



FEB 12 2013

Mr. Jerry Frost
Vintage Production California, LLC
9600 Ming Avenue, Suite 300
Bakersfield, CA 93311

Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-1326
Project # S-1124099

Dear Mr. Frost:

Enclosed for your review and comment is the District's analysis of an application for Authorities to Construct for Vintage Production California, LLC at 16223 South Granite Road, Bakersfield (NE/4 Sec: 21, T27S, R28E), CA. Vintage proposes to modify two 2000 bbl fixed roof crude oil storage tanks by installing a tank vapor control system vented to a H₂S scrubber and flare.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the Authorities to Construct will be issued to the facility with Certificates of Conformity. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

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

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

Seyed Sadredin

Executive Director/Air Pollution Control Officer

Northern Region

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

Central Region (Main Office)

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

Southern Region

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

Mr. Jerry Frost
Page 2

Thank you for your cooperation in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Warner", with a long horizontal flourish extending to the right.

David Warner
Director of Permit Services

Enclosures

c: Steve Davidson, Permit Services



FEB 12 2013

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

Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-1326
Project # S-1124099

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authorities to Construct for Vintage Production California, LLC at 16223 South Granite Road, Bakersfield (NE/4 Sec: 21, T27S, R28E), CA, which has been issued a Title V permit. Vintage Production California, LLC is requesting that Certificates of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. Vintage proposes to modify two 2000 bbl fixed roof crude oil storage tanks by installing a tank vapor control system vented to a H2S scrubber and flare.

Enclosed is the engineering evaluation of this application, along with the current Title V permit, and proposed Authorities to Construct # S-1326-332-2 & '-333-3 with Certificates of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

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

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Mr. Gerardo C. Rios
Page 2

Thank you for your cooperation in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Warner", with a long horizontal flourish extending to the right.

David Warner
Director of Permit Services

Enclosures

c: Steve Davidson, Permit Services



FEB 12 2013

Mike Tollstrup, Chief
Project Assessment Branch
Air Resources Board
P O Box 2815
Sacramento, CA 95812-2815

Re: **Notice of Preliminary Decision - ATC / Certificate of Conformity**
Facility # S-1326
Project # S-1124099

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of an application for Authorities to Construct for Vintage Production California, LLC at 16223 South Granite Road, Bakersfield (NE/4 Sec: 21, T27S, R28E), CA. Vintage proposes to modify two 2000 bbl fixed roof crude oil storage tanks by installing a tank vapor control system vented to a H2S scrubber and flare.

The public notice will be published approximately three days from the date of this letter. Please submit your written comments 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, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,


David Warner
Director of Permit Services

Enclosures

c: Steve Davidson, Permit Services

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**NOTICE OF PRELIMINARY DECISION
FOR THE ISSUANCE OF AUTHORITY TO CONSTRUCT AND
THE PROPOSED MINOR MODIFICATION OF FEDERALLY
MANDATED OPERATING PERMIT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed issuance of Authority To Construct to Vintage Production California, LLC for its heavy oil facility at 16223 South Granite Road, Bakersfield (NE/4 Sec: 21, T27S, R28E), California. Vintage proposes to modify two 2000 bbl fixed roof crude oil storage tanks by installing a tank vapor control system vented to a H₂S scrubber and flare.

The analysis of the regulatory basis for these proposed actions, Project #S-1124099, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. Written comments on the proposed initial permit must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 1990 E. GETTYSBURG AVE, FRESNO, CA 93726-0244.**

Authority to Construct Application Review

Fixed Roof Oil Field Production Tank < 5000 BBLs
Heavy Oil, Connected to Vapor Control,
Not subject to NSPS

Facility Name: Vintage Production California, LLC
Mailing Address: 9600 Ming Avenue, Suite 300
Bakersfield, CA 93311
Contact Person: Jerry Frost
Telephone: (661) 869-8000
Application #(s): S-1326-332-2 & '-333-3
Project #: S-1124099
Deemed Complete: November 19, 2012

Date: January 22, 2013
Engineer: Steve Davidson
Lead Engineer: Allan Phillips *AP*
Steve Davidson
JAN 23 2013

I. Proposal

Vintage Production California, LLC is applying for Authority to Construct (ATC) permits for the modification of two 2000 bbl fixed roof crude oil storage tanks (S-1326-332-2 & '-333-3) by installing a tank vapor control system vented to a H₂S scrubber and flare listed on tank permit S-1326-332. The current PTOs for the tanks are included in Attachment A.

Vintage Production California, LLC has a Title V Permit. This modification can be classified as a Title V minor modification pursuant to Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Vintage must apply to administratively amend their Title V Operating Permit to include the requirements of the ATCs issued with this project.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards, Subpart Kb (Amended 4/14/99 is not applicable. This subpart does not apply to vessels with a design capacity $\leq 1,589.874$ m ³ ($\leq 420,000$ gallons) used for petroleum or condensate stored, processed, or treated prior to custody transfer. The capacity of these tanks is $\leq 420,000$ gallons, and they store crude oil prior to custody transfer; therefore, this subpart does not apply to the tanks in this project.)

