



# San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

APR 15 2013

Lance Ericksen  
Chevron USA, Inc.  
PO Box 1392  
Bakersfield, CA 93302

**Re: Notice of Preliminary Decision - Authority to Construct**  
**Facility Number: C-315**  
**Project Number: C-1123349**

Dear Mr. Ericksen:

Enclosed for your review and comment is the District's analysis of Chevron USA, Inc.'s application for an Authority to Construct for four 471 barrel transportable crude oil storage tanks, at Kettleman North Dome Unit Oilfields in Kings County.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Brian Clerico of Permit Services at (559) 230- 5892.

Sincerely,

David Warner  
Director of Permit Services

DW:bkc

Enclosures

cc: Mike Tollstrup, CARB (w/ enclosure) via email  
cc: Gerardo C. Rios, EPA (w/ enclosure) via email

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Executive Director/Air Pollution Control Officer

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**NOTICE OF PRELIMINARY DECISION  
FOR THE PROPOSED ISSUANCE OF  
AN AUTHORITY TO CONSTRUCT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Authority to Construct to Chevron USA, Inc. for four 471 barrel transportable crude oil storage tanks, at Kettleman North Dome Unit Oilfields in Kings County.

The analysis of the regulatory basis for this proposed action, Project #C-1123349, is available for public inspection at [http://www.valleyair.org/notices/public\\_notices\\_idx.htm](http://www.valleyair.org/notices/public_notices_idx.htm) and at any District office. For additional information, please contact the District at (559) 230-6000. Written comments on this project must be submitted by May 20, 2013 to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 1990 EAST GETTYSBURG AVENUE, FRESNO, CA 93726.**

**San Joaquin Valley Air Pollution Control District**  
**Authority to Construct Application Review**  
Four Transportable Crude Oil Tanks

Facility Name:	Chevron U.S.A., Inc.	Date:	March 18, 2013
Mailing Address:	P.O. Box 1392 Bakersfield, CA 93302	Engineer:	Brian Clerico
Contact Person:	Jason Donchin, HES Manager; Lance Ericksen (Consultant)	Lead Engineer:	Sheraz Gill
Telephone:	661-654-7141		661-654-7145
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E-Mail:	<a href="mailto:Lance.Ericksen@chevron.com">Lance.Ericksen@chevron.com</a>		
Application #(s):	C-315-37-0, '-38-0, '-39-0, and '-40-0		
Project #:	C-1123349		
Deemed Complete:	December 4, 2012		

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## **I. Proposal**

Chevron U.S.A., Inc. (CUSA) operates various crude oil and gas production facilities located in the Kettleman North Dome (KNDU) oilfield in Kings County. CUSA has requested Authority to Construct (ATC) permits for four transportable (up to) 471 barrel crude oil storage tanks. These transportable tanks will be used primarily for spill and overflow protection, well development, and during maintenance or construction activities. The transportable tanks may be used at various unspecified locations in the KNDU oilfield, which include facilities C-273 and C-315, but may also include other contiguous or adjacent Chevron properties. The tanks may be required to reside at a site for more than six months in a rolling 12-month period; therefore, they are not eligible for the permit exemption in Rule 2020, Section 6.6.10. This project is similar to CUSA project C-1120796 and will be processed in a manner consistent with that project.

These tanks will usually operate with only a pressure-vacuum vent for control for VOC emissions (i.e. uncontrolled). However, because of the variety of uses proposed for these tanks, the tanks may also be connected to a vapor control system as needed. The VOC destruction device in the vapor control system would be a safety flare or well-test flare, owned and operated by an entity other than CUSA. The destruction device and associated equipment would not be considered part of CUSA's stationary source. If the VOC destruction device were part of CUSA's stationary source, such as an IC engine or heater, CUSA would have to file for an ATC to have this device added to the permit.

To account for both uncontrolled and controlled uses of the tanks, CUSA has proposed to assess both working and breathing VOC losses (as uncontrolled tanks) and fugitive VOC losses (as controlled tanks) and proposed VOC offsets to cover both possibilities.

CUSA's KNDU oil and gas production operations are a major source for VOCs under Rule 2201. Per the definition in Rule 2201, they are a major source for VOC because their SSPE for VOC exceeds 20,000 lb/yr, and the SSPE is comprised of sum of the annual PE of all the

PTO's and the annual PE of unimplemented ATC's. If the unimplemented ATC's are discounted, CUSA's KNDU oil and gas production operations have not yet exceeded the major source threshold for VOC. They will become subject to District Rule 2520, Federally Mandated Operating Permits when they commence operation under an ATC or combination of ATC's that take them above the major source threshold, i.e. when the sum of the annual PE's of their PTO's exceeds 20,000 lb-VOC/yr. Within twelve months of becoming subject to Rule 2520, CUSA must either submit an Initial Title V application or demonstrate they can be a Rule 2530 source.

## 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 (4/14/99)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
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 operated at various unspecified locations within the KNDU oilfield in Kings County. This oilfield is within Townships 21S and 22S, and Ranges 17E, 18E and 19E. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

The following are standard conditions for permits allowing operation at various unspecified locations:

- This tank is authorized to operate at CUSA's Kettleman North Dome Unit stationary source(s) which includes facilities C-273 and C-315. [District Rule 2201]
- The equipment shall not be located within 1,000 feet of the outer boundary of any K-12 school. [CH&SC 42301.6]
- Permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201]

## IV. Process Description

Light crude oil production and produced fluids will be routed to the transportable tanks during maintenance or construction activities and during well development and testing. The tanks may also be used to remove water and sediments prior to custody transfer of the crude oil. Each transportable tank has a maximum capacity of 471 bbl and will be used predominantly to store produced oil and water prior to custody transfer or disposal. According to District records

from 1992, the API gravity of the oil at these locations ranges from an API gravity of 17° to 34°, so the tanks may store crude oil with an API gravity greater than 30°.

## V. Equipment Listing

- C-315-37-0: UP TO 471 BBL FIXED-ROOF CRUDE OIL/PRODUCED FLUIDS TANK WITH PV VALVE AUTHORIZED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE KETTLEMAN NORTH DOME UNIT OILFIELD (WHICH INCLUDES FACILITIES C-273, C-315, AND CONTIGUOUS AND ADJACENT PROPERTIES)
- C-315-38-0: UP TO 471 BBL FIXED-ROOF CRUDE OIL/PRODUCED FLUIDS TANK WITH PV VALVE AUTHORIZED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE KETTLEMAN NORTH DOME UNIT OILFIELD (WHICH INCLUDES FACILITIES C-273, C-315, AND CONTIGUOUS AND ADJACENT PROPERTIES)
- C-315-39-0: UP TO 471 BBL FIXED-ROOF CRUDE OIL/PRODUCED FLUIDS TANK WITH PV VALVE AUTHORIZED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE KETTLEMAN NORTH DOME UNIT OILFIELD (WHICH INCLUDES FACILITIES C-273, C-315, AND CONTIGUOUS AND ADJACENT PROPERTIES)
- C-315-40-0: UP TO 471 BBL FIXED-ROOF CRUDE OIL/PRODUCED FLUIDS TANK WITH PV VALVE AUTHORIZED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE KETTLEMAN NORTH DOME UNIT OILFIELD (WHICH INCLUDES FACILITIES C-273, C-315, AND CONTIGUOUS AND ADJACENT PROPERTIES)

## VI. Emission Control Technology Evaluation

The tanks will be equipped with a pressure-vacuum (PV) relief vent valve set to within 10% of the maximum allowable working pressure of the tank. The PV-valve will reduce VOC emissions from the tank vent by reducing free evaporation of VOC from the tank. CUSA has also proposed to follow the Rule 4623 leak inspection and maintenance protocol.

## VII. General Calculations

### A. Assumptions

- Facility will operate 24 hours per day, 7 days per week, and 52 weeks per year.
- The tanks emit only volatile organic compounds (VOCs).
- The potential to emit for the tanks will be based on a combination of working and breathing losses (for uncontrolled tanks) and fugitive component counts (for instances where the tanks are connected to a vapor control system, as described below).
- Tank data for assessing working and breathing losses from an uncontrolled tank are listed in the tank emissions spreadsheet in Appendix A.
- PV valves have a 10% VOC control efficiency (same as project C-1120796)

- Maximum RVP of oil = 6.0 psia (applicant proposed and historical TVP/RVP data)
- Maximum daily throughput is 750 bbl/day
- Maximum annual throughput (based on a daily throughput of 250 bbl/day × 365 day/yr) is 91,250 bbl/yr
- As the tanks may be connected to a vapor control system involving a well-test flare or a safety flare serving as a control device, emissions from fugitive components in light liquid service will be assessed from a representative number of components for each tank (see Appendix B). Since the expectation is the well-test or safety equipment and associated destruction device will be owned and operated by an entity other than CUSA, the destruction device will not be considered part of CUSA's source and will not be assessed emissions. Should the destruction device belong to CUSA's stationary source, CUSA will be required to obtain an ATC to have the device listed on the permit. In a similar project (C-1120796), the District assessed both working and breathing losses and fugitive losses simultaneously, so that precedent will be followed.

## B. Emission Factors

Working and breathing losses from the uncontrolled tanks are calculated using the District's spreadsheet "Tank Emissions - Fixed Roof Crude Oil 26° API & Higher". The rectangular tank size is converted to circular dimensions (diameter and height) with the same capacity (see tank emissions spreadsheet in Appendix A).

Fugitive emissions from components in light oil and gas service are tabulated in Appendix B per the "EPA Protocol for Equipment Leak Emission Estimate"; Table 2-4, *Oil and Gas Production Operations Average Emission Factors*.

## 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)

The potential to emit for these tanks are calculated in Appendices A and B and summarized in the table below:

Daily PE2			
Permit Unit	Working and Breathing Losses (lb-VOC/day)	Fugitive Losses (lb-VOC/day)	PE2 (lb-VOC/day)
C-315-37-0	30.4	3.2	33.6
C-315-38-0	30.4	3.2	33.6
C-315-39-0	30.4	3.2	33.6
C-315-40-0	30.4	3.2	33.6

Annual PE2			
Permit Unit	Working and Breathing Losses (lb-VOC/yr)	Fugitive Losses (lb-VOC/yr)	PE2 (lb-VOC/yr)
C-315-37-0	6,147	1,168	7,315
C-315-38-0	6,147	1,168	7,315
C-315-39-0	6,147	1,168	7,315
C-315-40-0	6,147	1,168	7,315

### 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.

The values in the following table were taken from the application review for ATC's C-315-35-0 and '-36-0, project C-1120796.

SSPE1 (lb/year)					
Permit Unit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
C-273-18-3	5,622	69	230	24,321	6,478
C-273-19-3	5,622	69	230	24,321	6,478
C-273-20-3	5,622	69	230	24,321	6,478
C-273-21-1	0	0	0	0	56,575 <sup>1</sup>
C-273-22-1	0	0	0	0	11,315 <sup>1</sup>
C-273-23-1	0	0	0	0	11,315 <sup>1</sup>
C-273-24-1	657	1	34	610	47
C-315-35-0	0	0	0	0	8,570 <sup>2</sup>
C-315-36-0	0	0	0	0	8,570 <sup>2</sup>
SSPE1	17,523	208	724	73,573	115,826

### 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.

Except for C-315-37-0 through '-40-0, the annual PE values in the following table were taken from the application review for ATC's C-315-35-0 and '-36-0, project C-1120796.

<sup>1</sup> Fugitive Emissions.

<sup>2</sup> 1,184 lb-VOC/yr are fugitive.

SSPE2 (lb/year)					
Permit Unit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
C-273-18-3	5,622	69	230	24,321	6,478
C-273-19-3	5,622	69	230	24,321	6,478
C-273-20-3	5,622	69	230	24,321	6,478
C-273-21-1	0	0	0	0	56,575 <sup>3</sup>
C-273-22-1	0	0	0	0	11,315 <sup>3</sup>
C-273-23-1	0	0	0	0	11,315 <sup>3</sup>
C-273-24-1 <sup>4</sup>	657	1	34	610	47
C-315-35-0	0	0	0	0	8,570 <sup>5</sup>
C-315-36-0	0	0	0	0	8,570 <sup>5</sup>
C-315-37-0	0	0	0	0	7,315 <sup>6</sup>
C-315-38-0	0	0	0	0	7,315 <sup>6</sup>
C-315-39-0	0	0	0	0	7,315 <sup>6</sup>
C-315-40-0	0	0	0	0	7,315 <sup>6</sup>
<b>SSPE2</b>	<b>17,523</b>	<b>208</b>	<b>724</b>	<b>73,573</b>	<b>145,086</b>

## 5. Major Source Determination

### Rule 2201 Major Source Determination:

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

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

<sup>3</sup> Fugitive Emissions.

<sup>4</sup> Transportable non-road engine.

<sup>5</sup> 1,184 lb-VOC/yr are fugitive.

<sup>6</sup> 1,168 lb-VOC/yr are fugitive.



<b>Major Source Determination (lb/year)</b>					
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE1	17,523	208	724	73,573	115,826
Fugitive Emissions Portion of SSPE1	0	0	0	0	81,573
Non-road portion of SSPE1	657	1	34	610	47
<b>Adjusted SSPE1</b>	<b>16,866</b>	<b>207</b>	<b>690</b>	<b>72,963</b>	<b>34,206</b>
SSPE2	17,523	208	724	73,573	145,086
Fugitive Emissions Portion of SSPE2	0	0	0	0	86,245
Non-road portion of SSPE1	657	1	34	610	47
<b>Adjusted SSPE2</b>	<b>16,866</b>	<b>207</b>	<b>690</b>	<b>72,963</b>	<b>58,794</b>
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	Yes

This source is an existing Major Source for VOC emissions and will remain a Major Source for VOC. No change in other pollutants are proposed or expected as a result of this project.

**Rule 2410 Major Source Determination:**

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

The values in the following table represent the adjusted SSPE1 expressed in tons. The CO<sub>2</sub>e value is calculated in Appendix C.

