cleaning will be conducted according to the requirements of Table 3 (Fixed Roof Tank Preventative Inspection and Maintenance). The following conditions are to be placed on the tank ATCs to reflect the requirements of the voluntary tank preventive inspection, maintenance, and tank cleaning program:

- Any tank gauging or sampling device on tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rules 2201 and 4623]
- 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 shell and roof of the uninsulated tank for structural integrity annually. [District Rules 2210 and 4623]
- Upon detection of a liquid leak from tank, 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 parts per million by volume (ppmv) for the tank and 2,000 parts per million by volume (ppmv) for the tank vapor control system measured in accordance with EPA Method 21, operator shall take on 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]
- If a component type for storage tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank 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]
- 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 and 4623]

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.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission unit(s) are exempt from Best

Available Control Technology (BACT) requirements. Furthermore, the District has determined that potential emission increases would have a less than significant health impact on sensitive receptors.

Issuance of permits for emissions units not subject to BACT requirements and with health impact less than significant is a matter of ensuring conformity with applicable District rules and regulations and does not require discretionary judgment or deliberation. Thus, the District concludes that this permitting action constitutes a ministerial approval. Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

**IX. Recommendation**

Compliance with all applicable rules and regulations is expected. Pending a successful COC review, issue ATCs S-382-832-0 through '-839-0 in Attachment F.

**X. Billing Information**

<b>Annual Permit Fees</b>			
<b>Permit Number</b>	<b>Fee Schedule</b>	<b>Fee Description</b>	<b>Annual Fee</b>
S-382-832-0	3020-05C	32,000 gallons	\$135.00
S-382-833-0	3020-05B	12,000 gallons	\$93.00
S-382-834-0	3020-05E	420,000 gallons	\$246.00
S-382-835-0	3020-05E	210,000 gallons	\$246.00
S-382-836-0	3020-05E	126,000 gallons	\$246.00
S-382-837-0	3020-05E	210,000 gallons	\$246.00
S-382-838-0	3020-05E	420,000 gallons	\$246.00
S-382-839-0	3020-05B	12,600 gallons	\$93.00

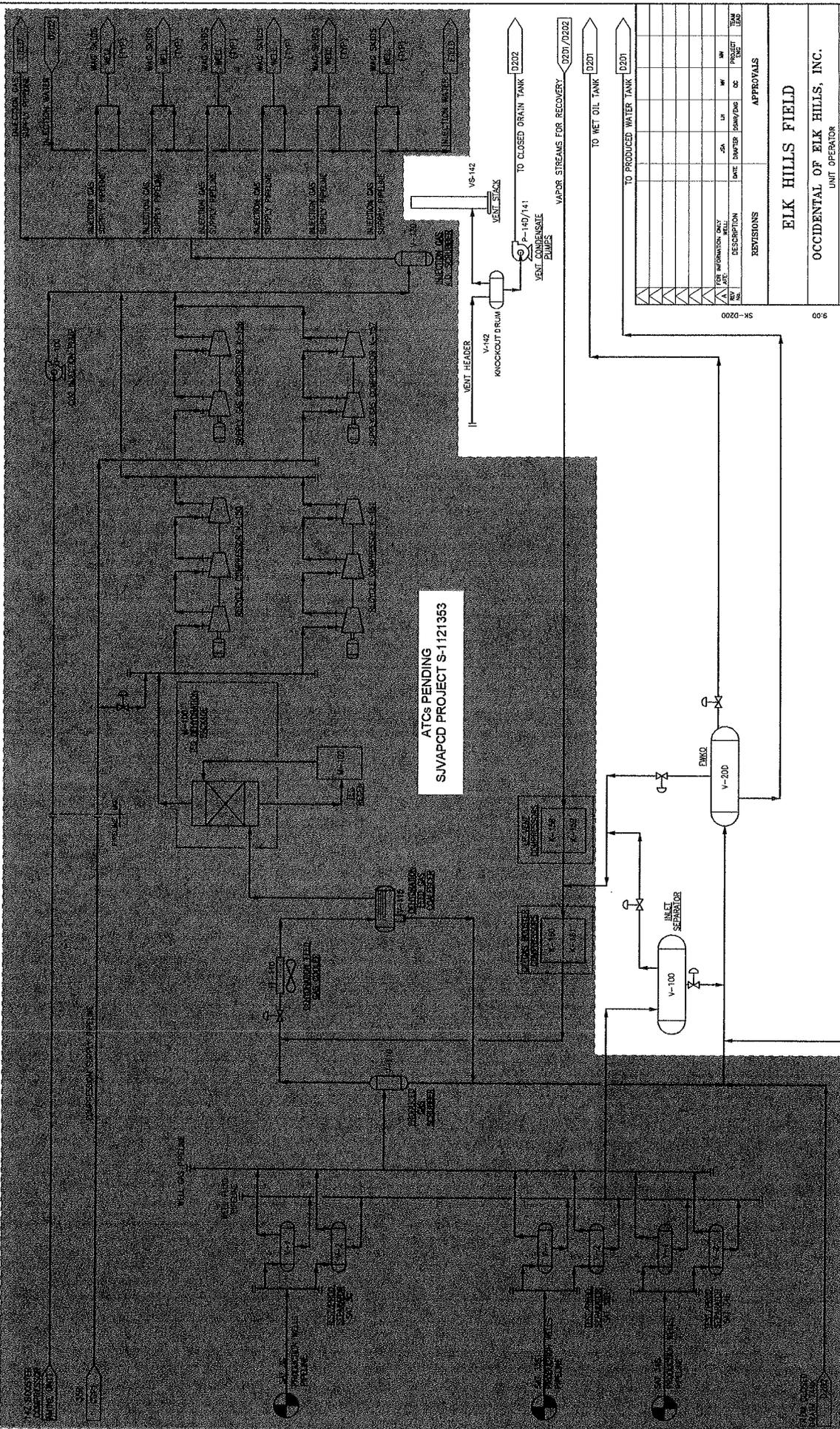
**Attachments:**

- A: Process Schematics and Plot Plan
- B: Fugitive Emission Calculations
- C: Emissions Profiles
- D: HRA Summary
- E: Title V Compliance Certification Form
- F: Draft ATCs



**ATTACHMENT A**  
**Process Schematics and Plot Plan**





NO.	DATE	DESCRIPTION	BY	CHK	APP	DATE	PROJECT	TEAM
1		FOR INFORMATION ONLY						
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53								
54								
55								
56								
57								
58								
59								
60								
61								
62								
63								
64								
65								
66								
67								
68								
69								
70								
71								
72								
73								
74								
75								
76								
77								
78								
79								
80								
81								
82								
83								
84								
85								
86								
87								
88								
89								
90								
91								
92								
93								
94								
95								
96								
97								
98								
99								
100								

FROM WATER DRAW PUMP D201

**ELK HILLS FIELD**

OCCIDENTAL OF ELK HILLS, INC.

UNIT OPERATOR

34S

**MISCELLANEOUS GAS INJECTION FACILITY NO. 38**

**OVERALL FLOW SCHEMATIC DIAGRAM**

DATE: 09/22/12 9:00

DRAWING NO. 20320-SK-D200

SHEET	REV.	SOUL
1	A	NONE











**ATTACHMENT B**  
**Fugitive Emission Calculations**



S-382-832

**Fugitive VOC Emissions From Components  
Calculated Using EPA ALR Emission Factors**

<b>Inlet Separator V-100 D132</b>									
Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions			
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)	
Valves	Gas/Light Liquid	27	2,000	0.0000	7.392E-04	0.020	0.020	0.007	
	Light Crude Oil	45	2,000	0.0000	7.392E-04	0.033	0.033	0.012	
	Heavy Crude Oil	0	2,000	0.0000	4.118E-04	0.000	0.000	0.000	
Pump Seals	Gas/Light Liquid	0	2,000	0.0000	1.214E-02	0.000	0.000	0.000	
	Light Crude Oil	0	2,000	0.0000	1.003E-02	0.000	0.000	0.000	
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000	
Others	Gas/Light Liquid	5	2,000	0.0000	2.376E-03	0.012	0.012	0.004	
	Light Crude Oil	4	2,000	0.0000	3.379E-03	0.014	0.014	0.005	
	Heavy Crude Oil	0	2,000	0.0000	1.690E-03	0.000	0.000	0.000	
Connectors	Gas/Light Liquid	65	2,000	0.0000	4.488E-04	0.029	0.029	0.011	
	Light Crude Oil	81	2,000	0.0000	4.541E-04	0.037	0.037	0.014	
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000	
Flanges	Gas/Light Liquid	27	2,000	0.0000	1.373E-04	0.004	0.004	0.001	
	Light Crude Oil	33	2,000	0.0000	8.448E-05	0.003	0.003	0.001	
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000	
Open-ended Lines	Gas/Light Liquid	0	2,000	0.0000	3.960E-04	0.000	0.000	0.000	
	Light Crude Oil	0	2,000	0.0000	3.538E-04	0.000	0.000	0.000	
	Heavy Crude Oil	0	2,000	0.0000	3.168E-04	0.000	0.000	0.000	
<b>Total Fugitive VOC Emissions From Associated Components (lb/day)</b>						<b>0.151</b>	<b>0.151</b>	<b>0.057</b>	
Gas	VOC content (%) of TOG			100.00	Methane content (%) of TOG			37.50	
Liquid	VOC content (%) of TOG			100.00	Methane content (%) of TOG			37.50	