Subpart OOOO (Adopted 8/16/2012). This subpart has no requirements for storage vessels with an uncontrolled VOC emissions of less than 6 tons per year

Rule 4101 Visible Emissions (04/20/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4301 Fuel Burning Equipment (12/17/92)
Rule 4311 Flares (6/18/09)
Rule 4623 Storage of Organic Liquids (05/19/05)
Rule 4801 Sulfur Compounds (12/17/92)
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 facility is located at 16223 South Granite Road, Bakersfield (NE/4 Sec: 21, T27S, R28E) within the Heavy Oil Central stationary source. The equipment is not located within 1,000 feet of the outer boundary of any K-12 school. Therefore, pursuant to CH&SC 42301.6, California Health and Safety Code (School Notice), public notification [is/is not] required.

IV. Process Description

The tanks and vessels at the tank battery receive production prior to custody transfer. The 2000 bbl tanks in this project operate as a wash and stock tank.

VOC emissions from the tanks are controlled to by a shared vapor control system in accordance with tank S-1326-332-2's permit conditions. The vapor control system collects vapors from the tanks, reduces SO_x emissions with a H₂S scrubber and routes the uncondensed vapors to a Coanda Effect flare that reduces inlet VOC emissions by at least 95% by weight.

The project results in a decrease in fugitive VOC emissions from the tank. However, the flare results in an increase in other criteria pollutant emissions.

V. Equipment Listing

Pre-Project Equipment Description:

S-1326-332-1: 2000 BBL FIXED ROOF CRUDE OIL WASH TANK (SOUTH UNIT TANK FARM NO. 1)
S-1326-333-2: 2000 BBL FIXED ROOF STOCK TANK (SOUTH UNIT TANK FARM NO. 2)

Proposed Modification:

Connect tanks to a vapor control system that vents to a H₂S scrubber and flare

S-1326-332-2: MODIFICATION OF 2000 BBL FIXED ROOF CRUDE OIL WASH TANK (SOUTH UNIT TANK FARM NO. 1): INSTALL VAPOR CONTROL SYSTEM, H₂S SCRUBBER, AND 70 MMBTU/HR COANDA EFFECT FLARE SHARED WITH TANK S-1326-333

S-1326-333-3: MODIFICATION OF 2000 BBL FIXED ROOF STOCK TANK (SOUTH UNIT TANK FARM NO. 2): INSTALL VAPOR CONTROL SYSTEM SHARED WITH PERMIT S-1326-332

Post Project Equipment Description:

S-1326-332-2: 2000 BBL FIXED ROOF CRUDE OIL WASH TANK WITH VAPOR CONTROL SYSTEM SHARED WITH TANK S-1326-333 AND VENTED TO H₂S SYSTEM AND FLARE 70 MMBTU/HR COANDA EFFECT FLARE

S-1326-333-3: 2000 BBL FIXED ROOF STOCK TANK VENTED TO VAPOR CONTROL SYSTEM LISTED ON PERMIT S-1326-332

VI. Emission Control Technology Evaluation

The tank vapor control system collects vapors from the tanks, removes entrained liquid in knockout vessels and scrubber vessels, condenses gases in heat exchangers and routes the uncondensed vapors to H₂S scrubber and a flare after H₂S removal. The efficiency of the vapor control system is at least 95%.

VII. Emissions Calculations

A. Assumptions

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

Pre-Project tank assumptions:

- The tank paint conditions are good, the color is gray, and the shade is aluminum
- Tank temperature, 125° F (unheated)
- VOCs molecular weight, 100 lb/lbmol

Tank S-1326-332

- TVP of oil = 0.5 psia (Current permit)
- 2000 bbl/day throughput (1 turnover)
- Tank S-1326-332 operates at constant level

Tank S-1326-333

- TVP of oil = 0.21 psia (Current permit)
- 500 bbl/day throughput (Current permit)

Post-Project tank assumptions:

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

Post-Project flare assumptions:

- No more than 70 Mscf/day and 7.3 MMscf/year of well gas will be combusted in this flaring operation; (Applicant request)
- Heating value of flared gas is 1,000 Btu/scf (proposed and APR 1720)
- Sulfur compound concentration (as H₂S) will not exceed 1.0 grain/100 scf ppmv (proposed – H₂S scrubber)
- Pilot gas flow rate is assumed to be negligible when compared to emissions resulting from combustion of produced gas.

B. Emission Factors

Pre Project Tank Emissions Factors:

Daily and annual pre-project PE's for each permit unit will be based on the results from the District's Microsoft Excel spreadsheets for Tank Emissions - Fixed Roof Crude Oil less than 26° API located in Attachment B. The spreadsheet for tanks was developed using the equations for fixed-roof tanks from EPA AP-42, Chapter 7.1.

Post Project Tank Emissions Factors:

Pursuant to California Implementation Guidelines for Estimating Mass Emissions of fugitive Hydrocarbon Leaks at Petroleum Facilities, CAPCOA/CARB, February 1999, emissions in this project are calculated using the "revised screening" emissions

factors (see Attachment B for a calculation spreadsheets showing the emission factors used and the resulting emissions).