<b>PSD Major Source Determination (tons/year)</b>							
	NO <sub>2</sub>	VOC	SO <sub>2</sub>	CO	PM	PM <sub>10</sub>	CO <sub>2</sub> e
Estimated Facility PE before Project Increase	8.8	17.1	0.1	36.8	0.4	0.4	3,740
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
PSD Major Source ? (Y/N)	N	N	N	N	N	N	N

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

## 6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

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

## 7. SB 288 Major Modification

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

Since this 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.

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

$$\Sigma (PE2_{total} - PE2_{fugitive}) = 4 \text{ tanks} \times (7,315 \text{ lb-VOC/yr} - 1,168 \text{ lb-VOC/yr}) = 24,588 \text{ lb-VOC/yr}$$

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
VOC	24,588	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 SB 288 Major Modification calculation.

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

**Step 1**

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

The project's combined total emission increases are calculated below and compared to the Federal Major Modification Thresholds in the following table.

$$\Sigma (PE2_{total} - PE2_{fugitive}) = 4 \text{ tanks} \times (7,315 \text{ lb-VOC/yr} - 1,168 \text{ lb-VOC/yr}) = 24,588 \text{ lb-VOC/yr}$$

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
VOC*	24,588	0	Yes

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

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

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

- 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 a 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. Potential to Emit for New or Modified Emission Units vs PSD Major Source Thresholds**

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

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

$$\Sigma (PE_{2total} - PE_{2fugitive}) = 4 \text{ tanks} \times (7,315 \text{ lb-VOC/yr} - 1,168 \text{ lb-VOC/yr}) = 24,588 \text{ lb-VOC/yr} = 12.3 \text{ ton-VOC/yr}$$

PSD Major Source Determination: Potential to Emit (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	0	12.3	0	0	0	0	0
PSD Major Source threshold	250	250	250	250	250	250	100,000
New PSD Major Source?	N	N	N	N	N	N	N

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

**10. Quarterly Net Emissions Change (QNEC)**

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

## VIII. Compliance

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

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

##### 1. BACT Applicability

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

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

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

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

As seen in Section VII.C.2 above, the applicant is proposing to install two new transportable tanks with a PE greater than 2 lb/day for VOC. BACT is triggered for VOC since the PE is greater than 2 lb/day.

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

There are no emissions units being relocated from one stationary source to another with this project; therefore, BACT is not triggered for relocation of an emissions unit.

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

There are no modified emissions units associated with this project. Therefore BACT is not triggered for a modified emissions unit having an AIPE > 2 lb/day.

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

As discussed in Section VII.C.7 above, this project does involve a Federal Major Modification for VOC. Therefore, BACT is triggered for VOC for all the tanks in this project. There are no tanks in this project with a PE < 0.5 lb-VOC/day.

## 2. BACT Guideline

BACT Guideline 7.3.1 applies to petroleum and petrochemical production – fixed roof organic liquid storage or processing tanks less than 5,000 bbl (See **Appendix E**).

## 3. Top-Down BACT Analysis

A Top-Down BACT Analysis is performed as a part of the application review for each application subject to BACT pursuant to the District’s NSR Rule and BACT policy APR 1305.

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

VOC: PV vent set to within 10% of maximum allowable working pressure

## B. Offsets

### 1. Offset Applicability

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

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

Offset Determination (lb/year)					
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE2	17,523	208	724	73,573	145,086
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	Yes

### 2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for VOC only. Therefore offset calculations for VOC will be required for this project.

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

The facility is proposing to install new emissions units; therefore BE = 0. Also, there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

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

CUSA has identified ERC certificate S-3601-1 to provide offsets for this project. Since this project is classified as a major modification, the distance offset ratio will be 1.5:1 (Rule 2201, §4.8). Therefore the amount of offsets required can be calculated as follows:

One tank:

$$\begin{aligned} \text{Offsets Required (lb/year)} &= (7,315 - 0) \times 1.5 \\ &= 7,315 \times 1.5 \\ &= 10,973 \text{ lb VOC/year/tank} \\ &= 43,892 \text{ lb-VOC/year for all four tanks in this project} \end{aligned}$$

The quarterly emissions to be offset are as follows for each tank:

<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>
2,743	2,743	2,743	2,743

ERC certificate S-3601-1 has quarterly VOC credits indicated in the table below:

	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
ERC #S-3601-1	40,533	41,484	42,396	42,430
Generated at:	Facility S-1127, HOC (S09, T29S, R28E)			
DOR	1.5 (>15 miles)			
With the following reservations against S-3601-1:				
	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
S-1084509	3,071	3,071	3,071	3,071
C-1120796	10,972	10,972	10,972	10,972
Total reserved	14,043	14,043	14,043	14,043

Proposed Offset ATC Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 2,743 lb, 2nd quarter – 2,743 lb, 3rd quarter – 2,743 lb, and fourth quarter – 2,743 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC certificate specified below. [District Rule 2201]
- ERC Certificate Number S-3601-1 (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]

**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.8, this project is a Federal Major Modification. Therefore, public noticing for SB 288 or Federal Major Modification purposes is required.

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

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant; therefore, public noticing for PE > 100 lb/day purposes is not required.

**c. Offset Threshold**

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



Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO <sub>x</sub>	17,523	17,523	20,000 lb/year	No
SO <sub>x</sub>	208	208	54,750 lb/year	No
PM <sub>10</sub>	724	724	29,200 lb/year	No
CO	73,573	73,573	200,000 lb/year	No
VOC	115,826	145,086	20,000 lb/year	No

As detailed in the previous table, 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 (lb/year)	Public Notice Required?
NO <sub>x</sub>	17,523	17,523	0	20,000	No
SO <sub>x</sub>	208	208	0	20,000	No
PM <sub>10</sub>	724	724	0	20,000	No
CO	73,573	73,573	0	20,000	No
VOC	145,086	115,826	29,260	20,000	Yes

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

**2. Public Notice Action**

As discussed above, public noticing is required for this project because it is a Federal Major Modification and because the potential increase in VOC emissions is greater than 20,000 lb/year. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

**D. Daily Emission Limits (DELs)**

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

DELs for these tanks will be included on the ATCs in the form of tanks' maximum liquid throughput, the Reid Vapor Pressure (RVP) of the organic liquid stored<sup>7</sup>, and the maximum fugitive VOC emissions in cases where the tank would be connected to a vapor control system.

Proposed Rule 2201 (DEL) Conditions:

- The provisions of this permit allow for this tank to be connected to a vapor control system where the VOC destruction device (e.g. safety flare or well test flare) is owned and operated by an entity other than Chevron USA and the VOC destruction device is not part of Chevron USA's stationary source. Chevron USA shall obtain an Authority to Construct permit prior to connecting this tank to a vapor control system where the VOC destruction device (e.g. an IC engine or heater, regardless of permit or permit-exempt status) is part of Chevron USA's stationary source. [District Rule 2201]
- This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings and properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in a leak free condition except when the operating pressure exceeds the valve's set pressure. [District Rules 2201 and 4623]
- This tank shall only store, place, or hold organic liquid with a Reid Vapor Pressure (RVP) of less than 6.0 psia under all storage conditions. [District Rules 2201 and 4623]
- Tank liquid throughput shall not exceed 750 barrels per day nor 91,250 barrels per year. [District Rule 2201]
- Fugitive emissions from tank liquid service components shall not exceed 3.2 lb-VOC/day based on EPA's "Protocol for Equipment Leak Emission Estimate," Table 2-4, Oil and Gas Production Operations Average Emissions Factors. [District Rule 2201]

## **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**

No monitoring is required to demonstrate compliance with Rule 2201. The applicant has proposed to follow the Rule 4623, Section 5.7, Voluntary Tank Preventive

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<sup>7</sup> The District's spreadsheet for calculating VOC emissions from light oil uses RVP rather than TVP as an input.

Inspection and Maintenance program to monitor and fix leaking components. Those conditions will be discussed under Rule 4623.

### **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 be listed on the ATCs:

- Permittee shall maintain monthly records of average daily crude oil throughput, a record of the annual throughput, and a record of each organic liquid stored in the tank, including its API gravity, and RVP or TVP (and storage temperature). [District Rules 2201 and 4623]
- Operator shall maintain a list of number and type of components in liquid service and resulting emission calculations (according to U.S. EPA Publication 453/R-95-017, Table 2-4, Oil and Gas Production Average Emission Factors) demonstrating compliance with the fugitive emissions limit set forth on this permit. [District Rule 2201]
- Fugitive VOC limit listed does not include components handling produced fluids with an API gravity less than 30 degrees, or components in water/oil service (condensate) with a water content equal to or greater than 50% by weight, or components handling fluid streams with a VOC content of 10% or less by weight. [District Rule 2201]<sup>8</sup>

### **4. Reporting**

No reporting is required to demonstrate compliance with Rule 2201.

### **F. Ambient Air Quality Analysis (AAQA)**

Since VOC does not have an Ambient Air Quality Standard, no AAQA can be performed.

### **G. Compliance Certification**

Section 4.15.2 of Rule 2201 requires the owner of a new Major Source or a source undergoing a federal major modification to demonstrate to the satisfaction of the District that all Major Sources owned by the same entity and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards.

As discussed in Section VIII above, this project does constitute a federal major modification; therefore, this requirement is applicable. CUSA's compliance certification is included in Appendix F.

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<sup>8</sup> The content of this condition is based on District policy Procedures for Quantifying Fugitive VOC Emissions at Petroleum and SOCMF Facilities, SSP 2015. Since it was included as a separate condition for ATCs C-315-35-0 and '36-0

## **H. Alternate Siting Analysis**

The current project occurs at an existing facility. The applicant proposes to install up to four transportable crude oil/produced fluids storage tanks.

Since the project will provide support to an existing crude oil production facility and will be used at the same location, the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures on a much greater scale, and would therefore result in a much greater impact.

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

CUSA will become subject to District Rule 2520, Federally Mandated Operating Permits when they commence operation under an ATC or combination of ATC's that take them above the major source threshold, i.e. when the sum of the annual PE's of their PTO's exceeds 20,000 lb-VOC/yr. Within twelve months of becoming subject to Rule 2520, CUSA must either submit an Initial Title V application or demonstrate they can be a Rule 2530 source.

### **Rule 4001 New Source Performance Standards (NSPS), Subpart Kb - Storage Vessels for Petroleum Liquids**

**Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984.**

#### § 60.110b Applicability and designation of affected facility:

Paragraph (d)(4) contains the following exemption:

(d)(4) Vessels with a design capacity less than or equal to 1,589.874 m<sup>3</sup> (420,000 gallons) used for petroleum or condensate stored, processed, or treated prior to custody transfer.

The tank in this project is less than 420,000 gallons in storage capacity and is involved in the processing of crude oil prior to custody transfer. Therefore, per paragraph (d)(4), Subpart Kb does not apply to these tanks. The tank capacity listed in the equipment description will ensure compliance with the basis for this exemption.

### **Rule 4102 Nuisance**

Rule 4102 states that no air contaminant shall be released into the atmosphere which causes a public nuisance.

The following standard condition will appear on the permits to ensure compliance with the requirements of this rule:

- {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

## **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 a risk analysis to determine the possible adverse health effect to the nearest resident or worksite.

The project passed the risk assessment with a prioritization score of less than 1.0; therefore, no further analysis is required. See Appendix G for the Risk Management Review (RMR) Memo.

The RMR Memo proposed a special permit condition which will be included on the ATC's:

- The crude oil/produced fluids transportable tanks shall not operate within 0.75 miles of the nearest receptor.

### **Discussion of T-BACT**

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds 1.0 in one million. As indicated in the RMR Memo, T-BACT is not required for this project. Compliance with the District's Risk Management Policy is expected.

## **Rule 4623 Storage of Organic Liquids**

The purpose of this rule is to limit volatile organic compound (VOC) emissions from the storage of organic liquids. This rule applies to any tank with a design capacity of 1,100 gallons or greater used to store organic liquid with a true vapor pressure (TVP) of 0.5 psia or greater.

### **Section 5.1 VOC Control System Requirements**

Section 5.1.1 requires that an operator shall not place, hold, or store organic liquid in any tank unless such tank is equipped with a VOC control system identified in Table 1.

<b>Table 1: General VOC Control System Requirements</b>			
Tank Capacity (gal)	True Vapor Pressure (TVP) of Organic Liquid		
	0.5 psia to < 1.5 psia	1.5 psia to < 11 psia	≥11.0 psia
(Group A) 1,100 to 19,800	Pressure-vacuum relief valve, or internal floating roof, or external floating roof, or vapor recovery system	Pressure-vacuum relief valve, or internal floating roof, or external floating roof, or vapor recovery system	Pressure vessel or vapor recovery system
(Group B) >19,800 to 36,000	Pressure-vacuum relief valve, or internal floating roof, or external floating roof, or vapor recovery system	Internal floating roof, or external floating roof, or vapor recovery system	Pressure vessel or vapor recovery system
(Group C) >39,600	Internal floating roof, or external floating roof, or vapor recovery system	Internal floating roof, or external floating roof, or vapor recovery system	Pressure vessel or vapor recovery system

For tanks with a capacity of 471 bbl (19,782 gallons) storing liquid with a maximum RVP of 6.0 psia, a PV vent will satisfy the control requirements of Table 1.

The following conditions will be listed on ATC S-3157-10-2 to ensure compliance with the control requirements of Table 1:

- This tank shall only store, place, or hold organic liquid with a Reid Vapor Pressure (RVP) of less than 6.0 psia under all storage conditions. [District Rules 2201 and 4623]
- This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings and properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in a leak free condition except when the operating pressure exceeds the valve's set pressure. [District Rules 2201 and 4623]

Section 5.1.3 requires all tanks subject to the control requirements of this rule to be maintained in a leak-free condition, except as allowed by Section 5.2 and applicable provisions of Table 3 through Table 5, and Section 5.7.5.4 (Tank Degassing).