S-382-832

**Fugitive VOC Emissions From Components  
Calculated Using EPA ALR Emission Factors**

**Emergency Vent System VS-142 D-159 2,000 ppmv**

Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions		
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)
Valves	Gas/Light Liquid	2	2,000	0.0000	7.392E-04	0.001	0.001	0.001
	Light Crude Oil	21	2,000	0.0000	7.392E-04	0.016	0.016	0.006
	Heavy Crude Oil	0	2,000	0.0000	4.118E-04	0.000	0.000	0.000
Pump Seals	Gas/Light Liquid	0	2,000	0.0000	1.214E-02	0.000	0.000	0.000
	Light Crude Oil	2	2,000	0.0000	1.003E-02	0.020	0.020	0.008
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Others	Gas/Light Liquid	0	2,000	0.0000	2.376E-03	0.000	0.000	0.000
	Light Crude Oil	2	2,000	0.0000	3.379E-03	0.007	0.007	0.003
	Heavy Crude Oil	0	2,000	0.0000	1.690E-03	0.000	0.000	0.000
Connectors	Gas/Light Liquid	9	2,000	0.0000	4.488E-04	0.004	0.004	0.002
	Light Crude Oil	47	2,000	0.0000	4.541E-04	0.021	0.021	0.008
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Flanges	Gas/Light Liquid	11	2,000	0.0000	1.373E-04	0.002	0.002	0.001
	Light Crude Oil	14	2,000	0.0000	8.448E-05	0.001	0.001	0.000
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Open-ended Lines	Gas/Light Liquid	0	2,000	0.0000	3.960E-04	0.000	0.000	0.000
	Light Crude Oil	0	2,000	0.0000	3.538E-04	0.000	0.000	0.000
	Heavy Crude Oil	0	2,000	0.0000	3.168E-04	0.000	0.000	0.000
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.072	0.072	0.027
Gas	VOC content (%) of TOG				100.00	Methane content (%) of TOG		37.50
Liquid	VOC content (%) of TOG				100.00	Methane content (%) of TOG		37.50



S-382-833

Fugitive VOC Emissions From Components  
Calculated Using EPA ALR Emission Factors

FWKO Drum V-200 D133										
Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)		
Valves	Gas/Light Liquid	33	2,000	0.0000	7.392E-04	0.024	0.024	0.009		
	Light Crude Oil	59	2,000	0.0000	7.392E-04	0.044	0.044	0.016		
	Heavy Crude Oil	0	2,000	0.0000	4.118E-04	0.000	0.000	0.000		
Pump Seals	Gas/Light Liquid	0	2,000	0.0000	1.214E-02	0.000	0.000	0.000		
	Light Crude Oil	0	2,000	0.0000	1.003E-02	0.000	0.000	0.000		
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000		
Others	Gas/Light Liquid	8	2,000	0.0000	2.376E-03	0.019	0.019	0.007		
	Light Crude Oil	5	2,000	0.0000	3.379E-03	0.017	0.017	0.006		
	Heavy Crude Oil	0	2,000	0.0000	1.690E-03	0.000	0.000	0.000		
Connectors	Gas/Light Liquid	78	2,000	0.0000	4.488E-04	0.035	0.035	0.013		
	Light Crude Oil	140	2,000	0.0000	4.541E-04	0.064	0.064	0.024		
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000		
Flanges	Gas/Light Liquid	22	2,000	0.0000	1.373E-04	0.003	0.003	0.001		
	Light Crude Oil	27	2,000	0.0000	8.448E-05	0.002	0.002	0.001		
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000		
Open-ended Lines	Gas/Light Liquid	0	2,000	0.0000	3.960E-04	0.000	0.000	0.000		
	Light Crude Oil	0	2,000	0.0000	3.538E-04	0.000	0.000	0.000		
	Heavy Crude Oil	0	2,000	0.0000	3.168E-04	0.000	0.000	0.000		
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.208	0.208	0.078		
Gas	VOC content (%) of TOG			100.00	Methane content (%) of TOG			37.50		
Liquid	VOC content (%) of TOG			100.00	Methane content (%) of TOG			37.50		



S-382-834

Fugitive VOC Emissions From Components  
Calculated Using EPA ALR Emission Factors

Produced Water Tank T-400 and Degassing Boot V-400 D137 10,000 ppmv										
Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)		
Valves	Gas/Light Liquid	16	10,000	0.0000	1.320E-03	0.021	0.021	0.008		
	Light Crude Oil	40	10,000	0.0000	1.003E-03	0.040	0.040	0.015		
	Heavy Crude Oil	0	10,000	0.0000	4.435E-04	0.000	0.000	0.000		
Pump Seals	Gas/Light Liquid	0	10,000	0.0000	1.848E-02	0.000	0.000	0.000		
	Light Crude Oil	0	10,000	0.0000	2.693E-02	0.000	0.000	0.000		
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000		
Others	Gas/Light Liquid	6	10,000	0.0000	6.336E-03	0.038	0.038	0.014		
	Light Crude Oil	3	10,000	0.0000	7.392E-03	0.022	0.022	0.008		
	Heavy Crude Oil	0	10,000	0.0000	1.690E-03	0.000	0.000	0.000		
Connectors	Gas/Light Liquid	36	10,000	0.0000	5.280E-04	0.019	0.019	0.007		
	Light Crude Oil	83	10,000	0.0000	5.122E-04	0.043	0.043	0.016		
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000		
Flanges	Gas/Light Liquid	8	10,000	0.0000	3.010E-04	0.002	0.002	0.001		
	Light Crude Oil	17	10,000	0.0000	1.267E-04	0.002	0.002	0.001		
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000		
Open-ended Lines	Gas/Light Liquid	0	10,000	0.0000	7.920E-04	0.000	0.000	0.000		
	Light Crude Oil	0	10,000	0.0000	7.392E-04	0.000	0.000	0.000		
	Heavy Crude Oil	0	10,000	0.0000	3.802E-04	0.000	0.000	0.000		
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.188	0.188	0.070		
Gas	VOC content (%) of TOG				100.00	Methane content (%) of TOG				37.50
Liquid	VOC content (%) of TOG				100.00	Methane content (%) of TOG				37.50



S-382-834

Fugitive VOC Emissions From Components  
Calculated Using EPA ALR Emission Factors

Wet Oil Pumps P-400/405 Stage 1 D-139

Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions		
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)
Valves	Gas/Light Liquid	0	2,000	0.0000	7.392E-04	0.000	0.000	0.000
	Light Crude Oil	29	2,000	0.0000	7.392E-04	0.021	0.021	0.008
	Heavy Crude Oil	0	2,000	0.0000	4.118E-04	0.000	0.000	0.000
Pump Seals	Gas/Light Liquid	0	2,000	0.0000	1.214E-02	0.000	0.000	0.000
	Light Crude Oil	3	2,000	0.0000	1.003E-02	0.030	0.030	0.011
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Others	Gas/Light Liquid	0	2,000	0.0000	2.376E-03	0.000	0.000	0.000
	Light Crude Oil	3	2,000	0.0000	3.379E-03	0.010	0.010	0.004
	Heavy Crude Oil	0	2,000	0.0000	1.690E-03	0.000	0.000	0.000
Connectors	Gas/Light Liquid	0	2,000	0.0000	4.488E-04	0.000	0.000	0.000
	Light Crude Oil	89	2,000	0.0000	4.541E-04	0.040	0.040	0.015
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Flanges	Gas/Light Liquid	0	2,000	0.0000	1.373E-04	0.000	0.000	0.000
	Light Crude Oil	11	2,000	0.0000	8.448E-05	0.001	0.001	0.000
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Open-ended Lines	Gas/Light Liquid	0	2,000	0.0000	3.960E-04	0.000	0.000	0.000
	Light Crude Oil	0	2,000	0.0000	3.538E-04	0.000	0.000	0.000
	Heavy Crude Oil	0	2,000	0.0000	3.168E-04	0.000	0.000	0.000
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.103	0.103	0.039
Gas	VOC content (%) of TOG				100.00	Methane content (%) of TOG		37.50
Liquid	VOC content (%) of TOG				100.00	Methane content (%) of TOG		37.50