Post Project Flare Emissions Factors:

Flare Emission Factors		
	lb/MMBtu	Source
NO _x	0.068	FYI 83
*SO _x	0.00285	Mass Balance Equation
PM ₁₀	0.008	FYI 83
CO	0.370	FYI 83
VOC	0.063	FYI 83

$$* \frac{5 \text{ gr} \cdot S}{100 \text{ dscf}} \left(\frac{\text{dscf}}{1,000 \text{ Btu}} \right) 10^6 \text{ Btu} \left(\frac{11 \text{ lb}}{7,000 \text{ gr}} \right) \frac{64 \text{ lb} \cdot \text{SO}_2}{32 \text{ lb} \cdot S} = 0.00285 \frac{\text{lb} \cdot \text{SO}_2}{\text{MMBtu}}$$

C. Calculations

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

Permit Unit	VOC - Daily PE1 (lb/day)	VOC - Annual PE1 (lb/Year)
S-1326-332-1	4.8	1736
S-1326-333-3	12.5	4561

Since the flare is a new emissions unit PE1 = 0

2. Post Project Potential to Emit, (PE₂)

Permit Unit	VOC - Daily PE2 (lb/day)	VOC - Annual PE2 (lb/Year)
S-1326-332-2	0.7	256
S-1326-333-3	0.2	73

Flare Emissions (S-1326-332-2)					
Pollutant	Emissions Factor (lb/MMBtu)	Daily Fuel Consumption (MMBtu)	Annual Fuel Consumption (MMBtu)	Daily Emissions	Annual Emissions
NO _x	0.068	70	7300	4.8	496
SO _x	0.00285	70	7300	0.2	21
PM ₁₀	0.008	70	7300	0.6	58
CO	0.37	70	7300	25.9	2701
VOC	0.063	70	7300	4.4	460

Flare CO₂e Emissions (S-1326-332-2)

- The flare natural gas consumption rate will not exceed 7.3 MMscf/year
- Heating value of flared gas is 1,000 Btu/scf (proposed and APR 1720)
- Emission factors and global warming potentials (GWP) are taken from the California Climate Change Action Registry (CCAR), Version 3.1, January, 2009 (Appendix C, Tables C.7 and C.8):

CO₂ 53.06 kg/MMBtu (HHV) natural gas (116.7 lb/MMBtu)

CH₄ 0.005 kg/MMBtu (HHV) natural gas (0.011 lb/MMBtu)

N₂O 0.0001 kg/MMBtu (HHV) natural gas (0.00022 lb/MMBtu)

GWP for CH₄ = 21 lb-CO₂e per lb-CH₄

GWP for N₂O = 310 lb-CO₂e per lb-N₂O

Calculations

Hourly Emissions

CO₂ Emissions = 7.3 MMscf/year x 1,000 Btu/scf x 116.7 lb/MMBtu = 851,910 lb-CO₂e/year

CH₄ Emissions = 7.3 MMscf/year x 1,000 Btu/scf x 0.011 lb/MMBtu x 21 lb-CO₂e per lb-CH₄ = 1686 lb-CO₂e/year

N₂O Emissions = 7.3 MMscf/year x 1,000 Btu/scf x 0.00022 lb/MMBtu x 310 lb-CO₂e per lb-N₂O = 498 lb-CO₂e/year

Total = 851,910 + 1686 + 498 = 854,094 lb-CO₂e/year

Total = 854,094 lb-CO₂e/year ÷ 2,000 lb/ton = **427 tons-CO₂e/year**

Metric Conversion

427 short tons-CO₂e/year x 0.9072 metric tons/short ton = **387 metric tons**

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.

Pre-Project Stationary Source Potential to Emit [SSPE1] (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
Pre-Project SSPE (SSPE1*)	120,170	43,219	42,552	253,620	1,032,965

*SSPE2 for project 1114230

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.

As shown above, the facility emissions are already above the Offset and Major Source Thresholds for NO_x, CO, and VOC emissions; therefore, SSPE2 calculations are not necessary for these criteria pollutants.

The SSPE2 can be calculated by adding the PE2 from all units with valid ATCs or PTOs and the sum of the ERCs that have been banked at the source and which have not been used on-site (Total_{ERC}).

$$SSPE2_{Total} = SSPE2_{Permit\ Unit} + Total_{ERC}$$

SSPE2 (lb/year)		
Permit Unit/ERC	SO _x	PM ₁₀
SSPE1 Permits	43,219	42,552
S-1326-332-2 (flare)	21	58
SSPE2 _{Permit Unit}	43,240	42,610
Total _{ERC} (SSPE1)	306	156
SSPE2	43,546	42,766

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. However, for the purposes of determining major source status, the SSPE2 shall not include the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site."

Major Source Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	>20,000	43,219	42,610	>200,000	>20,000
SSPE2	>20,000	43,546	42,766	>200,000	>20,000
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	Yes	Yes

As seen in the table above, the facility is an existing Rule 2201 Major Source.

Rule 2410 Major Source Determination:

The facility concedes it is an existing major source for PSD for at least one pollutant. Therefore the facility is an existing major source for PSD.

6. Baseline Emissions (BE)

a. Annual BE

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

Clean Emissions Unit, Located at a Major Source

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

This tanks S-1326-332 & '333 were equipped with a PV vent, which meets the requirements for achieved in practice BACT; therefore, BE = PE1

This flare listed on permit unit S-1326-332 is a new unit; therefore, BE = PE1

BE is summarized in the following table:

BE (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
S-1326-332 (tank)	0	0	0	0	1736
S-1326-332 (Flare)	0	0	0	0	0
S-1326-333 (tank)	0	0	0	0	4516

7. SB 288 Major Modification

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

Since this facility is not a major source for SO_x and PM₁₀ addressed in this project, this project does not constitute an SB 288 major modification for SOX or PM10.

Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, the fugitive emissions associated with the tanks are not included in the SB 288 Major Modification calculation.