The following conditions will be listed on the ATC's to ensure compliance with leak-free requirements of Section 5.1.3:

- Except as otherwise allowed on this permit, this tank shall be maintained in a leak-free<sup>9</sup> condition. [District Rule 4623]

### Section 5.2 Specifications for Pressure-Valve Setting

<sup>9</sup> "Leak-free" is defined in the I&M conditions on the permit.

The pressure-vacuum relief valve shall be set to within ten (10) percent of the maximum allowable working pressure of the tank. The pressure-vacuum relief valve shall be permanently labeled with the operating pressure settings. The pressure-vacuum relief valve shall be properly installed and maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in leak-free condition except when the operating pressure exceeds the valve set pressure.

The following previously stated condition will appear on all the ATCs to ensure compliance with Section 5.2:

- This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings and properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in a leak free condition except when the operating pressure exceeds the valve's set pressure. [District Rules 2201 and 4623]

### Section 5.3 Specifications for External Floating Roof Tanks

The tanks in this project are fixed roof tanks; therefore, this section is not applicable.

### Section 5.4 Specifications for Internal Floating Roof Tanks

The tanks in this project are fixed roof tanks; therefore, this section is not applicable.

### Section 5.5 Floating Roof Deck Requirements

The tanks in this project are fixed roof tanks; therefore, this section is not applicable.

### Section 5.6 Specifications for Vapor Recovery Systems

The tank(s) may be used in such a way that they are connected to a vapor control system.

Section 5.6.1 requires fixed roof tanks to be fully enclosed and maintained in a leak free condition. An APCO-approved vapor recovery system shall consist of a closed system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be maintained in a leak free condition. The VOC control device shall be one of the following:

5.6.1.1 A condensation or vapor return system that connects to one of the following: a gas processing plant, a field gas pipeline, a pipeline distributing Public Utility Commission quality gas for sale, an injection well for disposal of vapors as approved by the California Department of Conservation, Division of Oil Gas, and Geothermal Resources, or

5.6.1.2 A VOC control device that reduces the inlet VOC emissions by at least 95 percent by weight as determined by the test method specified in Section 6.4.6.

Section 5.6.2 requires any tank gauging or sampling device on a tank vented to the vapor recovery system to be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling.

The following condition on the ATCs will ensure compliance with Section 5.6.2:

- When the tank is connected to a vapor control system, any tank gauging or sampling device on a tank vented to the vapor control system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]

Section 5.6.3 requires all piping, valves, and fittings to be constructed and maintained in a leak free condition.

The following condition on the ATCs will ensure compliance with Section 5.6.3:

- When the tank is connected to a vapor control system, all piping, valves, and fittings on the vapor control system shall be constructed and maintained in a leak-free condition. [District Rule 4623]

### Section 5.7 Voluntary Tank Preventive Inspection and Maintenance, and Tank Interior Cleaning Program

CUSA proposes to enroll the tanks in the voluntary I&M and Tank Cleaning Provisions of this rule. The following conditions are taken from District Policy SSP 2210, Organic Liquid Storage Tanks – Cleaning Requirements and are consistent with the conditions used for ATCs C-315-35-0 and '36-0.

#### Tank Cleaning:

- This permit authorizes tank cleaning that is not the result of breakdowns or poor maintenance as a routine maintenance activity. [District Rule 4623]

The following condition satisfies the notification requirements in SSP 2210:

- If tank is left on site for more than six months, permittee shall notify the APCO in writing at least three (3) days prior to performing tank interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank, 2) the date and time that tank cleaning activities will begin, 3) the method to be used to clean the tank, including any solvents to be used, and 4) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623] N

The following condition satisfies the degassing requirements for fixed-roof tanks not under vapor control in SSP2210:

- This tank shall not be required to de-gas before commencing cleaning activities. All other applicable requirements shall be complied with before, during, and after tank cleaning activities. [District Rule 4623]

The following conditions address cleaning activity requirements from SSP 2210.

- While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents



with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623]

- Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623]

The following conditions apply to tanks that are subject to District Rule 4623, and held organic liquids with a TVP of 1.5 psia or greater prior to cleaning:

- If tank is left on site for more than six months and contained organic liquid with a TVP of 1.5 psia or greater, during sludge removal, the operator shall control emissions from the sludge receiving vessel by operating an APCO-approved vapor control device that reduces emissions of organic vapors by at least 95%. [District Rule 4623]
- If tank is left on site for more than six months and contained organic liquid with a TVP of 1.5 psia or greater, Permittee shall only transport removed sludge in closed, liquid leak-free containers. [District Rule 4623]
- If tank is left on site for more than six months and contained organic liquid with a TVP of 1.5 psia or greater, permittee shall store removed sludge, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rules 2020 and 4623]

The following condition requires a record of tank cleaning record.

- Permittee shall maintain records of start and completion dates/times of tank cleaning activities and methods of cleaning used. [District Rule 4623]

### Inspection and Maintenance

The following conditions, taken from District Policy SSP 2215, Organic Liquid Storage Tanks – Voluntary Inspection and Maintenance Program will appear on all the ATCs:

- At least once per year, 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, 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 4623]
- Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623]

- Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 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 Rule 4623]
- Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rule 4623]
- If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 4623]
- Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 4623]

The following standard I&M recordkeeping condition will appear on the ATCs:

- Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 4623]

### Section 6.2 TVP and API Gravity Testing of Stored Organic Liquids in Uncontrolled Fixed Roof Tanks

Section 6.2 concerns TVP and API gravity testing of stored organic liquids in uncontrolled fixed roof tanks. This section requires initial and periodic testing of the TVP and API gravity of the oil stored. The API gravity determines which TVP test method is appropriate. This section also allows for representative testing of the organic liquid in a tank battery provided the enumerated criteria are met.

Initial testing of TVP or RVP was not required by ATCs C-315-35-0 and '-36-0, which are identical to the tanks proposed in this project. A review of the historical TVP and RVP test data show a maximum RVP of 5.5 psia and maximum TVP of 3.7 psia for Kettleman light oil

(see Appendix H). Therefore, it appears that the proposed RVP limit of 6.0 psia is sufficiently conservative with a compliance margin, and initial RVP/TVP testing will not be required.

### 6.2.2 Periodic TVP and API Gravity Testing

Section 6.2.2 requires an operator to conduct TVP testing of each uncontrolled fixed roof tank at least once every 24 months during summer (July – September), and/or whenever there is a change in the source or type of organic liquid stored in each tank. In lieu of testing each uncontrolled fixed roof tank, an operator may conduct a TVP testing of a representative tank provided the requirements of Sections 6.2.1.1.1 through 6.2.1.1.5 are met. The operator shall also comply with Section 6.2.1.2. The operator shall submit the records of TVP and/or API gravity testing to the APCO as specified in Section 6.3.6.

Because of the way the tanks will be used, long term storage of organic liquids is not expected, and it may be the tanks will not be in use during the July to September. Therefore, RVP or TVP testing will be required for each new organic liquid introduced into the tank rather than on a periodic basis. The vapor pressure testing conditions The following conditions will ensure compliance with the TVP testing requirements of Section 6.2.2:

- Except when the tank is connected to a vapor control system, permittee shall conduct API gravity testing and Reid Vapor Pressure (RVP) or True Vapor Pressure (TVP) testing of the organic liquid stored in this tank whenever there is a change in the source or type of organic liquid stored in this tank. [District Rule 4623]
- In lieu of testing the organic liquid from each uncontrolled fixed roof tank at this battery, a single RVP or TVP test of the organic liquid from a representative tank may be conducted provided the following conditions are met:<sup>10</sup> (1) The selection of representative tank is submitted in writing to the APCO, and written approval is granted by the APCO prior to conducting the test; (2) The representative tank shall be the first line tank in the tank battery, i.e. the tank that is first receiving the produced fluids mixture of oil, water, and gases from the crude oil production wells; (3) The organic liquid in the representative tank is the same and came from the same source as the organic liquid stored by the other tanks being represented; (4) The TVP and storage temperature of the stored organic liquid of the representative tank to be tested are the same or higher than those of the tanks it is to represent. To ensure this condition is met, the TVP test should be conducted at the temperature of the tank with the highest storage temperature. [District Rule 4623]

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<sup>10</sup> Here are the criteria for representative TVP testing:

6.2.1.1.1 *The selection of representative, uncontrolled fixed roof tanks is submitted in writing to the APCO, and written approval is granted by the APCO prior to conducting the test.*

6.2.1.1.2 *One uncontrolled fixed roof tank represents some or all of the tanks in a tank battery (defined in Section 3.31).*

6.2.1.1.3 *For crude oil production facilities, the representative uncontrolled fixed roof tank shall be the first line tank (or tanks) in a tank battery that is first receiving the produced fluids (mixture of oil, water, and gases) from the crude oil production wells.*

6.2.1.1.4 *The stored organic liquid in each of the represented tanks is the same and came from the same source.*

6.2.1.1.5 *The TVP and storage temperature of the stored organic liquid of the representative tank to be tested are the same or higher than those of the tanks it is to represent.*

### Section 6.3 Recordkeeping

This section requires an operator to retain accurate records required by this rule for a period of five years. Records must be made available to the APCO upon request, except for certain records that need to be submitted as specified in the respective sections.

Compliance with the record retention requirements of this section is ensured by the following standard permit condition:

- {2490} All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623]

#### Section 6.3.6 Recordkeeping

Section 6.3.6 requires submittal of the results of TVP and API gravity testing, conducted in accordance with the requirements of Section 6.2, to the APCO within 45 days after the date of testing. The record shall include the tank identification number, PTO number, type of stored organic liquid, TVP and API gravity of the stored organic liquid, test methods used, and a copy of the test results. An operator who uses the information in Appendix A to demonstrate the TVP and/or API gravity of the stored organic liquid shall submit information to the APCO within 45 days after the date that the type of organic liquid stored in the tank has been determined.

The following conditions will ensure compliance with the record keeping requirements of Section 6.3 (6.3.6):

- The operator shall submit a record of the RVP/TVP and API gravity testing required by this permit to the APCO within 45 days of the completion of the test. The record shall include the tank identification number, PTO number(s), type of organic liquid stored, TVP and API gravity of the organic liquid stored, test methods used, and a copy of the test results. [District Rule 4623]
- Permittee shall maintain monthly records of average daily crude oil throughput, a record of the annual throughput, and a record of each organic liquid stored in the tank, including its API gravity, and RVP or TVP (and storage temperature). [District Rules 2201 and 4623]

### Section 6.4 Test Methods

The NSR limit for these tanks is stated in terms of RVP. Rule 4623 thresholds are stated in terms of TVP. Compliance with the RVP limit of 6.0 psia will ensure compliance with any meaningful threshold that applies to the tanks in this project. Therefore, there is no TVP limit on the permit, just an RVP limit. However, the API gravity of the oil determines whether a RVP or TVP test/measurement is performed. In the present case, the API gravity can span from heavy oil (where the approved test method prescribes a TVP measurement) to light oil (where the approved test method prescribes an RVP measurement). In cases when a TVP test is required, the oil is "heavy," which experience shows correlates with a TVP well less than the RVP of 6.0 psia that is the NSR limit for this permit. So in cases where the API gravity dictates that a TVP test is required, this should be sufficient to ensure compliance with the RVP limit without requiring the additional step of converting the TVP obtained to the corresponding RVP.

- The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623]
- For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "Test Method for Vapor Pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623]
- For crude oil with an API gravity of greater than 26 degrees, the RVP shall be determined using ASTM D 323 (Test Method for Vapor Pressure for Petroleum Products). Oil with an API gravity range of greater than 26 up to 30 may be determined using equivalent RVP/TVP test methods approved by APCO, ARB and US EPA. [District Rule 4623]

### Section 7.2 Compliance Schedule

Any tank that is exempted under Section 4.0 that becomes subject to the VOC control system requirements of this rule through the loss of exemption status shall be in full compliance with this rule on the date the exemption status is lost.

This requirement is not ordinarily stated in a permit condition.

Compliance with the requirements of this rule is expected.

### Section 6.3 Recordkeeping

This section requires an operator to retain accurate records required by this rule for a period of five years. Records must be made available to the APCO upon request, except for certain records that need to be submitted as specified in the respective sections (e.g. 6.3.6) below.

Compliance with the record retention requirements of this section is ensured by the following standard permit condition which will appear on all the ATC's in this project:

- Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 1070 and 4623]

Compliance with the requirements of this rule is expected.

Compliance with the requirements of this rule is expected.

### **California Health & Safety Code 42301.6 (School Notice)**

The transportable tanks will not be located within 1,000 feet of a school. The following condition will be included on the ATC's to ensure compliance:

- The equipment shall not be located within 1,000 feet of the outer boundary of any K-12 school. [CH&SC 42301.6]

## **California Environmental Quality Act (CEQA)**

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

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

## **Greenhouse Gas (GHG) Significance Determination**

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

As the tanks proposed in this project are not front-line tanks, i.e. they are not receiving produced fluids directly from a well or production header, they will not have flashing losses of methane or carbon dioxide associated with their operation.

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

## **District CEQA Findings**

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

## **IX. Recommendation**

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATCs C-315-37-0 through '40 subject to the permit conditions on the attached draft ATC in **Appendix I**.