S-382-834

Fugitive VOC Emissions From Components  
Calculated Using EPA ALR Emission Factors

Produced Water Pump P-410/415 Stage 1 D-139

Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions			
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)	
Valves	Gas/Light Liquid	0	2,000	0.0000	7.392E-04	0.000	0.000	0.000	
	Light Crude Oil	24	2,000	0.0000	7.392E-04	0.018	0.018	0.007	
	Heavy Crude Oil	0	2,000	0.0000	4.118E-04	0.000	0.000	0.000	
Pump Seals	Gas/Light Liquid	0	2,000	0.0000	1.214E-02	0.000	0.000	0.000	
	Light Crude Oil	3	2,000	0.0000	1.003E-02	0.030	0.030	0.011	
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000	
Others	Gas/Light Liquid	0	2,000	0.0000	2.376E-03	0.000	0.000	0.000	
	Light Crude Oil	0	2,000	0.0000	3.379E-03	0.000	0.000	0.000	
	Heavy Crude Oil	0	2,000	0.0000	1.690E-03	0.000	0.000	0.000	
Connectors	Gas/Light Liquid	0	2,000	0.0000	4.488E-04	0.000	0.000	0.000	
	Light Crude Oil	74	2,000	0.0000	4.541E-04	0.034	0.034	0.013	
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000	
Flanges	Gas/Light Liquid	0	2,000	0.0000	1.373E-04	0.000	0.000	0.000	
	Light Crude Oil	8	2,000	0.0000	8.448E-05	0.001	0.001	0.000	
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000	
Open-ended Lines	Gas/Light Liquid	0	2,000	0.0000	3.960E-04	0.000	0.000	0.000	
	Light Crude Oil	0	2,000	0.0000	3.538E-04	0.000	0.000	0.000	
	Heavy Crude Oil	0	2,000	0.0000	3.168E-04	0.000	0.000	0.000	
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.082	0.082	0.031	
Gas	VOC content (%) of TOG				100.00	Methane content (%) of TOG			37.50
Liquid	VOC content (%) of TOG				100.00	Methane content (%) of TOG			37.50



S-382-835

Fugitive VOC Emissions From Components  
 Calculated Using EPA ALR Emission Factors

Wet Oil Tank T-300 Stage 1 D-161 10,000 ppmv

Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions		
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)
Valves	Gas/Light Liquid	9	10,000	0.0000	1.320E-03	0.012	0.012	0.004
	Light Crude Oil	35	10,000	0.0000	1.003E-03	0.035	0.035	0.013
	Heavy Crude Oil	0	10,000	0.0000	4.435E-04	0.000	0.000	0.000
Pump Seals	Gas/Light Liquid	0	10,000	0.0000	1.848E-02	0.000	0.000	0.000
	Light Crude Oil	0	10,000	0.0000	2.693E-02	0.000	0.000	0.000
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000
Others	Gas/Light Liquid	5	10,000	0.0000	6.336E-03	0.032	0.032	0.012
	Light Crude Oil	3	10,000	0.0000	7.392E-03	0.022	0.022	0.008
	Heavy Crude Oil	0	10,000	0.0000	1.690E-03	0.000	0.000	0.000
Connectors	Gas/Light Liquid	26	10,000	0.0000	5.280E-04	0.014	0.014	0.005
	Light Crude Oil	74	10,000	0.0000	5.122E-04	0.038	0.038	0.014
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000
Flanges	Gas/Light Liquid	8	10,000	0.0000	3.010E-04	0.002	0.002	0.001
	Light Crude Oil	12	10,000	0.0000	1.267E-04	0.002	0.002	0.001
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000
Open-ended Lines	Gas/Light Liquid	0	10,000	0.0000	7.920E-04	0.000	0.000	0.000
	Light Crude Oil	0	10,000	0.0000	7.392E-04	0.000	0.000	0.000
	Heavy Crude Oil	0	10,000	0.0000	3.802E-04	0.000	0.000	0.000
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.156	0.156	0.059
Gas	VOC content (%) of TOG				100.00	Methane content (%) of TOG		37.50
Liquid	VOC content (%) of TOG				100.00	Methane content (%) of TOG		37.50



S-382-835

Fugitive VOC Emissions From Components  
Calculated Using EPA ALR Emission Factors

Wet Oil Draw Pump P-330 Stage 1 D-161 2,000 ppmv										
Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)		
Valves	Gas/Light Liquid	0	2,000	0.0000	7.392E-04	0.000	0.000	0.000		
	Light Crude Oil	11	2,000	0.0000	7.392E-04	0.008	0.008	0.003		
	Heavy Crude Oil	0	2,000	0.0000	4.118E-04	0.000	0.000	0.000		
Pump Seals	Gas/Light Liquid	0	2,000	0.0000	1.214E-02	0.000	0.000	0.000		
	Light Crude Oil	2	2,000	0.0000	1.003E-02	0.020	0.020	0.008		
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000		
Others	Gas/Light Liquid	0	2,000	0.0000	2.376E-03	0.000	0.000	0.000		
	Light Crude Oil	0	2,000	0.0000	3.379E-03	0.000	0.000	0.000		
	Heavy Crude Oil	0	2,000	0.0000	1.690E-03	0.000	0.000	0.000		
Connectors	Gas/Light Liquid	0	2,000	0.0000	4.488E-04	0.000	0.000	0.000		
	Light Crude Oil	28	2,000	0.0000	4.541E-04	0.013	0.013	0.005		
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000		
Flanges	Gas/Light Liquid	0	2,000	0.0000	1.373E-04	0.000	0.000	0.000		
	Light Crude Oil	3	2,000	0.0000	8.448E-05	0.000	0.000	0.000		
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000		
Open-ended Lines	Gas/Light Liquid	0	2,000	0.0000	3.960E-04	0.000	0.000	0.000		
	Light Crude Oil	0	2,000	0.0000	3.538E-04	0.000	0.000	0.000		
	Heavy Crude Oil	0	2,000	0.0000	3.168E-04	0.000	0.000	0.000		
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.041	0.041	0.015		
Gas	VOC content (%) of TOG				100.00	Methane content (%) of TOG				37.50
Liquid	VOC content (%) of TOG				100.00	Methane content (%) of TOG				37.50



S-382-835

Fugitive VOC Emissions From Components  
 Calculated Using EPA ALR Emission Factors

Oil Transfer Pumps P-310/320 Stage 1 D-162

Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions			
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)	
Valves	Gas/Light Liquid	0	2,000	0.0000	7.392E-04	0.000	0.000	0.000	
	Light Crude Oil	26	2,000	0.0000	7.392E-04	0.019	0.019	0.007	
	Heavy Crude Oil	0	2,000	0.0000	4.118E-04	0.000	0.000	0.000	
Pump Seals	Gas/Light Liquid	0	2,000	0.0000	1.214E-02	0.000	0.000	0.000	
	Light Crude Oil	3	2,000	0.0000	1.003E-02	0.030	0.030	0.011	
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000	
Others	Gas/Light Liquid	0	2,000	0.0000	2.376E-03	0.000	0.000	0.000	
	Light Crude Oil	2	2,000	0.0000	3.379E-03	0.007	0.007	0.003	
	Heavy Crude Oil	0	2,000	0.0000	1.690E-03	0.000	0.000	0.000	
Connectors	Gas/Light Liquid	0	2,000	0.0000	4.488E-04	0.000	0.000	0.000	
	Light Crude Oil	64	2,000	0.0000	4.541E-04	0.029	0.029	0.011	
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000	
Flanges	Gas/Light Liquid	0	2,000	0.0000	1.373E-04	0.000	0.000	0.000	
	Light Crude Oil	12	2,000	0.0000	8.448E-05	0.001	0.001	0.000	
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000	
Open-ended Lines	Gas/Light Liquid	0	2,000	0.0000	3.960E-04	0.000	0.000	0.000	
	Light Crude Oil	0	2,000	0.0000	3.538E-04	0.000	0.000	0.000	
	Heavy Crude Oil	0	2,000	0.0000	3.168E-04	0.000	0.000	0.000	
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.086	0.086	0.032	
Gas	VOC content (%) of TOG				100.00	Methane content (%) of TOG			37.50
Liquid	VOC content (%) of TOG				100.00	Methane content (%) of TOG			37.50