Since this facility is a major source for NO_x and VOCs, the project's PE2 associated with the flare, listed on permit S-1326-332-2, is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	493	50,000	No
VOC	460	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 ~~the~~ fugitive oilfield emissions ^{are} not included in the 28 specific source categories specified in 40 CFR 51.165, the increases in fugitive emissions are not included in the Federal Major Modification determination.

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

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

Step 1

For the flare listed on Permit S-1326-333-3, the increase in emissions is equal to the PE2.

The project's combined total emission increases (flare emissions) are compared to the Federal Major Modification Thresholds in the following table.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO _x *	493	0	Yes
VOC*	460	0	Yes

*This project is a Federal Major Modification and no further analysis is required.

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

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

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)

- CO
- PM
- PM10
- Greenhouse gases (GHG): CO₂, N₂O, CH₄, HFCs, PFCs, and SF₆

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

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.

I. Project Location Relative to Class 1 Area

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

II. Significance of Project Emission Increase

a. Potential to Emit for New or Modified Emission Units

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

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)						
	NO ₂	SO ₂	CO	PM	PM ₁₀	CO _{2e}
Total PE from New and Modified Units	0.2	< 0.0	1.4	< 0.0	< 0.0	427
PSD Significant Emission Increase Thresholds	40	40	100	.25	15	75,000
PSD Significant Emission Increase?	N	N	N	N	N	n

As demonstrated above, because the project has a total potential to emit from all new and modified emission units below the PSD significant

emission increase thresholds, this project is not subject to the requirements of Rule 2410; therefore, no further discussion is required.

9. 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 Attachment G.

VIII. Compliance

Rule 2201 - New and Modified Stationary Source Review Rule

A. BACT

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*:

- 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

The applicant is proposing to install a flare listed on permit S-1326-332-2 with a PE as shown on the following table:

Flare Emissions (S-1326-332-2)				
Pollutant	Daily Emissions (lb)	BACT Threshold (lb/day)	SSPE2 (lb/year)	BACT Triggered
NO _x	4.8	2	N/A	Yes
SO _x	0.2	2	N/A	No
PM ₁₀	0.6	2	N/A	No
CO	25.9	2	>200,000	Yes
VOC	4.4	2	N/A	No ¹

¹The flare is a control for VOC emissions; therefore, BACT does not apply.

Since the daily emissions is greater than 2.0 lbs/day for NO_x, CO and VOC: therefore, BACT will be triggered.

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

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

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

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

Where,

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

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

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

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

Where,

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

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

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

$$\text{AIPE} = \text{PE2} - (\text{PE1} * (\text{EF2} / \text{EF1}))$$

S-1326-332-2 (tank)

$$\text{AIPE} = 0.7 - (4.8 * (\text{EF2} / \text{EF1})), [\text{EF2}/\text{EF1} = 1]$$

$$\begin{aligned} &= 0.7 - 4.8 * 1 \\ &= 0.0 \text{ lb-VOC/day} \end{aligned}$$

S-1326-333-3 (tank)

$$\begin{aligned} \text{AIPE} &= 0.2 - (12.5 * (\text{EF2} / \text{EF1})), [\text{EF2}/\text{EF1} = 1] \\ &= 0.2 - 12.5 * 1 \\ &= 0.0 \text{ lb-VOC/day} \end{aligned}$$

As demonstrated above, the AIPE is not greater than 2.0 lb/day. Therefore, BACT is not triggered for the tanks.

d. SB 288/Federal Major Modification

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

As discussed in Section VII.C.8 above, the flare listed on permit S-1326-332-2 constitutes a Federal Major Modification for NO_x and VOC emissions. Therefore, BACT is triggered for NO_x and VOC for the flare.

2. BACT Guidance

Per District Policy APR 1305, Section IX, "A top-down BACT analysis shall be performed as a part of the Application Review for each application subject to the BACT requirements pursuant to the District's NSR Rule for source categories or classes covered in the BACT Clearinghouse, relevant information under each of the following steps may be simply cited from the Clearinghouse without further analysis."

BACT Guideline 1.4.2, Waste Gas Flare – Incinerating Produced Gas, applies (see Attachment D)

3. Top-Down BACT Analysis

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

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

NO_x: Coanda effect burner
CO: Coanda effect burner

B. Offsets

1. Offset Applicability

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

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

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	>20,000	43,306	42,766	>200,000	>20,000
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	No	No	Yes	Yes

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for NO_x, CO, and, VOC; therefore, offset calculations will be required for this project.

However, Section 4.6.1 of Rule 2201 states that emissions offsets are not required for increases in CO in attainment areas provided the applicant demonstrates to the satisfaction of the APCO that the Ambient Air Quality (AAQ) Standards are not violated in the areas to be affected, such emissions will be consistent with Reasonable Further Progress, and will not cause or contribute to a violation of AAQ Standards. The District performed an AAQ Analysis and determined that this project will not result in or contribute to a violation of an AAQ Standard for CO (see Attachment C). Therefore, CO offsets are not required for this project.