**X. Billing Information**

<b>Annual Permit Fees</b>			
<b>Permit Number</b>	<b>Fee Schedule</b>	<b>Fee Description</b>	<b>Annual Fee</b>
C-315-37-0	3020-05-B	up to 19,782 gallons	\$93.00
C-315-38-0	3020-05-B	up to 19,782 gallons	\$93.00
C-315-39-0	3020-05-B	up to 19,782 gallons	\$93.00
C-315-40-0	3020-05-B	up to 19,782 gallons	\$93.00

**Appendices**

- A: Working and Breathing VOC Emissions
- B: Fugitive VOC Emissions Calculation
- C: CO<sub>2</sub>e Calculations for PSD
- D: Quarterly Net Emissions Change and PAS Emissions Profile
- E: BACT Guideline and Top-Down Analysis
- F: Statewide Compliance Certification
- G: Historical TVP and RVP Data
- H: Risk Management Review Memo
- I: Draft ATCs

## Appendix A

### Working and Breathing VOC Emissions



# Daily PE input

## \*\*FOR REFERENCE\*\* PAINT TABLE

PAINT COLOR	SHADE/TYPE	PAINT FACTORS PAINT CONDITION	
		GOOD	POOR
ALUMINUM	SPECULAR	0.39	0.49
ALUMINUM	DIFFUSE	0.60	0.68
GRAY	LIGHT	0.54	0.63
GRAY	MEDIUM	0.68	0.74
RED	PRIMER	0.89	0.91
WHITE	--NONE--	0.17	0.34

LIQUID TYPE	CODE	
CRUDE OIL	0	CRUDE
MOTOR GASOLINE	1	MOTOR GAS
AVIATION GASOLINE	2	AV GAS
LIGHT NAPHTHA (RVP 9-14 PSIA)	3	LT NAPHTHA
NAPHTHA (RVP 2-8 PSIA)	4	NAPHTHA

METEOROLOGICAL DATA CODES	
AREA	CODE
BAKERSFIELD	0
FRESNO	1
STOCKTON	2

\*\*PRESS (TAB) TO SKIP TO NEXT MODIFIABLE CELL\*\*

**GIVEN AND ASSUMED DATA**	
USING THE CODES ABOVE, WHAT REGION PERMIT NUMBERS DO YOU WANT TO USE? (0, 1, OR 2)	1
USING THE CODES ABOVE, WHAT AREA METEOROLOGICAL DATA DO YOU WANT TO USE? (0, 1, 2, ...)	1
REID VAPOR PRESSURE (psia)	6.00
VAPOR MOLECULAR WEIGHT (Mv)	50.00
USING THE CODES ABOVE, WHAT TYPE OF ORGANIC LIQUID (0, 1, 2, ...)	0
VOC CONTROL EFFICIENCY	10.00
TANK SHELL DIAMETER (FEET)	18.00
TANK SHELL HEIGHT, Hs (FEET)	10.40
VENT VACUUM (ENTER "-" FOLLOWED BY A VALUE IN PSIG)	-0.06
VENT PRESSURE (POSITIVE psig)	0.06
TANK ID	Transportable
TANK USE	Produced Fluids
SJVUAPCD PERMIT#	C-315-37-0
CONE OR DOME ROOF (C/D)	C
MAXIMUM TOTAL DAILY THROUGHPUT (BBL/DAY)	750.00
MIN LIQUID HEIGHT (USE 0.0 FT FOR DEFAULT)	0.00
TANK ROOF PAINT CONDITION, GOOD OR POOR (G/P)	G
TANK ROOF PAINT COLOR, SEE ABOVE (A/G/R/W)	G
TANK ROOF PAINT SHADE, SEE ABOVE (S/D/L/M/P/N)	M
TANK SHELL PAINT CONDITION, GOOD OR POOR (G/P)	G
TANK SHELL PAINT COLOR, SEE ABOVE (A/G/R/W)	G
TANK SHELL PAINT SHADE, SEE ABOVE (S/D/L/M/P/N)	M

← 750 bbl/day

**MODIFIABLE DATA**	
-----	----
-----	----
-----	Y
-----	--N/R--
-----	3.0
CONE ROOF	----
GIVEN ROOF HEIGHT OR SLOPE (H/S)	S
-----	0.94
TANK CONE ROOF SLOPE, Sr (DEFAULT=0.0625) (ft/ft)	0.0625
-----	----
-----	1.00
DO YOU WANT TO ENTER A MAX LIQUID HEIGHT? (Y/N)	N
-----	----
DEFAULT MAX LIQUID HEIGHT (SHELL HT - 2.0 FT)	8.40
DO YOU WANT TO ENTER AN AVERAGE LIQUID HEIGHT? (Y/N)	Y
-----	----
ENTER AVERAGE LIQUID HEIGHT (ft)	8.0
IS TANK CONSTANT LEVEL? (Y/N)	N
-----	----
ARE THE CONTENTS OF THE TANK HEATED? (Y/N)	N
-----	----

output  
**Daily PE**

TANK ID	TANK USE	SJVUAPCD PERMIT #	TANK TYPE H OR V	SHELL DIMENSIONS		CAPACITY (BBL)	ROOF TYPE (C/D)	VENT PSIG	
				D (FT)	Hs (FT)			VAC.	PRESS.
3	Produced Fluids	C-315-37-0	VERTICAL	18.0	10.4	471.4	CONE	-0.06	0.06

TANK ROOF		PAINT FACTOR	LIQUID DATA				CONSTANT LEVEL?	VAPOR MOL. WT.	VOC CNTRL %EFF (w/w)
COND.	COLOR		TYPE	Ht=H(lx)	Kp	RVP			
GOOD	GRAY	0.68	CRUDE	8.4	0.75	6.00	NO	50.00	10.0

**\*\*UNCONTROLLED EMISSIONS\*\***

CALENDAR		SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/MON)	TURNOVER PER MON.	FAC-(Kn)	VOC (LBM/MONTH)			TOTAL (LBM/QTR)
QUARTER	MONTH						Ls	Lw	TOTAL (Lt)	
FIRST	JANUARY	60.88	3.76	23250	61.07	0.208	53.11	682.72	735.82	2419.11
	FEBRUARY	65.13	4.07	21000	55.16	0.208	76.56	667.45	744.01	
	MARCH	71.56	4.57	23250	61.07	0.208	108.49	830.78	939.28	
SECOND	APRIL	74.79	4.85	22500	59.10	0.208	177.71	851.92	1029.63	3544.98
	MAY	80.34	5.34	23250	61.07	0.208	247.03	970.67	1217.70	
	JUNE	84.63	5.75	22500	59.10	0.208	285.98	1011.67	1297.65	
THIRD	JULY	86.88	5.98	23250	61.07	0.208	316.00	1086.29	1402.29	3858.34
	AUGUST	84.72	5.76	23250	61.07	0.208	274.79	1046.94	1321.73	
	SEPTEMBER	79.91	5.30	22500	59.10	0.208	201.94	932.38	1134.32	
FOURTH	OCTOBER	73.21	4.71	23250	61.07	0.208	141.76	855.74	997.50	2515.55
	NOVEMBER	65.32	4.08	22500	59.10	0.208	76.03	717.60	793.62	
	DECEMBER	60.32	3.72	23250	61.07	0.208	48.87	675.55	724.42	

**\*\*CONTROLLED EMISSIONS (BASED ON MONTHLY CALCULATIONS)\*\***

CALENDAR		SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/QTR)	TURNOVER PER QTR.	FAC-(Kn)	VOC (LBM/QTR)		
QUARTER	MONTH						Ls	Lw	TOTAL (Lt)
FIRST	JAN-MAR	65.86	4.13	67500	177	0.208	214	1963	2177
SECOND	APR-JUN	79.92	5.31	68250	179	0.208	640	2551	3190
THIRD	JUL-SEP	83.84	5.68	69000	181	0.208	713	2759	3473
FOURTH	OCT-DEC	66.28	4.17	69000	181	0.208	240	2024	2264
QUARTERLY AVERAGE		73.97	4.82	68438			452	2324	2776
DAILY AVERAGE (LB/DAY, BASED ON MONTHLY CALCULATIONS)							5.0	25.5	30.4
ANNUAL EMISSIONS (LB/YEAR, BASED ON MONTHLY CALCULATIONS)							1807	9297	11104

Tank Emission Calculation Spreadsheet, version 01/23/03

# Annual PE input

\*\*FOR REFERENCE\*\* PAINT TABLE

PAINT COLOR	SHADE/TYPE	PAINT FACTORS PAINT CONDITION	
		GOOD	POOR
ALUMINUM	SPECULAR	0.39	0.49
ALUMINUM	DIFFUSE	0.60	0.68
GRAY	LIGHT	0.54	0.63
GRAY	MEDIUM	0.68	0.74
RED	PRIMER	0.89	0.91
WHITE	--NONE--	0.17	0.34

LIQUID TYPE	CODE	
CRUDE OIL	0	CRUDE
MOTOR GASOLINE	1	MOTOR GAS
AVIATION GASOLINE	2	AV GAS
LIGHT NAPHTHA (RVP 9-14 PSIA)	3	LT NAPHTHA
NAPHTHA (RVP 2-8 PSIA)	4	NAPHTHA

METEOROLOGICAL DATA CODES	
AREA	CODE
BAKERSFIELD	0
FRESNO	1
STOCKTON	2

\*\*PRESS [TAB] TO SKIP TO NEXT MODIFIABLE CELL\*\*

**GIVEN AND ASSUMED DATA**	
USING THE CODES ABOVE, WHAT REGION PERMIT NUMBERS DO YOU WANT TO USE? (0, 1, OR 2)	1
USING THE CODES ABOVE, WHAT AREA METEOROLOGICAL DATA DO YOU WANT TO USE? (0, 1, 2, ...)	1
REID VAPOR PRESSURE (psia)	6.00
VAPOR MOLECULAR WEIGHT (Mv)	50.00
USING THE CODES ABOVE, WHAT TYPE OF ORGANIC LIQUID (0, 1, 2, ...)	0
VOC CONTROL EFFICIENCY	10.00
TANK SHELL DIAMETER (FEET)	18.00
TANK SHELL HEIGHT, Hs (FEET)	10.40
VENT VACUUM (ENTER "-" FOLLOWED BY A VALUE IN PSIG)	-0.06
VENT PRESSURE (POSITIVE psig)	0.06
TANK ID	Transportable
TANK USE	Produced Fluids
SJVUAPCD PERMIT#	C-315-37-0
CONE OR DOME ROOF (C/D)	C
MAXIMUM TOTAL DAILY THROUGHPUT (BBL/DAY)	250.00
MIN LIQUID HEIGHT (USE 0.0 FT FOR DEFAULT)	0.00
TANK ROOF PAINT CONDITION, GOOD OR POOR (G/P)	G
TANK ROOF PAINT COLOR, SEE ABOVE (A/G/R/W)	G
TANK ROOF PAINT SHADE, SEE ABOVE (S/D/L/M/P/N)	M
TANK SHELL PAINT CONDITION, GOOD OR POOR (G/P)	G
TANK SHELL PAINT COLOR, SEE ABOVE (A/G/R/W)	G
TANK SHELL PAINT SHADE, SEE ABOVE (S/D/L/M/P/N)	M

**MODIFIABLE DATA**	
-----	----
-----	----
-----	Y
-----	--N/R--
-----	3.0
-----	----
CONE ROOF	
GIVEN ROOF HEIGHT OR SLOPE (H/S)	S
-----	0.94
TANK CONE ROOF SLOPE, S <sub>r</sub> (DEFAULT=0.0625) (ft/ft)	0.0625
-----	----
-----	1.00
DO YOU WANT TO ENTER A MAX LIQUID HEIGHT? (Y/N)	N
-----	----
DEFAULT MAX LIQUID HEIGHT (SHELL HT - 2.0 FT)	8.40
DO YOU WANT TO ENTER AN AVERAGE LIQUID HEIGHT? (Y/N)	Y
-----	----
ENTER AVERAGE LIQUID HEIGHT (ft)	8.0
IS TANK CONSTANT LEVEL? (Y/N)	N
-----	----
ARE THE CONTENTS OF THE TANK HEATED? (Y/N)	N
-----	----

# Annual <sup>output</sup> PE

TANK ID	TANK USE	SJVUAPCD PERMIT #	TANK TYPE H OR V	SHELL DIMENSIONS		CAPACITY (BBL)	ROOF TYPE (C/D)	VENT PSIG	
				D (FT)	Hs (FT)			VAC.	PRESS.
3	Produced Fluids	C-315-37-0	VERTICAL	18.0	10.4	471.4	CONE	-0.06	0.06

TANK ROOF		PAINT FACTOR	LIQUID DATA				CONSTANT LEVEL?	VAPOR MOL. WT.	VOC CNTRL %EFF (w/w)
COND.	COLOR		TYPE	Ht=H(lx)	Kp	RVP			
GOOD	GRAY	0.68	CRUDE	8.4	0.75	6.00	NO	50.00	10.0

## \*\*UNCONTROLLED EMISSIONS\*\*

CALENDAR		SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/MON)	TURNOVER PER MON.	FAC-(Kn)	VOC (LBM/MONTH)			TOTAL (LBM/QTR)
QUARTER	MONTH						Ls	Lw	TOTAL (Lt)	
FIRST	JANUARY	60.88	3.76	7750	20.36	0.292	53.11	318.70	371.80	1256.24
	FEBRUARY	65.13	4.07	7000	18.39	0.292	76.56	311.57	388.13	
	MARCH	71.56	4.57	7750	20.36	0.292	108.49	387.82	496.31	
SECOND	APRIL	74.79	4.85	7500	19.70	0.292	177.71	397.68	575.39	2033.78
	MAY	80.34	5.34	7750	20.36	0.292	247.03	453.11	700.14	
	JUNE	84.63	5.75	7500	19.70	0.292	285.98	472.26	758.24	
THIRD	JULY	86.88	5.98	7750	20.36	0.292	316.00	507.09	823.09	2223.78
	AUGUST	84.72	5.76	7750	20.36	0.292	274.79	488.72	763.51	
	SEPTEMBER	79.91	5.30	7500	19.70	0.292	201.94	435.24	637.19	
FOURTH	OCTOBER	73.21	4.71	7750	20.36	0.292	141.76	399.47	541.23	1316.46
	NOVEMBER	65.32	4.08	7500	19.70	0.292	76.03	334.98	411.01	
	DECEMBER	60.32	3.72	7750	20.36	0.292	48.87	315.35	364.22	