S-382-836

**Fugitive VOC Emissions From Components  
Calculated Using EPA ALR Emission Factors**

<b>Backwash Tank T-600 Stage 1 D-153 10,000 ppmv</b>									
Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions			
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)	
Valves	Gas/Light Liquid	8	10,000	0.0000	1.320E-03	0.011	0.011	0.004	
	Light Crude Oil	41	10,000	0.0000	1.003E-03	0.041	0.041	0.015	
	Heavy Crude Oil	0	10,000	0.0000	4.435E-04	0.000	0.000	0.000	
Pump Seals	Gas/Light Liquid	0	10,000	0.0000	1.848E-02	0.000	0.000	0.000	
	Light Crude Oil	0	10,000	0.0000	2.693E-02	0.000	0.000	0.000	
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000	
Others	Gas/Light Liquid	5	10,000	0.0000	6.336E-03	0.032	0.032	0.012	
	Light Crude Oil	3	10,000	0.0000	7.392E-03	0.022	0.022	0.008	
	Heavy Crude Oil	0	10,000	0.0000	1.690E-03	0.000	0.000	0.000	
Connectors	Gas/Light Liquid	26	10,000	0.0000	5.280E-04	0.014	0.014	0.005	
	Light Crude Oil	81	10,000	0.0000	5.122E-04	0.041	0.041	0.016	
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000	
Flanges	Gas/Light Liquid	5	10,000	0.0000	3.010E-04	0.002	0.002	0.001	
	Light Crude Oil	11	10,000	0.0000	1.267E-04	0.001	0.001	0.001	
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000	
Open-ended Lines	Gas/Light Liquid	0	10,000	0.0000	7.920E-04	0.000	0.000	0.000	
	Light Crude Oil	0	10,000	0.0000	7.392E-04	0.000	0.000	0.000	
	Heavy Crude Oil	0	10,000	0.0000	3.802E-04	0.000	0.000	0.000	
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.164	0.164	0.061	
Gas	VOC content (%) of TOG			100.00	Methane content (%) of TOG			37.50	
Liquid	VOC content (%) of TOG			100.00	Methane content (%) of TOG			37.50	



S-382-836

Fugitive VOC Emissions From Components  
Calculated Using EPA ALR Emission Factors

Backwash Water Pumps P-570/575 Stage 1 D-153 2,000 ppmv

Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions			
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)	
Valves	Gas/Light Liquid	0	2,000	0.0000	7.392E-04	0.000	0.000	0.000	
	Light Crude Oil	24	2,000	0.0000	7.392E-04	0.018	0.018	0.007	
	Heavy Crude Oil	0	2,000	0.0000	4.118E-04	0.000	0.000	0.000	
Pump Seals	Gas/Light Liquid	0	2,000	0.0000	1.214E-02	0.000	0.000	0.000	
	Light Crude Oil	3	2,000	0.0000	1.003E-02	0.030	0.030	0.011	
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000	
Others	Gas/Light Liquid	0	2,000	0.0000	2.376E-03	0.000	0.000	0.000	
	Light Crude Oil	0	2,000	0.0000	3.379E-03	0.000	0.000	0.000	
	Heavy Crude Oil	0	2,000	0.0000	1.690E-03	0.000	0.000	0.000	
Connectors	Gas/Light Liquid	0	2,000	0.0000	4.488E-04	0.000	0.000	0.000	
	Light Crude Oil	65	2,000	0.0000	4.541E-04	0.030	0.030	0.011	
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000	
Flanges	Gas/Light Liquid	0	2,000	0.0000	1.373E-04	0.000	0.000	0.000	
	Light Crude Oil	15	2,000	0.0000	8.448E-05	0.001	0.001	0.000	
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000	
Open-ended Lines	Gas/Light Liquid	0	2,000	0.0000	3.960E-04	0.000	0.000	0.000	
	Light Crude Oil	0	2,000	0.0000	3.538E-04	0.000	0.000	0.000	
	Heavy Crude Oil	0	2,000	0.0000	3.168E-04	0.000	0.000	0.000	
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.079	0.079	0.029	
Gas	VOC content (%) of TOG				100.00	Methane content (%) of TOG			37.50
Liquid	VOC content (%) of TOG				100.00	Methane content (%) of TOG			37.50



S-382-837

Fugitive VOC Emissions From Components  
Calculated Using EPA ALR Emission Factors

Filter Charge Tank T-410 Stage 1 D-147 10,000 ppmv

Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions		
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)
Valves	Gas/Light Liquid	14	10,000	0.0000	1.320E-03	0.018	0.018	0.007
	Light Crude Oil	0	10,000	0.0000	1.003E-03	0.000	0.000	0.000
	Heavy Crude Oil	0	10,000	0.0000	4.435E-04	0.000	0.000	0.000
Pump Seals	Gas/Light Liquid	0	10,000	0.0000	1.848E-02	0.000	0.000	0.000
	Light Crude Oil	0	10,000	0.0000	2.693E-02	0.000	0.000	0.000
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000
Others	Gas/Light Liquid	6	10,000	0.0000	6.336E-03	0.038	0.038	0.014
	Light Crude Oil	0	10,000	0.0000	7.392E-03	0.000	0.000	0.000
	Heavy Crude Oil	0	10,000	0.0000	1.690E-03	0.000	0.000	0.000
Connectors	Gas/Light Liquid	40	10,000	0.0000	5.280E-04	0.021	0.021	0.008
	Light Crude Oil	0	10,000	0.0000	5.122E-04	0.000	0.000	0.000
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000
Flanges	Gas/Light Liquid	10	10,000	0.0000	3.010E-04	0.003	0.003	0.001
	Light Crude Oil	0	10,000	0.0000	1.267E-04	0.000	0.000	0.000
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000
Open-ended Lines	Gas/Light Liquid	0	10,000	0.0000	7.920E-04	0.000	0.000	0.000
	Light Crude Oil	0	10,000	0.0000	7.392E-04	0.000	0.000	0.000
	Heavy Crude Oil	0	10,000	0.0000	3.802E-04	0.000	0.000	0.000
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.081	0.081	0.030
Gas	VOC content (%) of TOG			100.00	Methane content (%) of TOG			37.50
Liquid	VOC content (%) of TOG			100.00	Methane content (%) of TOG			37.50



S-382-838

Fugitive VOC Emissions From Components  
Calculated Using EPA ALR Emission Factors

Injection Water Tanks T-500 Stage 1 D154 10,000 ppmv									
Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)	
Valves	Gas/Light Liquid	10	10,000	0.0000	1.320E-03	0.013	0.013	0.005	
	Light Crude Oil	0	10,000	0.0000	1.003E-03	0.000	0.000	0.000	
	Heavy Crude Oil	0	10,000	0.0000	4.435E-04	0.000	0.000	0.000	
Pump Seals	Gas/Light Liquid	0	10,000	0.0000	1.848E-02	0.000	0.000	0.000	
	Light Crude Oil	0	10,000	0.0000	2.693E-02	0.000	0.000	0.000	
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000	
Others	Gas/Light Liquid	5	10,000	0.0000	6.336E-03	0.032	0.032	0.012	
	Light Crude Oil	0	10,000	0.0000	7.392E-03	0.000	0.000	0.000	
	Heavy Crude Oil	0	10,000	0.0000	1.690E-03	0.000	0.000	0.000	
Connectors	Gas/Light Liquid	27	10,000	0.0000	5.280E-04	0.014	0.014	0.005	
	Light Crude Oil	0	10,000	0.0000	5.122E-04	0.000	0.000	0.000	
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000	
Flanges	Gas/Light Liquid	9	10,000	0.0000	3.010E-04	0.003	0.003	0.001	
	Light Crude Oil	0	10,000	0.0000	1.267E-04	0.000	0.000	0.000	
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000	
Open-ended Lines	Gas/Light Liquid	0	10,000	0.0000	7.920E-04	0.000	0.000	0.000	
	Light Crude Oil	0	10,000	0.0000	7.392E-04	0.000	0.000	0.000	
	Heavy Crude Oil	0	10,000	0.0000	3.802E-04	0.000	0.000	0.000	
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.062	0.062	0.023	
Gas	VOC content (%) of TOG		100.00	Methane content (%) of TOG		37.50			
Liquid	VOC content (%) of TOG		100.00	Methane content (%) of TOG		37.50			



S-382-839

Fugitive VOC Emissions From Components  
 Calculated Using EPA ALR Emission Factors