Per Sections 4.7.1 and 4.7.3, the quantity of offsets in pounds per year 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) = $(\sum[PE2 - BE] + ICCE) \times DOR$, 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 = Pre-project Potential to Emit 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)

There are no increases in cargo carrier emissions; therefore offsets can be determined as follows: Offsets required (lb/year) = $([PE2 - BE] + ICCE) \times DOR$

Permit No.	Post Project Potential to Emit [PE2] (lb/ yr)		Baseline Emissions [BE] (lb/yr)	
	NO _x	VOC	NO _x	VOC
S-1326-332-2	496	716	0	1736
S-1326-333-3	0	73	0	4516

Permit No.	Offsets Required [PE2 - BE] (lb/yr)	
	NO _x	VOC
S-1326-332-2	496	-1020
S-1326-333-3	0	-4443
Total	496	-5463

As demonstrated in the preceding calculation:

- NO_x offsets are required
- VOC offsets are not required
- CO offsets are not required (no violation of an Ambient Air Quality Standard)

NO_x:

Since this project results in a Federal Major Modification for NO_x the distance offset ratio (DOR) for these pollutants will be equal to 1.5 (per Rule 2201, Section 4.8.1). Vintage has proposed the following ERCs:

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
ERC #S-3820-2	13,750	13,750	13,750	13,750
DOR	1.5 (Federal Major Modification)			
Prior reservations	13,590	13,590	13,590	13,590

Total Offsets Required (at 1.5:1 distance offset ratio):

Permit No.	NO _x Offsets Required (lb/qtr)			
	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
S-1326-332-2	186	186	186	186
Total	186	186	186	186

Offsets Reserved in PAS (at discussed offset ratios):

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
ERC #C-1190-2	186	186	186	186
Total:	186	186	186	186

As seen above, Vintage has sufficient NO_x credits to fully offset the quarterly NO_x emissions increases associated with this project.

Proposed Rule 2201 (offset) Conditions:

S-1326-332-2:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender NO_x emission reduction credits for the following quantity of emissions: 1st quarter – 186 lb, 2nd quarter - 186 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- {GC# 1983} ERC Certificate Number C-1190-2 (or certificates 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.7, this project does not constitute a SB 288 Major Modification; therefore, public noticing for SB 288 purposes is not required.

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

b. PE > 100 lb/day

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

c) Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	>20,000	>20,000	20,000 lb/year	No
SO _x	43,219	43,546	54,750 lb/year	No
PM ₁₀	42,610	42,766	29,200 lb/year	No
CO	>200,000	>200,000	200,000 lb/year	No
VOC	>20,000	>20,000	20,000 lb/year	No

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

d) **SSIPE > 20,000 lb/yr**

The SSIPE (NEC) is equal the sum of the increase/decrease in emissions associated with the emissions unit in this project calculated and shown as follows:

$$\text{SSIPE} = \sum(\text{PE}_2 - \text{PE}_1)$$

$$\text{SSIPE}_{\text{VOC}} = \text{PE}_2 - \text{PE}_1)_{\text{Tank 332}} + (\text{PE}_2 - \text{PE}_1)_{\text{Tank 333}} + (\text{PE}_2 - \text{PE}_1)_{\text{Flare}}$$

$$\text{SSIPE}_{\text{VOC}} = (256 - 1736)_{\text{Tank 332}} + (73 - 4561)_{\text{Tank 333}} + (\text{PE}_2 - 460)_{\text{Flare}}$$

$$\text{SSIPE}_{\text{VOC}} = (256 - 1736)_{\text{Tank 332}} + (73 - 4561)_{\text{Tank 333}} + (460 - 0)_{\text{Flare}}$$

$$\text{SSIPE}_{\text{VOC}} = -5508 \text{ lb-VOC/year}$$

Only VOC emissions are associated with tanks S-1326-332 & '-333; therefore, SSIPE for all other criteria pollutants are equal to the flares PE_2 and are listed below:

$$\text{SSIPE}_{\text{NO}_x} = 496 \text{ lb-NO}_x/\text{year}$$

$$\text{SSIPE}_{\text{SO}_x} = 21 \text{ lb-SO}_x/\text{year}$$

$$\text{SSIPE}_{\text{PM}_{10}} = 58 \text{ lb-PM}_{10}/\text{year}$$

$$\text{SSIPE}_{\text{CO}} = 2701 \text{ lb-CO}/\text{year}$$

As shown in the above table, the SSIPE for this project does not exceed the 20,000 lb/yr public notice threshold.

Therefore, public noticing is not required for SSIPE purposes.

2. Public Notice Action

As discussed above, public noticing pursuant to District Rule 2201 is required for this project Federal Major Modification purposes. 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 Emissions Limits (DEL)

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

DELs for the tanks in this project will be included on the ATCs in the form of fugitive component emissions limits in lb VOC/day. The permittee will be

required to maintain accurate records of fugitive component counts and resulting emission calculations to validate the DEL.

The following DEL conditions for the flare will be listed on Permit S-1326-332:

- Emission rates shall not exceed any of the following: 0.008 lb-PM10/MMBtu, 0.068 lb-NO_x/MMBtu (as NO₂), 0.063 lb-VOC/MMBtu, or 0.37 lb-CO/MMBtu. [District Rules 2201 and 4201]
- Sulfur compound concentration of gas flared shall not exceed 5 gr/100 scf. [District Rules 2201 and 4801]
- Daily and annual amounts of gas flared shall not exceed 70 Mscf/day or 7300 MMscf/yr. [District Rules 2201 and 4102]

The permittee will be required to maintain accurate records of gas combusted and the sulfur compound concentration to validate the DEL.