## \*\*CONTROLLED EMISSIONS (BASED ON MONTHLY CALCULATIONS)\*\*

CALENDAR		SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/QTR)	TURNOVER PER QTR.	FAC-(Kn)	VOC (LBM/QTR)		
QUARTER	MONTH						Ls	Lw	TOTAL (Lt)
FIRST	JAN-MAR	65.86	4.13	22500	59	0.292	214	916	1131
SECOND	APR-JUN	79.92	5.31	22750	60	0.292	640	1191	1830
THIRD	JUL-SEP	83.84	5.68	23000	60	0.292	713	1288	2001
FOURTH	OCT-DEC	66.28	4.17	23000	60	0.292	240	945	1185
QUARTERLY AVERAGE		73.97	4.82	22813			452	1085	1537
DAILY AVERAGE (LB/DAY, BASED ON MONTHLY CALCULATIONS)							5.0	11.9	16.8
ANNUAL EMISSIONS (LB/YEAR, BASED ON MONTHLY CALCULATIONS)							1807	4340	6147

Tank Emission Calculation Spreadsheet, version 01/23/03

Appendix B  
Fugitive VOC Emissions

**FACILITY NAME**

**Kettleman Light Oil Portable Tanks**

EPA Protocol for Equipment Leak Emission Estimate

*Table 2-4. Oil and Gas Production Operations*

*Average Emission Factors*

Weight percentage of VOC in the total organic compounds in gas (neglect non-organics)? 100 %

Weight percentage of VOC in the total organic compounds in oil (neglect non-organics)? 100 %

Equipment Type	Service	Screening Value EF - TOC		Component Count	VOC emissions (lb/day)
		(kg/hr/source)	(lb/day/source)		
Valves	Gas	4.5E-03	2.381E-01	0	0.00
	Heavy Oil	8.4E-06	4.445E-04	0	0.00
	Light Oil	2.5E-03	1.323E-01	6	0.79
	Water/Oil	9.8E-05	5.185E-03	0	0.00
Pump Seals	Gas	2.4E-03	1.270E-01	0	0.00
	Heavy Oil	N/A	N/A	0	N/A
	Light Oil	1.3E-02	6.878E-01	1	0.69
	Water/Oil	2.4E-05	1.270E-03	0	0.00
Others	Gas	8.8E-03	4.656E-01	0	0.00
	Heavy Oil	3.2E-05	1.693E-03	0	0.00
	Light Oil	7.5E-03	3.968E-01	3	1.19
	Water/Oil	1.4E-02	7.408E-01	0	0.00
Connectors	Gas	2.0E-04	1.058E-02	0	0.00
	Heavy Oil	7.5E-06	3.968E-04	0	0.00
	Light Oil	2.1E-04	1.111E-02	25	0.28
	Water/Oil	1.1E-04	5.820E-03	0	0.00
Flanges	Gas	3.9E-04	2.064E-02	0	0.00
	Heavy Oil	3.9E-07	2.064E-05	0	0.00
	Light Oil	1.1E-04	5.820E-03	25	0.15
	Water/Oil	2.9E-06	1.534E-04	0	0.00
Open-ended Lines	Gas	2.0E-03	1.058E-01	0	0.00
	Heavy Oil	1.4E-04	7.408E-03	0	0.00
	Light Oil	1.4E-03	7.408E-02	2	0.15
	Water/Oil	2.5E-04	1.323E-02	0	0.00

**Total VOC Emissions = 3.2 lb/day**

Appendix C  
CO2e Calculations for PSD

### CO<sub>2e</sub> calculation for C-273-18-3: 326 BHP natural gas-fired IC engine

Fuel consumption = 2,255 scf/hr (from BHP rating and District calculator)

40 CFR 98 Subpart C, Table C-1

Mass of each greenhouse gas emitted:

Mass CO<sub>2</sub> = 2,255 scf/hr × 1,050 Btu/scf × 1 MMBtu/ 10<sup>6</sup> Btu × 53.02 kg CO<sub>2</sub>/MMBtu × 2.2 lb/ 1 kg × 1 ton/ 2,000 lb × 8,760 hr/yr = 1,210 short ton CO<sub>2</sub>/yr

Mass CH<sub>4</sub> = 2,255 scf/hr × 1,050 Btu/scf × 1 MMBtu/ 10<sup>6</sup> Btu × 1.0 × 10<sup>-3</sup> kg CH<sub>4</sub>/MMBtu × 2.2 lb/ 1 kg × 1 ton/ 2,000 lb × 8,760 hr/yr = 2.3 × 10<sup>-2</sup> short ton CH<sub>4</sub>/yr

Mass N<sub>2</sub>O = 2,255 scf/hr × 1,050 Btu/scf × 1 MMBtu/ 10<sup>6</sup> Btu × 1.0 × 10<sup>-4</sup> kg N<sub>2</sub>O/MMBtu × 2.2 lb/ 1 kg × 1 ton/ 2,000 lb × 8,760 hr/yr = 2.3 × 10<sup>-3</sup> short ton N<sub>2</sub>O/yr

CO<sub>2e</sub> calculation: GWP = global warming potential (100 yr)

CO<sub>2e</sub> = (GWP<sub>CO<sub>2</sub></sub> × Mass CO<sub>2</sub>) + (GWP<sub>CH<sub>4</sub></sub> × Mass CH<sub>4</sub>) + (GWP<sub>N<sub>2</sub>O</sub> × Mass N<sub>2</sub>O)

CO<sub>2e</sub> = (1 × 1,210 ton CO<sub>2</sub>) + (21 × 2.3 × 10<sup>-2</sup> short ton CH<sub>4</sub>) + (310 × 2.3 × 10<sup>-3</sup> short ton N<sub>2</sub>O)  
**CO<sub>2e</sub> = 1,211 short tons**

### CO<sub>2e</sub> calculation for C-273-19-3: 326 BHP natural gas-fired IC engine

Same as above for C-273-18-3.

**CO<sub>2e</sub> = 1,211 short tons**

### CO<sub>2e</sub> calculation for C-273-20-3: 326 BHP natural gas-fired IC engine

Same as above for C-273-18-3.

**CO<sub>2e</sub> = 1,211 short tons**

### CO<sub>2e</sub> calculation for C-273-21-1: glycol dehydration with 70,000 Btu/hr reboiler

Mass of each greenhouse gas emitted:

Mass CO<sub>2</sub> = 70,000 Btu/hr × 1 MMBtu/ 10<sup>6</sup> Btu × 53.02 kg CO<sub>2</sub>/MMBtu × 2.2 lb/ 1 kg × 1 ton/ 2,000 lb × 8,760 hr/yr = 35.8 short ton CO<sub>2</sub>/yr

Mass CH<sub>4</sub> = 70,000 Btu/hr × 1 MMBtu/ 10<sup>6</sup> Btu × 1.0 × 10<sup>-3</sup> kg CH<sub>4</sub>/MMBtu × 2.2 lb/ 1 kg × 1 ton/ 2,000 lb × 8,760 hr/yr = 6.7 × 10<sup>-4</sup> short ton CH<sub>4</sub>/yr

Mass N<sub>2</sub>O = 70,000 Btu/hr × 1 MMBtu/ 10<sup>6</sup> Btu × 1.0 × 10<sup>-4</sup> kg N<sub>2</sub>O/MMBtu × 2.2 lb/ 1 kg × 1 ton/ 2,000 lb × 8,760 hr/yr = 6.7 × 10<sup>-5</sup> short ton N<sub>2</sub>O/yr

CO<sub>2e</sub> calculation: GWP = global warming potential (100 yr)

CO<sub>2e</sub> = (GWP<sub>CO<sub>2</sub></sub> × Mass CO<sub>2</sub>) + (GWP<sub>CH<sub>4</sub></sub> × Mass CH<sub>4</sub>) + (GWP<sub>N<sub>2</sub>O</sub> × Mass N<sub>2</sub>O)



$$\text{CO}_{2e} = (1 \times 35.8 \text{ ton CO}_2) + (21 \times 6.7 \times 10^{-4} \text{ short ton CH}_4) + (310 \times 6.7 \times 10^{-5} \text{ short ton N}_2\text{O})$$

$$\text{CO}_{2e} = 35.8 \text{ short tons}$$

**CO<sub>2e</sub> calculation for C-273-22-1: glycol dehydration with 70,000 Btu/hr reboiler**

Same as above for C-273-21-1.

$$\text{CO}_{2e} = 35.8 \text{ short tons}$$

**CO<sub>2e</sub> calculation for C-273-23-1: glycol dehydration with 70,000 Btu/hr reboiler**

Same as above for C-273-21-1.

$$\text{CO}_{2e} = 35.8 \text{ short tons}$$

Chevron USA (C-273 and C-315) has three engines and three glycol dehydration operations that contribute to its SSPE for CO<sub>2e</sub>. It has another engine, a transportable diesel engine that is excluded from the SSPE<sub>CO<sub>2e</sub></sub> because it is non-road. Only front-line tanks where flashing losses are possible (as defined in Rule 4401) are a source of GHG emissions. However, as the amount of GHG front-line tanks produce is small compared to combustion sources, front-line tank emissions need only be quantified for facilities with GHG emission close to the PSD major source threshold. In the present case, this facility is not close to the PSD major source threshold, so no effort will be made to identify front-line tanks or quantify their emissions.

$$\text{SSPE}_{\text{CO}_2e} = \Sigma \text{PE}_{\text{CO}_2e} = 3 \times 1,211 \text{ tons} + 3 \times 35.8 \text{ tons} = 3,740 \text{ tons}$$

## Appendix D

### Quarterly Net Emissions Change and PAS Emissions Profile

## Quarterly Net Emissions Change (QNEC)

The QNEC is entered into PAS database and subsequently reported to CARB. For seasonal sources, or where the emissions differ quarter to quarter, then evaluate each pollutant for each quarter separately. The QNEC is calculated for each pollutant, for each unit, as the difference between the post-project quarterly potential to emit (PE2) and the pre-project quarterly potential to emit (PE1).

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

QNEC = PE2 - PE1, where:

- QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
- PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.
- PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

### ATCs C-315-37-0 through C-40-0:

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

$$\begin{aligned} \text{PE2}_{\text{quarterly}} &= \text{PE2}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 7,315 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 1,829 \text{ lb VOC/qtr} \end{aligned}$$

$$\begin{aligned} \text{PE1}_{\text{quarterly}} &= \text{PE1}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 0 \text{ lb VOC/qtr} \end{aligned}$$

<b>Quarterly NEC [QNEC]</b>			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO <sub>x</sub>	0	0	0
SO <sub>x</sub>	0	0	0
PM <sub>10</sub>	0	0	0
CO	0	0	0
VOC	1,829	0	1,829

Permit #: C-315-37-0	<b>Last Updated</b>
Facility: CHEVRON USA	03/18/2013 CLERICOB

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	7315.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	33.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	1828.0
Q2:	0.0	0.0	0.0	0.0	1829.0
Q3:	0.0	0.0	0.0	0.0	1829.0
Q4:	0.0	0.0	0.0	0.0	1829.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:					2743.0
Q2:					2743.0
Q3:					2743.0
Q4:					2743.0

Permit #: C-315-38-0	<b>Last Updated</b>
Facility: CHEVRON USA	03/18/2013 CLERICOB

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	7315.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	33.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	1828.0
Q2:	0.0	0.0	0.0	0.0	1829.0
Q3:	0.0	0.0	0.0	0.0	1829.0
Q4:	0.0	0.0	0.0	0.0	1829.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:					2743.0
Q2:					2743.0
Q3:					2743.0
Q4:					2743.0

Permit #: C-315-39-0	<b>Last Updated</b>
Facility: CHEVRON USA	03/18/2013 CLERICOB

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	7315.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	33.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	1828.0
Q2:	0.0	0.0	0.0	0.0	1829.0
Q3:	0.0	0.0	0.0	0.0	1829.0
Q4:	0.0	0.0	0.0	0.0	1829.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:					2743.0
Q2:					2743.0
Q3:					2743.0
Q4:					2743.0

Permit #: C-315-40-0	<b>Last Updated</b>
Facility: CHEVRON USA	03/18/2013 CLERICOB

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	7315.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	33.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	1828.0
Q2:	0.0	0.0	0.0	0.0	1829.0
Q3:	0.0	0.0	0.0	0.0	1829.0
Q4:	0.0	0.0	0.0	0.0	1829.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:					2743.0
Q2:					2743.0
Q3:					2743.0
Q4:					2743.0

## Appendix E

### BACT Guideline and Top-Down Analysis



San Joaquin Valley  
Unified Air Pollution Control District

**Best Available Control Technology (BACT) Guideline 7.3.1\***

Last Update 10/1/2002

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

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

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

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

**\*This is a Summary Page for this Class of Source**

## **Top Down BACT Analysis for VOC**

VOC emissions when the tanks are being filled through displacement of VOC-laden air (i.e. working losses), through intake and expel of VOC laden air as a result of diurnal temperature changes.

### **Step 1 - Identify All Possible Control Technologies**

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

*Technologically feasible:*

99% control (waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of uncondensed vapors to gas pipeline or reinjection to formation (if appropriate wells are available).

*Achieved in Practice:*

PV relief valve set to within 10% of maximum allowable pressure.

### **Step 2 - Eliminate Technologically Infeasible Options**

All of the above identified control options are technologically feasible.

### **Step 3 - Rank Remaining Control Technologies by Control Effectiveness**

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

### **Step 4 - Cost Effectiveness Analysis**

The applicant has proposed the use of a PV-vent on the proposed transportable tanks. As this is not equivalent to the most stringent VOC performance level identified by BACT guideline 7.3.1, a cost effectiveness analysis is required.

The District's Best Available Control Technology (BACT) Policy, APR 1305, states:

*Except for alternate basic equipment or process, a new cost effectiveness analysis is not required if cost effective analysis for the specific piece of equipment or operation was conducted by the District within 12 months preceding the date an application is received. A copy of the old cost effectiveness analysis shall be*

*attached to the Application Review, and its applicability must be documented in the Application Review.*

A cost analysis was performed in ATC project C-1120796, which was finalized on June 7, 2012 for similar tanks. However, as the capital costs quoted in that evaluation were three years old, more recent cost data was used (included with this appendix) which was lower than what Chevron supplied with their application. Nevertheless, the present cost analysis will use Chevron's proposed annual maintenance and operating costs (on a per unit basis).