Flotation Cell V-410 and Skim Pumps P-460/461 Stage 1 D-142

Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions		
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)
Valves	Gas/Light Liquid	22	2,000	0.0000	7.392E-04	0.016	0.016	0.006
	Light Crude Oil	30	2,000	0.0000	7.392E-04	0.022	0.022	0.008
	Heavy Crude Oil	0	2,000	0.0000	4.118E-04	0.000	0.000	0.000
Pump Seals	Gas/Light Liquid	0	2,000	0.0000	1.214E-02	0.000	0.000	0.000
	Light Crude Oil	3	2,000	0.0000	1.003E-02	0.030	0.030	0.011
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Others	Gas/Light Liquid	4	2,000	0.0000	2.376E-03	0.010	0.010	0.004
	Light Crude Oil	3	2,000	0.0000	3.379E-03	0.010	0.010	0.004
	Heavy Crude Oil	0	2,000	0.0000	1.690E-03	0.000	0.000	0.000
Connectors	Gas/Light Liquid	56	2,000	0.0000	4.488E-04	0.025	0.025	0.009
	Light Crude Oil	66	2,000	0.0000	4.541E-04	0.030	0.030	0.011
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Flanges	Gas/Light Liquid	14	2,000	0.0000	1.373E-04	0.002	0.002	0.001
	Light Crude Oil	14	2,000	0.0000	8.448E-05	0.001	0.001	0.000
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Open-ended Lines	Gas/Light Liquid	0	2,000	0.0000	3.960E-04	0.000	0.000	0.000
	Light Crude Oil	0	2,000	0.0000	3.538E-04	0.000	0.000	0.000
	Heavy Crude Oil	0	2,000	0.0000	3.168E-04	0.000	0.000	0.000
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.146	0.146	0.055
Gas	VOC content (%) of TOG			100.00	Methane content (%) of TOG			37.50
Liquid	VOC content (%) of TOG			100.00	Methane content (%) of TOG			37.50



S-382-832

# TANKS 4.0.9d Emissions Report - Detail Format Tank Identification and Physical Characteristics

**Identification**

User Identification: 34S MGI Emergency Vent Scrubber V-142  
City: Tupman  
State: California  
Company: Occidental Of Elk Hills, Inc.  
Type of Tank: Horizontal Tank  
Description: 34S Emergency Vent Scrubber V-142 Horizontal Tank

**Tank Dimensions**

Shell Length (ft): 12.00  
Diameter (ft): 6.00  
Volume (gallons): 2,538.00  
Turnovers: 0.00  
Net Throughput(gal/yr): 0.00  
Is Tank Heated (y/n): N  
Is Tank Underground (y/n): N

**Paint Characteristics**

Shell Color/Shade: White/White  
Shell Condition: Good

**Breather Vent Settings**

Vacuum Settings (psig): -0.03  
Pressure Settings (psig): 0.03

Meteorological Data used in Emissions Calculations: Bakersfield, California (Avg Atmospheric Pressure = 14.47 psia)



## TANKS 4.0.9d Emissions Report - Detail Format Liquid Contents of Storage Tank

**34S MGI Emergency Vent Scrubber V-142 - Horizontal Tank**  
**Tupman, California**

Mixture/Component	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
	Month	Avg.	Min.		Max.	Avg.	Min.					
Crude oil (RVP 5)	Jan	58.62	54.46	62.78	65.42	2.8008	2.5782	3.0365	50.0000		207.00	Option 4; RVP=5
Crude oil (RVP 5)	Feb	61.49	56.39	66.58	65.42	2.9628	2.6797	3.2696	50.0000		207.00	Option 4; RVP=5
Crude oil (RVP 5)	Mar	63.85	57.94	69.77	65.42	3.1022	2.7631	3.4740	50.0000		207.00	Option 4; RVP=5
Crude oil (RVP 5)	Apr	66.99	60.01	73.95	65.42	3.2945	2.8784	3.7575	50.0000		207.00	Option 4; RVP=5
Crude oil (RVP 5)	May	71.00	63.30	78.70	65.42	3.5566	3.0691	4.1020	50.0000		207.00	Option 4; RVP=5
Crude oil (RVP 5)	Jun	74.47	66.32	82.63	65.42	3.7947	3.2534	4.4056	50.0000		207.00	Option 4; RVP=5
Crude oil (RVP 5)	Jul	77.01	68.80	85.22	65.42	3.9772	3.4110	4.6168	50.0000		207.00	Option 4; RVP=5
Crude oil (RVP 5)	Aug	76.03	68.25	83.81	65.42	3.9057	3.3754	4.5006	50.0000		207.00	Option 4; RVP=5
Crude oil (RVP 5)	Sep	72.96	65.93	79.98	65.42	3.6887	3.2288	4.1995	50.0000		207.00	Option 4; RVP=5
Crude oil (RVP 5)	Oct	68.33	62.00	74.66	65.42	3.3604	2.9925	3.8075	50.0000		207.00	Option 4; RVP=5
Crude oil (RVP 5)	Nov	62.98	57.33	67.44	65.42	3.0151	2.7298	3.3239	50.0000		207.00	Option 4; RVP=5
Crude oil (RVP 5)	Dec	58.99	54.32	62.46	65.42	2.7877	2.5707	3.0193	50.0000		207.00	Option 4; RVP=5



# TANKS 4.0.9d Emissions Report - Detail Format Detail Calculations (AP-42)

## 34S MGI Emergency Vent Scrubber V-142 - Horizontal Tank Tupman, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (lb):	7.7500	9.2770	12.8889	15.6519	19.6637	21.8643	24.1321	22.3131	18.0983	15.0815	10.0690	7.5279
Vapor Space Volume (cu ft):	216.1096	216.1096	216.1096	216.1096	216.1096	216.1096	216.1096	216.1096	216.1096	216.1096	216.1096	216.1096
Vapor Density (lb/cu ft):	0.0252	0.0265	0.0276	0.0281	0.0312	0.0331	0.0345	0.0340	0.0323	0.0298	0.0269	0.0251
Vapor Molecular Weight (lb/lb-mole):	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.8008	2.9628	3.1022	3.2845	3.5556	3.7847	3.9772	3.9057	3.6887	3.3804	3.0151	2.7877
Daily Avg. Liquid Surface Temp. (deg. R):	518.2922	521.1571	523.5218	526.6478	530.6669	534.1445	536.6832	535.7010	532.6256	527.9968	522.0547	518.0564
Daily Average Ambient Temp. (deg. F):	47.7500	53.2500	57.3500	63.0000	70.9500	78.2000	84.0500	82.5500	76.8000	67.7500	55.7500	47.4000
Ideal Gas Constant R (psia cu ft / lb-mol-deg R):	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731
Liquid Bulk Temperature (deg. R):	525.0900	525.0900	525.0900	525.0900	525.0900	525.0900	525.0900	525.0900	525.0900	525.0900	525.0900	525.0900
Tank Paint Solar Absorbance (Shell):	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	727.5001	1,058.7300	1,476.2573	1,952.7869	2,340.8181	2,554.9753	2,528.5419	2,288.7858	1,882.8602	1,401.0643	908.0267	666.5843
Vapor Space Expansion Factor:	0.0664	0.0651	0.1024	0.1262	0.1472	0.1634	0.1703	0.1589	0.1372	0.1160	0.0854	0.0647
Vapor Space Temperature Range (deg. R):	16.6388	20.3756	23.6580	27.8713	30.7883	32.6097	32.8443	31.1266	28.1136	25.3171	20.2342	16.2769
Daily Vapor Pressure Range (psia):	0.4603	0.5898	0.7109	0.8782	1.0328	1.1522	1.2048	1.1282	0.9707	0.8150	0.5941	0.4486
Breather Vent. Press. Setting Range (psia):	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.8008	2.9628	3.1022	3.2845	3.5556	3.7847	3.9772	3.9057	3.6887	3.3804	3.0151	2.7877
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	2.5782	2.6797	2.7631	2.8784	3.0691	3.2634	3.4110	3.3754	3.2288	2.9925	2.7298	2.5707
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	3.0385	3.2686	3.4740	3.7575	4.1020	4.4056	4.6158	4.5006	4.1985	3.8075	3.3239	3.0193
Daily Avg. Liquid Surface Temp. (deg R):	518.2922	521.1571	523.5218	526.6478	530.6669	534.1445	536.6832	535.7010	532.6256	527.9968	522.0547	518.0564
Daily Min. Liquid Surface Temp. (deg R):	514.1325	516.0632	517.6071	519.6800	522.9673	526.9821	528.4721	527.9184	525.5973	521.6676	516.9861	513.9872
Daily Max. Liquid Surface Temp. (deg R):	522.4520	526.2510	529.4366	533.6156	538.9665	542.2970	544.8942	543.4827	539.6540	534.3261	527.1132	522.1257
Daily Ambient Temp. Range (deg. R):	18.3000	21.3000	23.1000	25.8000	27.3000	28.4000	28.9000	28.1000	26.8000	25.9000	22.1000	18.2000
Vented Vapor Saturation Factor:	0.6919	0.6798	0.6697	0.6582	0.6388	0.6237	0.6126	0.6169	0.6303	0.6504	0.6759	0.6929
Vented Vapor Saturation Factor:	2.8008	2.9628	3.1022	3.2845	3.5556	3.7847	3.9772	3.9057	3.6887	3.3804	3.0151	2.7877
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000
Vapor Space Outage (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Working Losses (lb):	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.8008	2.9628	3.1022	3.2845	3.5556	3.7847	3.9772	3.9057	3.6887	3.3804	3.0151	2.7877
Net Throughput (gal/mo.):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000