E. Compliance Assurance

The following measures shall be taken to ensure continued compliance with District Rules:

1. Source Testing

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

2. Monitoring

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

- Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 4623, Table 3]
- 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, Table 3]

- 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, Table 3]
- 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, Table 3]
- 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, Table 3]
- 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, Table 3]
- 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, Table 3]

Monitoring of visible emissions will be required to ensure the flare complies with the particulate matter limit. The following condition will be listed on the ATCs:

- Permittee shall inspect the flare in operation for visible emissions no less frequently than once every two weeks. If visible emissions are observed, corrective action shall be taken. If visible emissions persist, an EPA Method 9 test shall be performed within 72 hours. [District Rule 2201]

3. Record Keeping

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

Tank Condition:

- *The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored.* [District Rule 2201]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

Rule 2520 Federally Mandated Operating Permits

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

In accordance with Rule 2520, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
 - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and

- b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
- 5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
- 6. Do not seek to consolidate overlapping applicable requirements.

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

Rule 4001 New Source Performance Standards (NSPS)

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

Pursuant to 40 CFR 60.110 (b), 60.110(a) (b), and 60.110(b) (b), K, Ka and Kb do not apply to storage vessels less than 10,000 bbls, used for petroleum or condensate, that is stored, processed, and/or treated at a drilling and production facility prior to custody transfer.

Pursuant to 40 CFR 60.5395, Subpart 0000 does not apply to storage vessels with VOC emissions of less than 6 tons per year. (See calculations Attachment B)

No subparts of 40 CFR Part 60 apply to produced gas-fired flares.

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

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

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63. However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to flare operations.

Rule 4101 - Visible Emissions

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

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

The flare is equipped with air assist and is expected to continue to operate without visible emissions dark as, or darker than, Ringelmann 1 or 20% opacity as stated in the following ATC condition:

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

Rule 4102 - Public Nuisance

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

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

Discussion of T-BACT

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

therefore, compliance with the District's Risk Management Policy is expected.

Rule 4201 Particulate Matter Concentration

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

The concentration of particulate matter in the flare's exhaust can be calculated given the following data:

F-Factor for Flared Gas: 8,604 dscf/MMBtu at 60 °F
 PM₁₀ Emission Factor: 0.026 lb-PM₁₀/MMBtu
 Percentage of PM as PM₁₀ in Exhaust: 100%
 Exhaust Oxygen (O₂) Concentration: 3%
 Excess Air Correction to F Factor = 20.9 + (20.9 - 3) = 1.17

$$\frac{\left(\frac{0.026 \text{ lb} \cdot \text{PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb}} \right)}{\frac{8,604 \text{ ft}^3}{\text{MMBtu}} \times 1.17} = 0.01 \frac{\text{grain} \cdot \text{PM}}{\text{ft}^3}$$

Since 0.01 grain/dscf is less than 0.1 grain/dscf, compliance with District Rule 4201 is expected and the following condition will be listed on the flare's permit to ensure compliance.

- {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO₂, NO₂, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas and LPG combustion are less than 1 μm in diameter.

The following table compares the Flare's emissions with Rule 4301 limits.

Rule 4301 Limits			
Pollutant	Flare Emissions (lb/hr)	Rule 4301 Limits (lb/hr)	Compliant?
NO ₂	4.8	140	Yes
SO ₂	0.2	200	Yes
Total PM	0.6	200	Yes

Since none of the Rule 4301 limits are exceeded, compliance with Rule 4301 is expected. Since the proposed emission limits already placed on the flare permit are much more stringent, no additional conditions will be listed.

District Rule 4311 Flares

Rule 4311 limits the emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x), and sulfur from the operation of flares.

Section 5.1 states flares permitted to operate only during an emergency are not subject to the requirements of Section 5.6 and 5.7.

This flare does not qualify as an emergency flare; therefore this section is not applicable.

Section 5.2 The flame shall be present at all times when combustible gases are vented through the flare. The following condition is included on the ATC to ensure compliance:

- A flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311]

Section 5.3 The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. The following condition is included on the ATC:

- The flare outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares

Section 5.4: Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an alternative equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated. The flare is not equipped with a heat sensing device. The flare is equipped with a flow-sensing ignition system; therefore, this condition does not apply.

Section 5.5, Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. The following condition is included on the ATC:

- Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311]

Section 5.6 Open flares (air-assisted, steam-assisted, or non-assisted) in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. The requirements of this section shall not apply to Coanda effect flares.

The flare in this project is a Coanda effect flare. Therefore, this section is not applicable.

Section 5.8 states that flaring is prohibited unless it is consistent with an approved flare minimization plan (FMP), pursuant to Section 6.5, and all commitments listed in that plan have been met. Subsection 6.5.1 requires the operator of a petroleum refinery flare or any flare that has a flaring capacity of greater than or equal to 5.0 MMBtu per hour to submit a flare minimization plan (FMP) to the APCO for approval.

The flaring capacity is less than 5.0 MMBtu/hr; therefore this section does not apply.

Section 5.9 Petroleum Refinery SO₂ Performance Targets – not applicable – facility is not a petroleum refinery

Section 5.10 requires the operator of a flare subject to flare minimization requirements pursuant to Section 5.8 to monitor the vent gas flow to the flare with a flow measuring device or other parameters as specified in the Permit to Operate.

The flare is not subject to the flare minimization plan; therefore, this section does not apply.

Section 5.11 requires the operator of a petroleum refinery or a flare with a flaring capacity equal to or greater than 50 MMBtu/hr to monitor the flare pursuant to Sections 6.6, 6.7, 6.8, 6.9, and 6.10.