Since the tanks are portable and intended to operate at various locations independent of each other, each tank would require its own compressor skid. As a conservative estimate, the cost of a VOC destruction device will not be included.

The present value capital cost of one compressor skid = \$83,262.86

The capital cost annualized over 10 years = \$13,550.65

Annual operating costs = \$47,653.00

Annual cost of vapor control = \$61,203.65

The amount of VOC reduced by a vapor collection and control system from each tank will be 99% (per BACT requirement) of the non-fugitive VOC emissions calculated for each tank, i.e.  $0.99 \times 3.07 \text{ tons} = 3.04 \text{ tons VOC}$ .

VOC reduced = 3.04 tons VOC/year

Cost effectiveness =  $(\$61,203.65) \div (3.04 \text{ tons}) = \$20,133/\text{ton}$

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

## **Step 5 - Select BACT**

PV relief valve set to within 10% of maximum allowable pressure of the tank meets BACT requirements.

# Mariott Welding Inc.

---

Estimated labor cost to fabricate and install six inch vapor recovery on wash tank & three stock tanks.

Including setting vru compressor, scrubbers & discharge line to heater.

Labor \$18,500

Dennis Mariott



4201 Armour Avenue  
Bakersfield, CA 93308-4551  
Office (661) 322-0153  
Fax (661) 322-6469

**2/06/12**

**E B Resources Natural Resources  
34740 Merced Ave.  
Bakersfield, CA 93308  
Subject: Vapor Recovery Units  
Att: Greg Youngblood**

**Dear Mr. Youngblood,**

**Thank you for the opportunity to supply pricing on your VRU project.**

**We are offering skid mounted units with 40 HP, compressors, motors, belt drives, oilers, separator, pumps complete as your existing units, except with a second compressor & motor mounted on skid for full back up protection.**

**Price: One complete unit \$ 48,654.00 plus frt.**

**If you need additional information, please contact us.**

**Respectfully**

A handwritten signature in black ink that reads 'Doug Schofield'. The signature is written in a cursive, flowing style.

**Doug Schofield Sales**



12422 JOMANI RD  
BAKERSFIELD, CA 93312  
LICENSE #764356  
OFFICE (661)750-1517  
FAX (661) 829-1866

Date: February 10, 2012

Submitted To:

Greg Youngblood  
E&B Natural Resources

Work To Be Performed At:

Vapor Recovery Unit

We hereby propose to furnish the materials and perform the labor necessary for the completion of:

**Panel, disconnect, underground and labor for the vapor recovery unit**

All material is guaranteed to be as specified, and the above work to be performed in accordance with the drawings and specifications submitted for above work, and completed in a substantial workmanlike manner for the sum of **Fifteen thousand thousand dollars (\$ 15,000.00 )** with payments to be made as follows: **progress payments**

Respectfully Submitted,

Gold Coast Electric, Inc.

Michael C. Heinemann  
President

Any alteration or deviation from above specifications involving extra costs will be executed only upon written order, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents, or delays beyond our control.

**Acceptance of Proposal**

The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payments will be made as outlined above.

Date

Signature

Note – This proposal may be withdrawn by us if not accepted within 30 days

## Appendix F

### Statewide Compliance Certification



**Donald Puckett**  
General Manager - Operations

**San Joaquin Valley SBU**  
Chevron North America  
Exploration and Production  
P. O. Box 1392

March 4, 2013

Mr. Seyed Sadredin  
San Joaquin Valley Air Pollution Control District  
34946 Flyover Court  
Bakersfield, CA 93308

**RE: Statewide Compliance Certification**

Dear Mr. Sadredin:

As required under District Rule 2201, Subsection 4.15.2 and Section 173(a)(3) of the Clean Air Act, 42 U.S.C. Section 7503, Chevron U.S.A. Inc. hereby submits this letter of certification regarding statewide compliance as of this date.

Based on reasonable inquiry and to the best of my knowledge and belief, the major stationary sources, as defined in the jurisdiction where the facilities are located, that are owned or operated by Chevron U.S.A. Inc. in the State of California as listed below are subject to emission limitations and are in compliance or on a schedule for compliance with all applicable emission limitations and standards under the Clean Air Act:

- El Segundo Refinery
- Richmond Refinery
- Banta Marketing Terminal
- Huntington Beach Marketing Terminal
- Montebello Marketing Terminal
- Sacramento Marketing Terminal
- Van Nuys Marketing Terminal
- Cross Valley Careras Gas Compressor Facility in Kern County
- Kettleman City Pump Station in Kings County
- 27G Pump Station in Kern County
  
- San Joaquin Valley Business Unit:
  - Fresno County Heavy Oil Source (Coalinga)
  - Fresno County Natural Gas Source (Coalinga)
  - Kern County Central Heavy Oil Source (Kern River)
  - Kern County Western Heavy Oil Source (Midway Sunset & Cymric)
  - Kern County Western Light Oil Source (Midway Sunset, Cymric & Lost Hills)
  - Kern County Western Gas Source (Cymric & Lost Hills)
  - San Ardo (Monterey County)



Mr. Seyed Sadredin  
Statewide Compliance Certification  
March 4, 2013  
Page 2

- Global Power (Joint Venture Facilities):
  - Coalinga Cogeneration Company in Fresno County
  - Kern River Cogeneration Company in Kern County
  - Mid-Set Cogeneration Company in Kern County
  - Salinas River Cogeneration Company in Monterey County
  - Sargent Canyon Cogeneration Company in Monterey County
  - Sunrise Power Company LLC in Kern County
  - Sycamore Cogeneration Company in Kern County

Please telephone Martin Lundy at (661) 654-7142 if there are questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Donald Puckett', with a stylized flourish at the end.

Donald Puckett  
General Manager - Operations

Appendix G  
Risk Management Review Memo

# San Joaquin Valley Air Pollution Control District Risk Management Review

To: Brian Clerico – Permit Services  
 From: Cheryl Lawler – Technical Services  
 Date: January 14, 2013  
 Facility Name: Chevron USA  
 Location: Kettleman North Dome, Kings County  
 Application #(s): C-315-37-0, 38-0, 39-0, 40-0 & C-273  
 Project #: C-1123349

---

## A. RMR SUMMARY

<b>RMR Summary for C-315</b>			
<b>Categories</b>	<b>Four Transportable Tanks (Units 37-0 thru 40-0)</b>	<b>Project Totals</b>	<b>Facility Totals</b>
<b>Prioritization Score</b>	0.02	0.02	0.05
<b>Acute Hazard Index</b>	N/A <sup>1</sup>	N/A <sup>1</sup>	0.00
<b>Chronic Hazard Index</b>	N/A <sup>1</sup>	N/A <sup>1</sup>	0.00
<b>Maximum Individual Cancer Risk</b>	N/A <sup>1</sup>	N/A <sup>1</sup>	0.00
<b>T-BACT Required?</b>	<b>No</b>		
<b>Special Permit Conditions?</b>	<b>Yes</b>		

1. The prioritization score was less than 1, therefore, no further analysis was required.

### Proposed Permit Conditions

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

#### Units 37-0 thru 40-0

The crude oil/produced fluids transportable tanks shall not operate within 0.75 miles of the nearest receptor.

## B. RMR REPORT

### Project Description

Technical Services received a request on January 10, 2013, to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for four transportable fixed-roof crude oil/produced fluids tanks. The four tanks will be allowed to operate at two distinct facilities (C-315 and C-273). The tanks will be permitted under Facility ID C-315.

Because the AAQA was required for VOC emissions only, and since there are no ambient standards for VOCs, an AAQA was not required or performed for this project.

### Analysis

For Facility ID C-315, toxic emissions for the proposed units were calculated using 'Oilfield Equipment Fugitives Heavy Crude Oil' emission factors. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905, March 2, 2001), risks from the proposed units toxic emissions were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEARTs database. The prioritization score for the proposed units was less than 1 (see RMR Summary Table). Therefore, no further analysis was necessary.

The following parameters were used for the review:

#### Analysis Parameters

Units 37-0 thru 40-0			
Oilfield VOC Emissions (lb/hr)	1.4 each tank	Oilfield VOC Emissions (lb/yr)	7,315 each tank
Closest Receptor Residence (m)	2414	Closest Receptor Business (m)	1207
Area Source Length (m)	5.49	Area Source Height (m)	3.17

**Units 37-0 thru 40-0 are also proposed to operate at Facility ID C-273. The proposed permit conditions also apply to this facility.**

Technical Services performed a prioritization using the District's HEARTs database. Emissions were calculated using "Oilfield Equipment Fugitives Heavy Crude Oil" emission factors. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905, March 2, 2001), risks from the proposed units toxic emissions were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEARTs database. The prioritization score for the facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined analysis was required and performed. AERMOD was used, with the parameters outlined below and concatenated 5-year meteorological data for Hanford to determine the maximum dispersion factor at the nearest residential and business receptors. These dispersion factors were input into the HARP model to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

Below are the RMR Summary results for when the tanks are operated at Facility ID C-273.

Categories	Four Transportable Tanks (Units 37-0 thru 40-0)	Project Totals	Facility Totals
Prioritization Score	0.02	0.02	>1
Acute Hazard Index	0.54	0.54	0.54
Chronic Hazard Index	0.00	0.00	0.00
Maximum Individual Cancer Risk	3.82E-07	3.82E-07	1.61E-06
T-BACT Required?	No		
Special Permit Conditions?	Yes		

## Conclusions

### C-315

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

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

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.

### C-273

The acute and chronic hazard indices were below 1.0; and the cancer risk is less than the 1.0 in a million threshold. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

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

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  
Facility Summary

Appendix H  
Historical TVP and RVP Data

### 2011 Kettleman HOST VP Sampling

Permit No	Description	Rating	Units	Equip Type	Section	Gravity (API)	Temp (F)	RVP (psi)	TVP (psi)	Date
C 276-38	29J T 140	400	Bbls	Tank	29J	43.6	86	4.60	3.60	8/17/2011
C 276 39	29J T-150	400	Bbls	Tank	29J	44.1	86	5.50	4.30	8/17/2011
C 276-40	29J T 120	400	Bbls	Tank	29J	7.9	82	NA	ND	8/17/2011
C-276-41	29J T-130	400	Bbls	Tank	29J	8.0	82	NA	0.02	8/17/2011
C-276-42	29J T-110	500	Bbls	Tank	29J	7.6	90	NA	0.04	8/17/2011

### 2010 Kettleman HOST VP Sampling

Permit No	Description	Rating	Units	Equip Type	Section	Gravity (API)	Temp (F)	RVP (psi)	TVP (psi)	Date
C-276-38	29J T-140	400	Bbls	Tank	29J	31.7	87	3.700	2.900	7/14/2010
C-276-39	29J T-150	400	Bbls	Tank	29J	Not in service				
C-276-40	29J T-120	400	Bbls	Tank	29J	6.9	88	NA	0.241	7/14/2010
C-276-41	29J T-130	400	Bbls	Tank	29J	Not in service				
C-276-42	29J T-110	500	Bbls	Tank	29J	31.8	89	4.300	3.600	7/14/2010
C-315-30	27Q T-1	500	Bbls	Tank	27Q	Not in service				
C-315-31	27Q T-2	400	Bbls	Tank	27Q	Not in service				
C-315-32	27Q T-3	400	Bbls	Tank	27Q	Not in service				



Chevron U.S.A. Inc.

COALINGA AREA - KINGS COUNTY ZONE

REFER TO LEGEND BELOW ----->

LEASE NAME	TANK LOCATION			TANK SETTING ID NO	CHEVRON TANK ID	SJVUAPCD KINGS ZONE PERMIT NO	TANK DIA (ft)	TANK HEIGHT (ft)	LIQUID API GRAVITY	VAPOR PRESSURE TRU/MOD	(A)	(B)	(C)	
	SEC	TWN	RNG								TANK SIZE BBLs	PRESS RELIEF VALVE SETTING (INCHES OF WC)	SYSTEMS NUMBER	COMPRESSOR HORSEPOWER
SEC. 1P	1	22S	17E	T/S #2	CO-T-43	9020 B	15	16	34	2.90	503	3"PR/1"VAC	21	300
SEC. 16Q	16	22S	18E	TK SETT	CO-T-45	9020 D	15	16	34	3.69	503	3"PR/1"VAC	21	300
SEC. 27Q	27	22S	18E	TK SETT	CO-T-46	9020	21.6	16	34	2.70	1044	3"PR/1"VAC	21	300
SEC. 27Q	27	22S	18E	TK SETT	CO-T-47	9020 F	39	12	34	2.70	2552	3"PR/1"VAC	21	300
SEC. 27Q	27	22S	18E	TK SETT	CO-T-48	9020 G	30	16	34	2.70	2013	3"PR/1"VAC	21	300
SEC. 27Q	27	22S	18E	TK SETT	TK-2	9020 H	21.6	16	34	2.70	1044	3"PR/1"VAC	21	300
SEC. 1U	1	23S	18E	WELL #58	CO-T-49	9020 J	15.5	16	34	1.5	537	3"PR/1"VAC	23	5

A = TANKS THAT ARE 471 BBLs OR GREATER WITH A TVP OF 1.5 OR GREATER

B = GROUP OF TANKS THAT WILL SHARE A COMMON VAPOR RECOVERY SYSTEM

C = COMPRESSORS IN PLACE OR TO BE INSTALLED

Appendix I  
Draft ATCs

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** C-315-37-0

**LEGAL OWNER OR OPERATOR:** CHEVRON USA  
**MAILING ADDRESS:** P O BOX 1392  
BAKERSFIELD, CA 93302-1302

**LOCATION:** KETTLEMAN HILLS  
KINGS COUNTY, CA

**EQUIPMENT DESCRIPTION:**

UP TO 471 BBL FIXED-ROOF CRUDE OIL/PRODUCED FLUIDS TANK WITH PV VALVE AUTHORIZED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE KETTLEMAN NORTH DOME UNIT OILFIELD (WHICH INCLUDES FACILITIES C-273, C-315, AND CONTIGUOUS AND ADJACENT PROPERTIES)