Annual Turnovers:	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Turnover Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tank Diameter (ft):	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000
Working Loss Product Factor:	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500
Total Losses (lb):	7.7500	9.2770	12.6899	15.6519	19.6637	21.8643	24.1321	22.3131	18.0983	15.0815	10.0690	7.5279							



**TANKS 4.0.9d  
Emissions Report - Detail Format  
Individual Tank Emission Totals**

**Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December**

**34S MGI Emergency Vent Scrubber V-142 - Horizontal Tank  
Tupman, California**

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Crude oil (RVP 5)	0.00	184.12	184.12



**ATTACHMENT C**  
**Emissions Profiles**



Permit #: S-382-832-0	<b>Last Updated</b>
Facility: OCCIDENTAL OF ELK HILLS INC	03/18/2013 RAMIREZH

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	266.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.7
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	67.0
Q2:	0.0	0.0	0.0	0.0	67.0
Q3:	0.0	0.0	0.0	0.0	67.0
Q4:	0.0	0.0	0.0	0.0	67.0
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-382-833-0	<b>Last Updated</b>
Facility: OCCIDENTAL OF ELK HILLS INC	03/18/2013 RAMIREZH

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	76.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	19.0
Q2:	0.0	0.0	0.0	0.0	19.0
Q3:	0.0	0.0	0.0	0.0	19.0
Q4:	0.0	0.0	0.0	0.0	19.0
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-382-834-0	<b>Last Updated</b>
Facility: OCCIDENTAL OF ELK HILLS INC	03/18/2013 RAMIREZH

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	136.0
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	34.0
Q2:	0.0	0.0	0.0	0.0	34.0
Q3:	0.0	0.0	0.0	0.0	34.0
Q4:	0.0	0.0	0.0	0.0	34.0
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-382-835-0	<b>Last Updated</b>
Facility: OCCIDENTAL OF ELK HILLS INC	03/18/2013 RAMIREZH

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	104.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.3
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	26.0
Q2:	0.0	0.0	0.0	0.0	26.0
Q3:	0.0	0.0	0.0	0.0	26.0
Q4:	0.0	0.0	0.0	0.0	26.0
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-382-836-0	<b>Last Updated</b>
Facility: OCCIDENTAL OF ELK HILLS INC	03/18/2013 RAMIREZH

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	88.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	22.0
Q2:	0.0	0.0	0.0	0.0	22.0
Q3:	0.0	0.0	0.0	0.0	22.0
Q4:	0.0	0.0	0.0	0.0	22.0
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-382-837-0	<b>Last Updated</b>
Facility: OCCIDENTAL OF ELK HILLS INC	03/18/2013 RAMIREZH

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	29.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.1
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	7.0
Q2:	0.0	0.0	0.0	0.0	7.0
Q3:	0.0	0.0	0.0	0.0	7.0
Q4:	0.0	0.0	0.0	0.0	7.0
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-382-838-0	<b>Last Updated</b>
Facility: OCCIDENTAL OF ELK HILLS INC	03/18/2013 RAMIREZH

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	23.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.1
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	6.0
Q2:	0.0	0.0	0.0	0.0	6.0
Q3:	0.0	0.0	0.0	0.0	6.0
Q4:	0.0	0.0	0.0	0.0	6.0
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-382-839-0	<b>Last Updated</b>
Facility: OCCIDENTAL OF ELK HILLS INC	03/18/2013 RAMIREZH

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	53.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.1
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	13.0
Q2:	0.0	0.0	0.0	0.0	13.0
Q3:	0.0	0.0	0.0	0.0	13.0
Q4:	0.0	0.0	0.0	0.0	13.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					



ATTACHMENT D  
HRA Summary



# San Joaquin Valley Air Pollution Control District Risk Management Review

To: Homero Ramirez – Permit Services  
 From: Cheryl Lawler – Technical Services  
 Date: February 26, 2012  
 Facility Name: Occidental of Elk Hills Inc.  
 Location: Light Oil Western Stationary Source  
 Application #(s): S-382-832-0 thru 839-0  
 Project #: S-1124364

---

## A. RMR SUMMARY

<b>RMR Summary</b>			
<b>Categories</b>	<b>VOC Fugitive Emissions from Oilfield Equipment (Units 832-0 thru 839-0)</b>	<b>Project Totals</b>	<b>Facility Totals</b>
<b>Prioritization Score</b>	0.00	0.00	>1
<b>Acute Hazard Index</b>	0.00	0.00	0.00
<b>Chronic Hazard Index</b>	0.00	0.00	0.00
<b>Maximum Individual Cancer Risk</b>	<b>1.11E-09</b>	1.11E-09	3.45E-08
<b>T-BACT Required?</b>	<b>No</b>		
<b>Special Permit Conditions?</b>	<b>No</b>		

### I. Project Description

Technical Services received a request on February 20, 2013, to perform a Risk Management Review for VOC fugitive emissions from various oilfield equipment and tanks.

### II. Analysis

Toxic emissions from light crude oilfield fugitives were calculated using emission factors based on a 1991 California Polytechnic State University study, *Development Of Species Profiles For Selected Organic Emission Sources*, along with VOC fugitive emission rates supplied by the processing engineer. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905-1, March 2, 2001), risks from the project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEART's database. The prioritization score for the project was less than 1.0 (see RMR Summary Table); however, the facility's combined prioritization scores totaled to greater than one. Therefore, a refined Health Risk Assessment was required and performed for the project. AERMOD was used with area source parameters outlined below and concatenated 5-year meteorological data from Bakersfield to determine maximum dispersion factors at the nearest residential and



business receptors. The dispersion factors were input into the HARP model to calculate the Chronic and Acute Hazard Indices and the Carcinogenic Risk.

The following parameters were used for the review:

<b>Analysis Parameters</b>			
<b>Source Type</b>	Area	<b>Closest Receptor (m)</b>	3541
<b>Length of Sides (m)</b>	55	<b>Type of Receptor</b>	Residence & Business
<b>Release Height (m)</b>	6.1	<b>Location Type</b>	Rural
<b>Total VOC Emission Rates Used (All Project Units)</b>	0.09 lb/hr 775 lb/yr		

### **III. Conclusions**

The acute and chronic indices are below 1.0; and the maximum individual cancer risk associated with the project is **1.11E-09**, which is less than the 1 in a million threshold. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

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.

### **Attachments**

RMR Request Form  
Prioritization  
Risk Results Pages  
Facility Summary



**ATTACHMENT E**  
**Title V Compliance Certification Form**



# San Joaquin Valley Unified Air Pollution Control District

## TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

### I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION                       ADMINISTRATIVE  
 MINOR PERMIT MODIFICATION                                       AMENDMENT

COMPANY NAME: Occidental of Elk Hills, Inc.	FACILITY ID: S - 382
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name:	
3. Agent to the Owner: Occidental of Elk Hills, Inc.	

### II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):

- Based on information and belief formed after reasonable inquiry, the source identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the source identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Armando G. Gonzalez  
Signature of Responsible Official

12/6/2012  
Date

ARMANDO G. GONZALEZ  
Name of Responsible Official (please print)

Health, Environmental & Safety Manager  
Title of Responsible Official (please print)



ATTACHMENT F  
Draft ATCs



San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-382-832-0

**LEGAL OWNER OR OPERATOR:** OCCIDENTAL OF ELK HILLS INC  
**MAILING ADDRESS:** 10800 STOCKDALE HIGHWAY  
BAKERSFIELD, CA 93311

**LOCATION:** LIGHT OIL WESTERN STATIONARY SOURCE  
KERN COUNTY, CA

**SECTION:** SW34 **TOWNSHIP:** 30S **RANGE:** 24E

**EQUIPMENT DESCRIPTION:**  
32,000 GALLON INLET SEPARATOR SERVED BY VAPOR RECOVERY SYSTEM, WITH EMERGENCY VENT  
KNOCKOUT DRUM AND EMERGENCY VENT STACK

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender (pollutant) emission reduction credits for the following quantities of emissions: VOC: 67 lb/quarter. Offsets shall be provided at the applicable offset ratio specified in Section 4.8 of Rule 2201 (as amended 4/21/11). [District Rule 2201]
4. ERC Certificate Number S-3982-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct [District Rule 2201]
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit

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

**DRAFT**

DAVID WARNER, Director of Permit Services

S-382-832-0 Mar 26 2013 4:10PM - RAMIREZH : Joint Inspection NOT Required



6. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
7. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
8. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions using (ALR) equations for a 2,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
9. Inlet separator and all piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201] Federally Enforceable Through Title V Permit
10. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 2,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. A gas or liquid leak is a violation of this permit and shall be reported as a deviation. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
11. VOC fugitive emissions in piping from the inlet separator to vapor control system trunk line shall not exceed 0.15 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
12. VOC fugitive emissions associated with the emergency vent system shall not exceed 0.07 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
13. VOC emissions from the emergency vent knockout drum shall not exceed 0.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Gas-leak concentration shall be determined by EPA Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Components associated with vapor control system shall comply with all Rule 4409 requirements listed in the facility wide permit. [District Rule 4409] Federally Enforceable Through Title V Permit
16. Inlet separator shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in gas-tight condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a field gas pipeline or gas pipeline distribution system or an approved VOC destruction device that reduces the inlet VOC emissions by at least 99% by weight as determined by the test method specified in Rule 4623 Section 6.4.7. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
17. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
18. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

DRAFT



San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-382-833-0

**LEGAL OWNER OR OPERATOR:** OCCIDENTAL OF ELK HILLS INC  
**MAILING ADDRESS:** 10800 STOCKDALE HIGHWAY  
BAKERSFIELD, CA 93311

**LOCATION:** LIGHT OIL WESTERN STATIONARY SOURCE  
KERN COUNTY, CA

**SECTION:** SW34 **TOWNSHIP:** 30S **RANGE:** 24E

**EQUIPMENT DESCRIPTION:**  
12,000 GALLON FREE WATER KNOCKOUT VESSEL SERVED BY VAPOR RECOVERY SYSTEM

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
6. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions using (ALR) equations for a 2,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit

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-382-833-0 - Mar 26 2013 4:10PM -- RAMIREZH : Joint Inspection NOT Required



7. Free water knockout drum and all piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201] Federally Enforceable Through Title V Permit
8. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 2,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. A gas or liquid leak is a violation of this permit and shall be reported as a deviation. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
9. VOC fugitive emissions in piping from the free water knockout vessel to vapor control system trunk line shall not exceed 0.21 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Gas-leak concentration shall be determined by EPA Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Components associated with vapor control system shall comply with all Rule 4409 requirements listed in the facility wide permit. [District Rule 4409] Federally Enforceable Through Title V Permit
12. Vessel shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in gas-tight condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a field gas pipeline or gas pipeline distribution system or an approved VOC destruction device that reduces the inlet VOC emissions by at least 99% by weight as determined by the test method specified in Rule 4623 Section 6.4.7. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
13. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
14. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

DRAFT



San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-382-834-0

**LEGAL OWNER OR OPERATOR:** OCCIDENTAL OF ELK HILLS INC  
**MAILING ADDRESS:** 10800 STOCKDALE HIGHWAY  
BAKERSFIELD, CA 93311

**LOCATION:** LIGHT OIL WESTERN STATIONARY SOURCE  
KERN COUNTY, CA

**SECTION:** SW34 **TOWNSHIP:** 30S **RANGE:** 24E

**EQUIPMENT DESCRIPTION:**

10,000 BBL PRODUCED WATER TANK AND DEGASSING BOOT SERVED BY VAPOR RECOVERY SYSTEM, WITH WET OIL PUMP(S) AND PRODUCED WATER PUMP(S)

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit

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-382-834-0 : Mar 26 2013 4:10PM -- RAMIREZH : Joint Inspection NOT Required



6. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions for the tank calculated using (ALR) equations for a 10,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
7. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions for the tank vapor control system calculated using (ALR) equations for a 2,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
8. Produced water tank and all piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
9. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 10,000 parts per million by volume (ppmv) for the tank and 2,000 parts per million by volume (ppmv) for the vapor control system, as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. A gas or liquid leak is a violation of this permit and shall be reported as a deviation. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
10. VOC fugitive emissions in piping from tank to vapor control system trunk line shall not exceed 0.19 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
11. VOC fugitive emissions from wet oil pumps shall not exceed 0.10 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
12. VOC fugitive emissions from produced water pumps shall not exceed 0.08 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Gas-leak concentration shall be determined by EPA Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Components associated with vapor control system shall comply with all Rule 4409 requirements listed in the facility wide permit. [District Rule 4409] Federally Enforceable Through Title V Permit
15. Tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in gas-tight condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a field gas pipeline or gas pipeline distribution system or an approved VOC destruction device that reduces the inlet VOC emissions by at least 99% by weight as determined by the test method specified in Rule 4623 Section 6.4.7. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
16. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
17. Any tank gauging or sampling device on tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
18. 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 shell and roof of the uninsulated tank for structural integrity annually. [District Rules 2210 and 4623] Federally Enforceable Through Title V Permit

DRAFT  
CONDITIONS CONTINUE ON NEXT PAGE



19. Upon detection of a liquid leak from tank, 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] Federally Enforceable Through Title V Permit
20. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 parts per million by volume (ppmv) for the tank and 2,000 parts per million by volume (ppmv) for the tank vapor control system measured in accordance with EPA Method 21, operator shall take on 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] Federally Enforceable Through Title V Permit
21. 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] Federally Enforceable Through Title V Permit
22. If a component type for storage tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank 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] Federally Enforceable Through Title V Permit
23. 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 and 4623] Federally Enforceable Through Title V Permit
24. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

DRAFT



San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-382-835-0

**LEGAL OWNER OR OPERATOR:** OCCIDENTAL OF ELK HILLS INC  
**MAILING ADDRESS:** 10800 STOCKDALE HIGHWAY  
BAKERSFIELD, CA 93311

**LOCATION:** LIGHT OIL WESTERN STATIONARY SOURCE  
KERN COUNTY, CA

**SECTION:** SW34 **TOWNSHIP:** 30S **RANGE:** 24E

**EQUIPMENT DESCRIPTION:**

5,000 BBL WET OIL TANK AND DEGASSING BOOT SERVED BY VAPOR RECOVERY SYSTEM, WITH OIL TRANSFER PUMP(S) AND WATER DRAW PUMP(S)

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit

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-382-835-0 : Mar 28 2013 4:10PM - RAMIREZH : Joint Inspection NOT Required



6. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions for the tank calculated using (ALR) equations for a 10,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
7. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions for the tank vapor control system calculated using (ALR) equations for a 2,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
8. Tank and all piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
9. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 10,000 parts per million by volume (ppmv) for the tank and 2,000 parts per million by volume (ppmv) for the vapor control system, as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. A gas or liquid leak is a violation of this permit and shall be reported as a deviation. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
10. VOC fugitive emissions in piping from tank to vapor control system trunk line shall not exceed 0.16 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
11. VOC fugitive emissions from water draw pumps shall not exceed 0.04 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
12. VOC fugitive emissions from oil transfer pumps shall not exceed 0.09 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Gas-leak concentration shall be determined by EPA Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Components associated with vapor control system shall comply with all Rule 4409 requirements listed in the facility wide permit. [District Rule 4409] Federally Enforceable Through Title V Permit
15. Tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in gas-tight condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a field gas pipeline or gas pipeline distribution system or an approved VOC destruction device that reduces the inlet VOC emissions by at least 99% by weight as determined by the test method specified in Rule 4623 Section 6.4.7. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
16. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
17. Any tank gauging or sampling device on tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
18. 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 shell and roof of the uninsulated tank for structural integrity annually. [District Rules 2210 and 4623] Federally Enforceable Through Title V Permit

DRAFT  
CONDITIONS CONTINUE ON NEXT PAGE



19. Upon detection of a liquid leak from tank, 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] Federally Enforceable Through Title V Permit
20. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 parts per million by volume (ppmv) for the tank and 2,000 parts per million by volume (ppmv) for the tank vapor control system measured in accordance with EPA Method 21, operator shall take on 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] Federally Enforceable Through Title V Permit
21. 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] Federally Enforceable Through Title V Permit
22. If a component type for storage tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank 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] Federally Enforceable Through Title V Permit
23. 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 and 4623] Federally Enforceable Through Title V Permit
24. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

DRAFT



San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-382-836-0

**LEGAL OWNER OR OPERATOR:** OCCIDENTAL OF ELK HILLS INC  
**MAILING ADDRESS:** 10800 STOCKDALE HIGHWAY  
BAKERSFIELD, CA 93311