The flare is not located at a refinery and is less than 50 MMBtu/hr. Therefore, this section does not apply.

6.0 Administrative Requirements

Section 6.1 requires the following records to be retained on-site for a minimum of five years:

- Copy of the compliance determination conducted pursuant to Section 6.4.1
- Copy of the source testing result conducted pursuant to Section 6.4.2
- For flares used during an emergency, record of the duration of flare operation, amount of gas burned, and the nature of the emergency situation
- Operators claiming an exemption pursuant to Section 4.3 shall record annual throughput, material usage, or other information necessary to demonstrate an exemption under that section
- Effective on and after July 1, 2011, a copy of the approved flare minimization plan pursuant to Section 6.5
- Effective on and after July 1, 2011, where applicable, monitoring data collected pursuant to Sections 5.10, 6.6, 6.7, 6.8, 6.9, and 6.10

The following condition will ensure compliance with this section:

- All records of required monitoring data and support information shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 1070, 2201, and 4311]

Section 6.2.1 requires the operator of a flare subject to the flare minimization plan to notify the District of an unplanned flaring event within 24 hours after the start of the next business day or within 24 hours of their discovery, whichever occurs first. The notification shall include the flare source identification, the start date and time, and the end date and time.

The flare is not subject to the flare minimization plan; therefore, this section does not apply.

Section 6.2.2, effective on and after July 1, 2012, and annually thereafter, requires the operator of a flare subject to flare minimization plans pursuant to Section 5.8 to submit an annual report that summarizes all Reportable Flaring Events.

The flare is not subject to the flare minimization plan; therefore, this section does not apply.

Section 6.2.3 effective on and after July 1, 2012, and annually thereafter, the operator of a flare subject to flare monitoring requirements pursuant to Sections 5.10, 6.6, 6.7, 6.8, 6.9, and 6.10, as appropriate, shall submit an annual report to the APCO within 30 days following the end of each 12 month period.

The flare is not subject to the flare minimization plan; therefore, this section does not apply.

Section 6.3 lists test methods an operator can use to demonstrate compliance with this rule. Compliance with this section is expected.

Section 6.4 requires records of compliance with 5.6 to be provided to the District upon request and lists further requirement for enclosed flares, which VPC does not operate at this stationary source. Compliance with this section is expected.

Section 6.5 requires operators of flares >5.0 MMBtu/hr to submit a flare minimization plan (FMP) by July 1, 2010.

The flare is > 5.0 MMBtu/hr; therefore, this section does not apply.

Section 6.6 requires the operator of a refinery flare or any flare greater than 50 MMBtu/hr to monitor vent gas composition.

The flare is not operated at a refinery and is less than 50 MMBtu/hr. Therefore, this section does not apply.

Section 6.7 requires the operator of a refinery flare or any flare greater than 50 MMBtu/hr to monitor the volumetric flows of purge and pilot gases with flow measuring devices.

The flare is not operated at a refinery and is less than 50 MMBtu/hr. Therefore, this section does not apply.

Section 6.8 requires operators of flares with water seals to monitor water level and pressure. This flare is not equipped with a water seal; therefore this section is not applicable.

Section 6.9 requires the operator of a refinery flare or any flare greater than 50 MMBtu/hr to comply with general monitoring conditions.

The flare is not operated at a refinery and is less than 50 MMBtu/hr. Therefore, this section does not apply.

Section 6.10 applies to operators of petroleum refinery flares. This stationary source does not refine petroleum products; therefore this section is not applicable.

Rule 4623, Storage of Organic Liquids

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

The affected tanks are served by a vapor control system that has a control efficiency of at least 99%. This rule also requires the tank and tank vapor control system to be maintained in a leak-free condition. Leak-free is defined in the rule as no readings on a portable VOC detection device greater than 10,000 ppmv above background and no dripping of organic liquid at a rate of more than 3 drops per minute.

Tanks S-1326-33 and S-1326-333 are equipped with a vapor control system with a VOC control efficiency of 99%. No throughput/TVP records are required to be kept for fixed-roof tanks equipped with vapor control. Applicant has elected to participate in the voluntary tank preventive inspection, maintenance, and tank cleaning program. Tank cleaning will be conducted according to the requirements of Table 6.

Compliance with the requirements of this rule is expected.

Rule 4801 Sulfur Compounds

The rule limits sulfur compound emission (as SO_x) concentrations to no more than 2000 ppmv, measured at the point of discharge. The flare is currently operating in compliance with the rule. Continuous compliance is expected.

CH&SC 42301.6 California Health & Safety Code (School Notice)

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

California Environmental Quality Act (CEQA)

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

The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures

- when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The tanks are equipped with a 95% efficient vapor control (TVR + Flare) satisfies the Best Performance Standards (BPS) for Front-line Organic Liquid Storage Tanks, Fixed Roof Tanks < 5,000 bbl. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change and no other discussion for green house gas emissions is required.

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. Recommendations

Compliance with all applicable rules and regulations is expected. Pending a successful EPA/NSR Public Noticing period, issue Authorities to Construct S-1326-332-2 & -333-3 subject to the permit conditions on the attached draft Authority to Construct in Attachment F.