**CONDITIONS**

1. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 2,743 lb, 2nd quarter - 2,743 lb, 3rd quarter - 2,743 lb, and fourth quarter - 2,743 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC certificate specified below. [District Rule 2201]
2. ERC Certificate Number S-3601-1 (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]
3. This tank is authorized to operate at CUSA's Kettleman North Dome Unit stationary source(s) which includes facilities C-273 and C-315. [District Rule 2201]
4. The equipment shall not be located within 1,000 feet of the outer boundary of any K-12 school. [CH&SC 42301.6]
5. Storage tanks shall not operate within 0.75 miles of the nearest business or residence. [District Rule 4102]
6. Permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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  
C-315-37-0: Apr 3 2013 4:52PM - CLERICOB : Joint Inspection NOT Required

7. The provisions of this permit allow for this tank to be connected to a vapor control system where the VOC destruction device (e.g. safety flare or well test flare) is owned and operated by an entity other than Chevron USA and the VOC destruction device is not part of Chevron USA's stationary source. Chevron USA shall obtain an Authority to Construct permit prior to connecting this tank to a vapor control system where the VOC destruction device (e.g. an IC engine or heater, regardless of permit or permit-exempt status) is part of Chevron USA's stationary source [District Rules 2201 and 4623]
8. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings and properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in a leak free condition except when the operating pressure exceeds the valve's set pressure. [District Rule]
9. This tank shall only store, place, or hold organic liquid with a Reid Vapor Pressure (RVP) of less than 6.0 psia under all storage conditions. [District Rules 2201 and 4623]
10. Tank liquid throughput shall not exceed 750 barrels per day nor 91,250 barrels per year. [District Rule 2201]
11. Except as otherwise allowed on this permit, this tank shall be maintained in a leak-free condition. [District Rule 4623]
12. When the tank is connected to a vapor control system, any tank gauging or sampling device on a tank vented to the vapor control system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]
13. When the tank is connected to a vapor control system, all piping, valves, and fittings on the vapor control system shall be constructed and maintained in a leak-free condition [District Rule 4623]
14. At least once per year, operator shall visually inspect the 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, 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 4623]
15. 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 4623]
16. 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 4623]
17. 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 4623]
18. 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 4623]
19. 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 a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 4623]
20. Any component found to be leaking on two consecutive annual inspections is in violation of Rule 4623, even if covered under the voluntary inspection and maintenance program. [District Rule 4623]

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CONDITIONS CONTINUE ON NEXT PAGE

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 Rule 1070]
22. This permit authorizes tank cleaning that is not the result of breakdowns or poor maintenance as a routine maintenance activity. [District Rule 4623]
23. This tank shall not be required to de-gas before commencing cleaning activities. All other applicable requirements shall be complied with before, during, and after tank cleaning activities. [District Rule 4623]
24. If tank is left on site for more than six months, permittee shall notify the APCO in writing at least three (3) days prior to performing tank interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank, 2) the date and time that tank cleaning activities will begin, 3) the method to be used to clean the tank, including any solvents to be used, and 4) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623]
25. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623]
26. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623]
27. If tank is left on site for more than six months and contained organic liquid with a TVP of 1.5 psia or greater, during sludge removal, the operator shall control emissions from the sludge receiving vessel by operating an APCO-approved vapor control device that reduces emissions of organic vapors by at least 95%. [District Rule 4623]
28. If tank is left on site for more than six months and contained organic liquid with a TVP of 1.5 psia or greater, Permittee shall only transport removed sludge in closed, liquid leak-free containers. [District Rule 4623]
29. If tank is left on site for more than six months and contained organic liquid with a TVP of 1.5 psia or greater, Permittee shall store removed sludge, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rules 2020 and 4623]
30. Permittee shall maintain records of dates of start and completion dates/times of tank cleaning activities, and methods of cleaning used. [District Rule 4623]
31. Except when the tank is connected to a vapor control system, permittee shall conduct API gravity testing and Reid Vapor Pressure (RVP) or True Vapor Pressure (TVP) testing of the organic liquid stored in this tank whenever there is a change in the source or type of organic liquid stored in this tank. [District Rule 4623]
32. In lieu of testing the organic liquid from each uncontrolled fixed roof tank at this battery, a single RVP or TVP test of the organic liquid from a representative tank may be conducted provided the following conditions are met: (1) The selection of representative tank is submitted in writing to the APCO, and written approval is granted by the APCO prior to conducting the test; (2) The representative tank shall be the first line tank in the tank battery, i.e. the tank that is first receiving the produced fluids mixture of oil, water, and gases from the crude oil production wells; (3) The organic liquid in the representative tank is the same and came from the same source as the organic liquid stored by the other tanks being represented; (4) The TVP and storage temperature of the stored organic liquid of the representative tank to be tested are the same or higher than those of the tanks it is to represent. To ensure this condition is met, the TVP test should be conducted at the temperature of the tank with the highest storage temperature. [District Rule 4623]
33. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623]

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CONDITIONS CONTINUE ON NEXT PAGE

34. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "Test Method for Vapor Pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623]
35. For crude oil with an API gravity of greater than 26 degrees, the RVP shall be determined using ASTM D 323 (Test Method for Vapor Pressure for Petroleum Products). Oil with an API gravity range of greater than 26 up to 30 may be determined using equivalent RVP/TVP test methods approved by APCO, ARB and US EPA. [District Rule 4623]
36. The operator shall submit a record of the RVP/TVP and API gravity testing required by this permit to the APCO within 45 days of the completion of the test. The record shall include the tank identification number, PTO number(s), type of organic liquid stored, RVP/TVP and API gravity of the organic liquid stored, test methods used, and a copy of the test results. [District Rule 4623]
37. Permittee shall maintain monthly records of average daily crude oil throughput, a record of the annual throughput, and a record of each organic liquid stored in the tank, including its API gravity, and RVP or TVP (and storage temperature). [District Rules 2201 and 4623]
38. Operator shall maintain a list of number and type of components in liquid service and resulting emission calculations (according to U.S. EPA Publication 453/R-95-017, Table 2-4, Oil and Gas Production Average Emission Factors) demonstrating compliance with the fugitive emissions limit set forth on this permit. [District Rule 2201]
39. Fugitive VOC limit listed does not include components handling produced fluids with an API gravity less than 30 degrees, or components in water/oil service (condensate) with a water content equal to or greater than 50% by weight, or components handling fluid streams with a VOC content of 10% or less by weight. [District Rule 2201]
40. {2490} All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** C-315-38-0

**LEGAL OWNER OR OPERATOR:** CHEVRON USA  
**MAILING ADDRESS:** P O BOX 1392  
BAKERSFIELD, CA 93302-1302

**LOCATION:** KETTLEMAN HILLS  
KINGS COUNTY, CA

**EQUIPMENT DESCRIPTION:**

UP TO 471 BBL FIXED-ROOF CRUDE OIL/PRODUCED FLUIDS TANK WITH PV VALVE AUTHORIZED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE KETTLEMAN NORTH DOME UNIT OILFIELD (WHICH INCLUDES FACILITIES C-273, C-315, AND CONTIGUOUS AND ADJACENT PROPERTIES)

**CONDITIONS**

1. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 2,743 lb, 2nd quarter - 2,743 lb, 3rd quarter - 2,743 lb, and fourth quarter - 2,743 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC certificate specified below. [District Rule 2201]
2. ERC Certificate Number S-3601-1 (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]
3. This tank is authorized to operate at CUSA's Kettleman North Dome Unit stationary source(s) which includes facilities C-273 and C-315. [District Rule 2201]
4. The equipment shall not be located within 1,000 feet of the outer boundary of any K-12 school. [CH&SC 42301.6]
5. Storage tanks shall not operate within 0.75 miles of the nearest business or residence. [District Rule 4102]
6. Permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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**

C-315-38-0 : Apr 3 2013 4:52PM - CLERICOB : Joint Inspection NOT Required

7. The provisions of this permit allow for this tank to be connected to a vapor control system where the VOC destruction device (e.g. safety flare or well test flare) is owned and operated by an entity other than Chevron USA and the VOC destruction device is not part of Chevron USA's stationary source. Chevron USA shall obtain an Authority to Construct permit prior to connecting this tank to a vapor control system where the VOC destruction device (e.g. an IC engine or heater, regardless of permit or permit-exempt status) is part of Chevron USA's stationary source [District Rules 2201 and 4623]
8. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings and properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in a leak free condition except when the operating pressure exceeds the valve's set pressure. [District Rule]
9. This tank shall only store, place, or hold organic liquid with a Reid Vapor Pressure (RVP) of less than 6.0 psia under all storage conditions. [District Rules 2201 and 4623]
10. Tank liquid throughput shall not exceed 750 barrels per day nor 91,250 barrels per year. [District Rule 2201]
11. Except as otherwise allowed on this permit, this tank shall be maintained in a leak-free condition. [District Rule 4623]
12. When the tank is connected to a vapor control system, any tank gauging or sampling device on a tank vented to the vapor control system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]
13. When the tank is connected to a vapor control system, all piping, valves, and fittings on the vapor control system shall be constructed and maintained in a leak-free condition [District Rule 4623]
14. At least once per year, operator shall visually inspect the 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, 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 4623]
15. 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 4623]
16. 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 4623]
17. 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 4623]
18. 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 4623]
19. 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 a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 4623]
20. Any component found to be leaking on two consecutive annual inspections is in violation of Rule 4623, even if covered under the voluntary inspection and maintenance program. [District Rule 4623]

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CONDITIONS CONTINUE ON NEXT PAGE



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 Rule 1070]
22. This permit authorizes tank cleaning that is not the result of breakdowns or poor maintenance as a routine maintenance activity. [District Rule 4623]
23. This tank shall not be required to de-gas before commencing cleaning activities. All other applicable requirements shall be complied with before, during, and after tank cleaning activities. [District Rule 4623]
24. If tank is left on site for more than six months, permittee shall notify the APCO in writing at least three (3) days prior to performing tank interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank, 2) the date and time that tank cleaning activities will begin, 3) the method to be used to clean the tank, including any solvents to be used, and 4) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623]
25. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623]
26. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623]
27. If tank is left on site for more than six months and contained organic liquid with a TVP of 1.5 psia or greater, during sludge removal, the operator shall control emissions from the sludge receiving vessel by operating an APCO-approved vapor control device that reduces emissions of organic vapors by at least 95%. [District Rule 4623]
28. If tank is left on site for more than six months and contained organic liquid with a TVP of 1.5 psia or greater, Permittee shall only transport removed sludge in closed, liquid leak-free containers. [District Rule 4623]
29. If tank is left on site for more than six months and contained organic liquid with a TVP of 1.5 psia or greater, Permittee shall store removed sludge, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rules 2020 and 4623]
30. Permittee shall maintain records of dates of start and completion dates/times of tank cleaning activities, and methods of cleaning used. [District Rule 4623]
31. Except when the tank is connected to a vapor control system, permittee shall conduct API gravity testing and Reid Vapor Pressure (RVP) or True Vapor Pressure (TVP) testing of the organic liquid stored in this tank whenever there is a change in the source or type of organic liquid stored in this tank. [District Rule 4623]
32. In lieu of testing the organic liquid from each uncontrolled fixed roof tank at this battery, a single RVP or TVP test of the organic liquid from a representative tank may be conducted provided the following conditions are met: (1) The selection of representative tank is submitted in writing to the APCO, and written approval is granted by the APCO prior to conducting the test; (2) The representative tank shall be the first line tank in the tank battery, i.e. the tank that is first receiving the produced fluids mixture of oil, water, and gases from the crude oil production wells; (3) The organic liquid in the representative tank is the same and came from the same source as the organic liquid stored by the other tanks being represented; (4) The TVP and storage temperature of the stored organic liquid of the representative tank to be tested are the same or higher than those of the tanks it is to represent. To ensure this condition is met, the TVP test should be conducted at the temperature of the tank with the highest storage temperature. [District Rule 4623]
33. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623]

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CONDITIONS CONTINUE ON NEXT PAGE

34. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "Test Method for Vapor Pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623]
35. For crude oil with an API gravity of greater than 26 degrees, the RVP shall be determined using ASTM D 323 (Test Method for Vapor Pressure for Petroleum Products). Oil with an API gravity range of greater than 26 up to 30 may be determined using equivalent RVP/TVP test methods approved by APCO, ARB and US EPA. [District Rule 4623]
36. The operator shall submit a record of the RVP/TVP and API gravity testing required by this permit to the APCO within 45 days of the completion of the test. The record shall include the tank identification number, PTO number(s), type of organic liquid stored, RVP/TVP and API gravity of the organic liquid stored, test methods used, and a copy of the test results. [District Rule 4623]
37. Permittee shall maintain monthly records of average daily crude oil throughput, a record of the annual throughput, and a record of each organic liquid stored in the tank, including its API gravity, and RVP or TVP (and storage temperature). [District Rules 2201 and 4623]
38. Operator shall maintain a list of number and type of components in liquid service and resulting emission calculations (according to U.S. EPA Publication 453/R-95-017, Table 2-4, Oil and Gas Production Average Emission Factors) demonstrating compliance with the fugitive emissions limit set forth on this permit. [District Rule 2201]
39. Fugitive VOC limit listed does not include components handling produced fluids with an API gravity less than 30 degrees, or components in water/oil service (condensate) with a water content equal to or greater than 50% by weight, or components handling fluid streams with a VOC content of 10% or less by weight. [District Rule 2201]
40. {2490} All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623]