**LOCATION:** LIGHT OIL WESTERN STATIONARY SOURCE  
KERN COUNTY, CA

**SECTION:** SW34 **TOWNSHIP:** 30S **RANGE:** 24E

**EQUIPMENT DESCRIPTION:**  
3,000 BBL BACKWASH TANK SERVED BY VAPOR RECOVERY SYSTEM, WITH BACKWASH WATER PUMP(S)

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit

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-382-836-0 : Mar 26 2013 4:10PM - RAMIREZH : Joint Inspection NOT Required



6. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions for the tank calculated using (ALR) equations for a 10,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
7. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions for the tank vapor control system calculated using (ALR) equations for a 2,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
8. Tank and all piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
9. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 10,000 parts per million by volume (ppmv) for the tank and 2,000 parts per million by volume (ppmv) for the pumps and vapor control system, as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. A gas or liquid leak is a violation of this permit and shall be reported as a deviation. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
10. VOC fugitive emissions in piping from tank to vapor control system trunk line shall not exceed 0.16 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
11. VOC fugitive emissions from pumps shall not exceed 0.08 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Gas-leak concentration shall be determined by EPA Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Components associated with vapor control system shall comply with all Rule 4409 requirements listed in the facility wide permit. [District Rule 4409] Federally Enforceable Through Title V Permit
14. Tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in gas-tight condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a field gas pipeline or gas pipeline distribution system or an approved VOC destruction device that reduces the inlet VOC emissions by at least 99% by weight as determined by the test method specified in Rule 4623 Section 6.4.7. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
15. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
16. Any tank gauging or sampling device on tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
17. 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 shell and roof of the uninsulated tank for structural integrity annually. [District Rules 2210 and 4623] Federally Enforceable Through Title V Permit
18. Upon detection of a liquid leak from tank, 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] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



19. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 parts per million by volume (ppmv) for the tank and 2,000 parts per million by volume (ppmv) for the tank vapor control system measured in accordance with EPA Method 21, operator shall take on 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] Federally Enforceable Through Title V Permit
20. 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] Federally Enforceable Through Title V Permit
21. If a component type for storage tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank 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] Federally Enforceable Through Title V Permit
22. 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 and 4623] Federally Enforceable Through Title V Permit
23. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

DRAFT



San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-382-837-0

**LEGAL OWNER OR OPERATOR:** OCCIDENTAL OF ELK HILLS INC  
**MAILING ADDRESS:** 10800 STOCKDALE HIGHWAY  
BAKERSFIELD, CA 93311

**LOCATION:** LIGHT OIL WESTERN STATIONARY SOURCE  
KERN COUNTY, CA

**SECTION:** SW34 **TOWNSHIP:** 30S **RANGE:** 24E

**EQUIPMENT DESCRIPTION:**  
5,000 BBL FILTER CHARGE TANK SERVED BY VAPOR RECOVERY SYSTEM

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit

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-382-837-0 : Mar 26 2013 4:10PM -- RAMIREZH : Joint Inspection NOT Required



6. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions for the tank calculated using (ALR) equations for a 10,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
7. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions for the tank vapor control system calculated using (ALR) equations for a 2,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
8. Tank and all piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
9. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 10,000 parts per million by volume (ppmv) for the tank and 2,000 parts per million by volume (ppmv) for vapor control system, as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. A gas or liquid leak is a violation of this permit and shall be reported as a deviation. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
10. VOC fugitive emissions in piping from tank to vapor control system trunk line shall not exceed 0.08 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Gas-leak concentration shall be determined by EPA Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Components associated with vapor control system shall comply with all Rule 4409 requirements listed in the facility wide permit. [District Rule 4409] Federally Enforceable Through Title V Permit
13. Tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in gas-tight condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a field gas pipeline or gas pipeline distribution system or an approved VOC destruction device that reduces the inlet VOC emissions by at least 99% by weight as determined by the test method specified in Rule 4623 Section 6.4.7. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
14. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
15. Any tank gauging or sampling device on tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
16. 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 shell and roof of the uninsulated tank for structural integrity annually. [District Rules 2210 and 4623] Federally Enforceable Through Title V Permit
17. Upon detection of a liquid leak from tank, 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] Federally Enforceable Through Title V Permit

**DRAFT**  
CONDITIONS CONTINUE ON NEXT PAGE



18. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 parts per million by volume (ppmv) for the tank and 2,000 parts per million by volume (ppmv) for the tank vapor control system measured in accordance with EPA Method 21, operator shall take on 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] Federally Enforceable Through Title V Permit
19. 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] Federally Enforceable Through Title V Permit
20. If a component type for storage tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank 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] Federally Enforceable Through Title V Permit
21. 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 and 4623] Federally Enforceable Through Title V Permit
22. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

DRAFT



San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

**PERMIT NO:** S-382-838-0

**LEGAL OWNER OR OPERATOR:** OCCIDENTAL OF ELK HILLS INC  
**MAILING ADDRESS:** 10800 STOCKDALE HIGHWAY  
BAKERSFIELD, CA 93311

**LOCATION:** LIGHT OIL WESTERN STATIONARY SOURCE  
KERN COUNTY, CA

**SECTION:** SW34 **TOWNSHIP:** 30S **RANGE:** 24E

**EQUIPMENT DESCRIPTION:**  
10,000 BBL INJECTION WATER TANK SERVED BY VAPOR RECOVERY SYSTEM

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit

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-382-838-0 : Mar 26 2013 4:10PM - RAMIREZH : Joint Inspection NOT Required



6. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions for the tank calculated using (ALR) equations for a 10,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
7. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions for the tank vapor control system calculated using (ALR) equations for a 2,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
8. Tank and all piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
9. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 10,000 parts per million by volume (ppmv) for the tank and 2,000 parts per million by volume (ppmv) for vapor control system, as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. A gas or liquid leak is a violation of this permit and shall be reported as a deviation. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
10. VOC fugitive emissions in piping from tank to vapor control system trunk line shall not exceed 0.06 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Gas-leak concentration shall be determined by EPA Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Components associated with vapor control system shall comply with all Rule 4409 requirements listed in the facility wide permit. [District Rule 4409] Federally Enforceable Through Title V Permit
13. Tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in gas-tight condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a field gas pipeline or gas pipeline distribution system or an approved VOC destruction device that reduces the inlet VOC emissions by at least 99% by weight as determined by the test method specified in Rule 4623 Section 6.4.7. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
14. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
15. Any tank gauging or sampling device on tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
16. 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 shell and roof of the uninsulated tank for structural integrity annually. [District Rules 2210 and 4623] Federally Enforceable Through Title V Permit
17. Upon detection of a liquid leak from tank, 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] Federally Enforceable Through Title V Permit

**DRAFT**  
CONDITIONS CONTINUE ON NEXT PAGE



18. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 parts per million by volume (ppmv) for the tank and 2,000 parts per million by volume (ppmv) for the tank vapor control system measured in accordance with EPA Method 21, operator shall take on 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] Federally Enforceable Through Title V Permit
19. 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] Federally Enforceable Through Title V Permit
20. If a component type for storage tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank 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] Federally Enforceable Through Title V Permit
21. 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 and 4623] Federally Enforceable Through Title V Permit
22. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

DRAFT



San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-382-839-0

**LEGAL OWNER OR OPERATOR:** OCCIDENTAL OF ELK HILLS INC  
**MAILING ADDRESS:** 10800 STOCKDALE HIGHWAY  
BAKERSFIELD, CA 93311

**LOCATION:** LIGHT OIL WESTERN STATIONARY SOURCE  
KERN COUNTY, CA

**SECTION:** SW34 **TOWNSHIP:** 30S **RANGE:** 24E

**EQUIPMENT DESCRIPTION:**

12,600 GALLON FLOTATION CELL VESSEL SERVED BY VAPOR RECOVERY SYSTEM, WITH FLOTATION CELL SKIM PUMP(S)

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit

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-382-839-0 : Mar 28 2013 4:10PM -- RAMIREZH : Joint Inspection NOT Required



6. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions using (ALR) equations for a 2,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
7. Tank and all piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201] Federally Enforceable Through Title V Permit
8. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 2,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. A gas or liquid leak is a violation of this permit and shall be reported as a deviation. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
9. VOC fugitive emissions in piping from floatation cell to vapor control system trunk line shall not exceed 0.15 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Gas-leak concentration shall be determined by EPA Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Components associated with vapor control system shall comply with all Rule 4409 requirements listed in the facility wide permit. [District Rule 4409] Federally Enforceable Through Title V Permit
12. Floatation cell shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the unit, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in gas-tight condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a field gas pipeline or gas pipeline distribution system or an approved VOC destruction device that reduces the inlet VOC emissions by at least 99% by weight as determined by the test method specified in Rule 4623 Section 6.4.7. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
13. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
14. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

DRAFT