DRAFT

San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-315-39-0

LEGAL OWNER OR OPERATOR: CHEVRON USA  
MAILING ADDRESS: P O BOX 1392  
BAKERSFIELD, CA 93302-1302

LOCATION: KETTLEMAN HILLS  
KINGS COUNTY, CA

### EQUIPMENT DESCRIPTION:

UP TO 471 BBL FIXED-ROOF CRUDE OIL/PRODUCED FLUIDS TANK WITH PV VALVE AUTHORIZED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE KETTLEMAN NORTH DOME UNIT OILFIELD (WHICH INCLUDES FACILITIES C-273, C-315, AND CONTIGUOUS AND ADJACENT PROPERTIES)

## CONDITIONS

1. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 2,743 lb, 2nd quarter - 2,743 lb, 3rd quarter - 2,743 lb, and fourth quarter - 2,743 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC certificate specified below. [District Rule 2201]
2. ERC Certificate Number S-3601-1 (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]
3. This tank is authorized to operate at CUSA's Kettleman North Dome Unit stationary source(s) which includes facilities C-273 and C-315. [District Rule 2201]
4. The equipment shall not be located within 1,000 feet of the outer boundary of any K-12 school. [CH&SC 42301.6]
5. Storage tanks shall not operate within 0.75 miles of the nearest business or residence. [District Rule 4102]
6. Permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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

C-315-39-0 : Apr 3 2013 4:52PM - CLERICOB : Joint Inspection NOT Required

7. The provisions of this permit allow for this tank to be connected to a vapor control system where the VOC destruction device (e.g. safety flare or well test flare) is owned and operated by an entity other than Chevron USA and the VOC destruction device is not part of Chevron USA's stationary source. Chevron USA shall obtain an Authority to Construct permit prior to connecting this tank to a vapor control system where the VOC destruction device (e.g. an IC engine or heater, regardless of permit or permit-exempt status) is part of Chevron USA's stationary source [District Rules 2201 and 4623]
8. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings and properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in a leak free condition except when the operating pressure exceeds the valve's set pressure. [District Rule]
9. This tank shall only store, place, or hold organic liquid with a Reid Vapor Pressure (RVP) of less than 6.0 psia under all storage conditions. [District Rules 2201 and 4623]
10. Tank liquid throughput shall not exceed 750 barrels per day nor 91,250 barrels per year. [District Rule 2201]
11. Except as otherwise allowed on this permit, this tank shall be maintained in a leak-free condition. [District Rule 4623]
12. When the tank is connected to a vapor control system, any tank gauging or sampling device on a tank vented to the vapor control system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]
13. When the tank is connected to a vapor control system, all piping, valves, and fittings on the vapor control system shall be constructed and maintained in a leak-free condition [District Rule 4623]
14. At least once per year, operator shall visually inspect the 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, 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 4623]
15. 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 4623]
16. 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 4623]
17. 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 4623]
18. 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 4623]
19. 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 a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 4623]
20. Any component found to be leaking on two consecutive annual inspections is in violation of Rule 4623, even if covered under the voluntary inspection and maintenance program. [District Rule 4623]

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 Rule 1070]
22. This permit authorizes tank cleaning that is not the result of breakdowns or poor maintenance as a routine maintenance activity. [District Rule 4623]
23. This tank shall not be required to de-gas before commencing cleaning activities. All other applicable requirements shall be complied with before, during, and after tank cleaning activities. [District Rule 4623]
24. If tank is left on site for more than six months, permittee shall notify the APCO in writing at least three (3) days prior to performing tank interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank, 2) the date and time that tank cleaning activities will begin, 3) the method to be used to clean the tank, including any solvents to be used, and 4) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623]
25. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623]
26. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623]
27. If tank is left on site for more than six months and contained organic liquid with a TVP of 1.5 psia or greater, during sludge removal, the operator shall control emissions from the sludge receiving vessel by operating an APCO-approved vapor control device that reduces emissions of organic vapors by at least 95%. [District Rule 4623]
28. If tank is left on site for more than six months and contained organic liquid with a TVP of 1.5 psia or greater, Permittee shall only transport removed sludge in closed, liquid leak-free containers. [District Rule 4623]
29. If tank is left on site for more than six months and contained organic liquid with a TVP of 1.5 psia or greater, Permittee shall store removed sludge, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rules 2020 and 4623]
30. Permittee shall maintain records of dates of start and completion dates/times of tank cleaning activities, and methods of cleaning used. [District Rule 4623]
31. Except when the tank is connected to a vapor control system, permittee shall conduct API gravity testing and Reid Vapor Pressure (RVP) or True Vapor Pressure (TVP) testing of the organic liquid stored in this tank whenever there is a change in the source or type of organic liquid stored in this tank. [District Rule 4623]
32. In lieu of testing the organic liquid from each uncontrolled fixed roof tank at this battery, a single RVP or TVP test of the organic liquid from a representative tank may be conducted provided the following conditions are met: (1) The selection of representative tank is submitted in writing to the APCO, and written approval is granted by the APCO prior to conducting the test; (2) The representative tank shall be the first line tank in the tank battery, i.e. the tank that is first receiving the produced fluids mixture of oil, water, and gases from the crude oil production wells; (3) The organic liquid in the representative tank is the same and came from the same source as the organic liquid stored by the other tanks being represented; (4) The TVP and storage temperature of the stored organic liquid of the representative tank to be tested are the same or higher than those of the tanks it is to represent. To ensure this condition is met, the TVP test should be conducted at the temperature of the tank with the highest storage temperature. [District Rule 4623]
33. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623]

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CONDITIONS CONTINUE ON NEXT PAGE

34. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "Test Method for Vapor Pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623]
35. For crude oil with an API gravity of greater than 26 degrees, the RVP shall be determined using ASTM D 323 (Test Method for Vapor Pressure for Petroleum Products). Oil with an API gravity range of greater than 26 up to 30 may be determined using equivalent RVP/TVP test methods approved by APCO, ARB and US EPA. [District Rule 4623]
36. The operator shall submit a record of the RVP/TVP and API gravity testing required by this permit to the APCO within 45 days of the completion of the test. The record shall include the tank identification number, PTO number(s), type of organic liquid stored, RVP/TVP and API gravity of the organic liquid stored, test methods used, and a copy of the test results. [District Rule 4623]
37. Permittee shall maintain monthly records of average daily crude oil throughput, a record of the annual throughput, and a record of each organic liquid stored in the tank, including its API gravity, and RVP or TVP (and storage temperature). [District Rules 2201 and 4623]
38. Operator shall maintain a list of number and type of components in liquid service and resulting emission calculations (according to U.S. EPA Publication 453/R-95-017, Table 2-4, Oil and Gas Production Average Emission Factors) demonstrating compliance with the fugitive emissions limit set forth on this permit. [District Rule 2201]
39. Fugitive VOC limit listed does not include components handling produced fluids with an API gravity less than 30 degrees, or components in water/oil service (condensate) with a water content equal to or greater than 50% by weight, or components handling fluid streams with a VOC content of 10% or less by weight. [District Rule 2201]
40. {2490} All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**ISSUANCE DATE: DRAFT**

**PERMIT NO:** C-315-40-0

**LEGAL OWNER OR OPERATOR:** CHEVRON USA  
**MAILING ADDRESS:** P O BOX 1392  
BAKERSFIELD, CA 93302-1302

**LOCATION:** KETTLEMAN HILLS  
KINGS COUNTY, CA

**EQUIPMENT DESCRIPTION:**

UP TO 471 BBL FIXED-ROOF CRUDE OIL/PRODUCED FLUIDS TANK WITH PV VALVE AUTHORIZED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE KETTLEMAN NORTH DOME UNIT OILFIELD (WHICH INCLUDES FACILITIES C-273, C-315, AND CONTIGUOUS AND ADJACENT PROPERTIES)

**CONDITIONS**

1. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 2,743 lb, 2nd quarter - 2,743 lb, 3rd quarter - 2,743 lb, and fourth quarter - 2,743 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC certificate specified below. [District Rule 2201]
2. ERC Certificate Number S-3601-1 (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]
3. This tank is authorized to operate at CUSA's Kettleman North Dome Unit stationary source(s) which includes facilities C-273 and C-315. [District Rule 2201]
4. The equipment shall not be located within 1,000 feet of the outer boundary of any K-12 school. [CH&SC 42301.6]
5. Storage tanks shall not operate within 0.75 miles of the nearest business or residence. [District Rule 4102]
6. Permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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

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DAVID WARNER, Director of Permit Services  
C-315-40-0 : Apr 3 2013 4:52PM - CLERICOB : Joint Inspection NOT Required

7. The provisions of this permit allow for this tank to be connected to a vapor control system where the VOC destruction device (e.g. safety flare or well test flare) is owned and operated by an entity other than Chevron USA and the VOC destruction device is not part of Chevron USA's stationary source. Chevron USA shall obtain an Authority to Construct permit prior to connecting this tank to a vapor control system where the VOC destruction device (e.g. an IC engine or heater, regardless of permit or permit-exempt status) is part of Chevron USA's stationary source [District Rules 2201 and 4623]
8. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings and properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in a leak free condition except when the operating pressure exceeds the valve's set pressure. [District Rule]
9. This tank shall only store, place, or hold organic liquid with a Reid Vapor Pressure (RVP) of less than 6.0 psia under all storage conditions. [District Rules 2201 and 4623]
10. Tank liquid throughput shall not exceed 750 barrels per day nor 91,250 barrels per year. [District Rule 2201]
11. Except as otherwise allowed on this permit, this tank shall be maintained in a leak-free condition. [District Rule 4623]
12. When the tank is connected to a vapor control system, any tank gauging or sampling device on a tank vented to the vapor control system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]
13. When the tank is connected to a vapor control system, all piping, valves, and fittings on the vapor control system shall be constructed and maintained in a leak-free condition [District Rule 4623]
14. At least once per year, operator shall visually inspect the 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, 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 4623]
15. 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 4623]
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17. 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 4623]
18. 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 4623]
19. 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 a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 4623]
20. Any component found to be leaking on two consecutive annual inspections is in violation of Rule 4623, even if covered under the voluntary inspection and maintenance program. [District Rule 4623]

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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 Rule 1070]
22. This permit authorizes tank cleaning that is not the result of breakdowns or poor maintenance as a routine maintenance activity. [District Rule 4623]
23. This tank shall not be required to de-gas before commencing cleaning activities. All other applicable requirements shall be complied with before, during, and after tank cleaning activities. [District Rule 4623]
24. If tank is left on site for more than six months, permittee shall notify the APCO in writing at least three (3) days prior to performing tank interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank, 2) the date and time that tank cleaning activities will begin, 3) the method to be used to clean the tank, including any solvents to be used, and 4) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623]
25. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623]
26. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623]
27. If tank is left on site for more than six months and contained organic liquid with a TVP of 1.5 psia or greater, during sludge removal, the operator shall control emissions from the sludge receiving vessel by operating an APCO-approved vapor control device that reduces emissions of organic vapors by at least 95%. [District Rule 4623]
28. If tank is left on site for more than six months and contained organic liquid with a TVP of 1.5 psia or greater, Permittee shall only transport removed sludge in closed, liquid leak-free containers. [District Rule 4623]
29. If tank is left on site for more than six months and contained organic liquid with a TVP of 1.5 psia or greater, Permittee shall store removed sludge, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rules 2020 and 4623]
30. Permittee shall maintain records of dates of start and completion dates/times of tank cleaning activities, and methods of cleaning used. [District Rule 4623]
31. Except when the tank is connected to a vapor control system, permittee shall conduct API gravity testing and Reid Vapor Pressure (RVP) or True Vapor Pressure (TVP) testing of the organic liquid stored in this tank whenever there is a change in the source or type of organic liquid stored in this tank. [District Rule 4623]
32. In lieu of testing the organic liquid from each uncontrolled fixed roof tank at this battery, a single RVP or TVP test of the organic liquid from a representative tank may be conducted provided the following conditions are met: (1) The selection of representative tank is submitted in writing to the APCO, and written approval is granted by the APCO prior to conducting the test; (2) The representative tank shall be the first line tank in the tank battery, i.e. the tank that is first receiving the produced fluids mixture of oil, water, and gases from the crude oil production wells; (3) The organic liquid in the representative tank is the same and came from the same source as the organic liquid stored by the other tanks being represented; (4) The TVP and storage temperature of the stored organic liquid of the representative tank to be tested are the same or higher than those of the tanks it is to represent. To ensure this condition is met, the TVP test should be conducted at the temperature of the tank with the highest storage temperature. [District Rule 4623]
33. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623]

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CONDITIONS CONTINUE ON NEXT PAGE

34. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "Test Method for Vapor Pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623]
35. For crude oil with an API gravity of greater than 26 degrees, the RVP shall be determined using ASTM D 323 (Test Method for Vapor Pressure for Petroleum Products). Oil with an API gravity range of greater than 26 up to 30 may be determined using equivalent RVP/TVP test methods approved by APCO, ARB and US EPA. [District Rule 4623]
36. The operator shall submit a record of the RVP/TVP and API gravity testing required by this permit to the APCO within 45 days of the completion of the test. The record shall include the tank identification number, PTO number(s), type of organic liquid stored, RVP/TVP and API gravity of the organic liquid stored, test methods used, and a copy of the test results. [District Rule 4623]
37. Permittee shall maintain monthly records of average daily crude oil throughput, a record of the annual throughput, and a record of each organic liquid stored in the tank, including its API gravity, and RVP or TVP (and storage temperature). [District Rules 2201 and 4623]
38. Operator shall maintain a list of number and type of components in liquid service and resulting emission calculations (according to U.S. EPA Publication 453/R-95-017, Table 2-4, Oil and Gas Production Average Emission Factors) demonstrating compliance with the fugitive emissions limit set forth on this permit. [District Rule 2201]
39. Fugitive VOC limit listed does not include components handling produced fluids with an API gravity less than 30 degrees, or components in water/oil service (condensate) with a water content equal to or greater than 50% by weight, or components handling fluid streams with a VOC content of 10% or less by weight. [District Rule 2201]
40. {2490} All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623]

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