X. Billing Information

Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1326-332-2	3020-2-H	2000 BBL	\$1030
S-1326-333-3	3020-5-D	2000 BBLs	\$185

- ATTACHMENT A: Current PTO
- ATTACHMENT B: Emissions Calculations
- ATTACHMENT C: Health Risk Assessment
- ATTACHMENT D: BACT Guideline and Top down BACT Analysis
- ATTACHMENT E: Emissions Profile(s)
- ATTACHMENT F: Draft ATC(s)

ATTACHMENT A
Current PTOs

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1326-332-1

EXPIRATION DATE: 03/31/2016

SECTION: NE21 **TOWNSHIP:** 27S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

2000 BBL FIXED ROOF CRUDE OIL WASH TANK (SOUTH UNIT TANK FARM NO. 1)

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
3. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
4. 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] Federally Enforceable Through Title V Permit
5. 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] Federally Enforceable Through Title V Permit
6. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
7. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
8. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
9. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 2520, 9.4.2 and 4623] Federally Enforceable Through Title V Permit

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

Facility Name: VINTAGE PRODUCTION CALIFORNIA LLC
Location: HEAVY OIL CENTRAL STATIONARY SOURCE, KERN COUNTY, CA
S-1326-332-1; Jan 19 2013 8:39AM - DAVIDS09

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1326-333-2

EXPIRATION DATE: 03/31/2016

SECTION: NE21 **TOWNSHIP:** 27S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

2000 BBL FIXED ROOF CRUDE OIL STOCK TANK (SOUTH UNIT TANK FARM NO. 2)

PERMIT UNIT REQUIREMENTS

1. Crude oil throughput shall not exceed 500 barrels per day based on a monthly average. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
2. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.21 psia under all storage conditions. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
3. True vapor pressure and API gravity of liquids introduced, stored or held in the tank shall be measured within 60 days of startup and at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored. In lieu of testing each uncontrolled fixed roof tank, operator may conduct a TVP testing of a representative tank provided that a representative testing plan (meeting the requirements of sections 6.2.1.1.1 through 6.2.1.1.5 of District Rule 4623) received and approved by APCO. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
4. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct API gravity testing. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
5. 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 Rules 2201 and 4623] Federally Enforceable Through Title V Permit
6. 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 Rules 2201 and 4623] Federally Enforceable Through Title V Permit
7. Operator shall submit the records of TVP and API gravity testing to the District within 45 days after the date of testing. The record shall include the tank identification number, Permit to Operate 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. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
8. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201 & 4623] Federally Enforceable Through Title V Permit
9. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 1070, 2201 and 4623] Federally Enforceable Through Title V Permit

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

ATTACHMENT B
Emissions Calculations

Tank Input Data	
permit number (S-xxxx-xx-xx)	-332-1
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	135
is this a constant-level tank? {yes, no}	yes
will flashing losses occur in this tank (only if first-line tank)? {yes, no}	no
breather vent pressure setting range (psi)	0.06
diameter of tank (feet)	29.9
capacity of tank (bbl)	2,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	16
average liquid height (feet)	9
are the roof and shell the same color? {yes,no}	yes
For roof:	
color {1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White}	4
condition {1: Good, 2: Poor}	1
-----This row only used if shell is different color from roof-----	4
-----This row only used if shell is different color from roof-----	1

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		2,000
maximum annual fluid throughput (bbl)	730,000	730,000
-----This row only used if flashing losses occur in this tank-----		100
-----This row only used if flashing losses occur in this tank-----		36,500
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, T _{ax} (°F)		77.65
daily minimum ambient temperature, T _{an} (°F)		53.15
daily total solar insolation factor, I (Btu/ft ² -day)		1648.9
atmospheric pressure, P _a (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (T _{lx}), P _{vx} (psia)	118.6	1.6372
water vapor pressure at daily minimum liquid surface temperature (T _{ln}), P _{vn} (psia)	107.8	1.2062
water vapor pressure at average liquid surface temperature (T _{la}), P _{va} (psia)	113.2	1.4117
roof outage, H _{ro} (feet)		0.3115
vapor space volume, V _v (cubic feet)		5133.77
paint factor, alpha		0.68
vapor density, W _v (lb/cubic foot)		0.0081
daily vapor temperature range, delta T _v (degrees Rankine)		49.04
vapor space expansion factor, K _e		0.1139

Results	lb/year	lb/day
Standing Storage Loss	1,736	4.75
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	1,736	4.8

Summary Table	
Permit Number	-332-1
Facility Tank I.D.	--
Tank capacity (bbl)	2,000
Tank diameter (ft)	29.9
Tank shell height (ft)	16
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	2,000
Maximum Annual Fluid Throughput (bbl/year)	730,000
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N/A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	4.8
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	1,736

Tank Input Data	
permit number (S-xxxx-xx-xx)	-333-2
facility tank I.D.	Stock
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.21
liquid bulk storage temperature, Tb (°F)	135
is this a constant-level tank? {yes, no}	no
will flashing losses occur in this tank (only if first-line tank)? {yes, no}	no
breather vent pressure setting range (psi)	0.06
diameter of tank (feet)	29.9
capacity of tank (bbl)	2,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	16
average liquid height (feet)	9
are the roof and shell the same color? {yes,no}	yes
For roof:	
color {1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White}	4
condition {1: Good, 2: Poor}	1
-----This row only used if shell is different color from roof-----	4
-----This row only used if shell is different color from roof-----	1

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		500
maximum annual fluid throughput (bbl)	182,500	182,500
-----This row only used if flashing losses occur in this tank-----		100
-----This row only used if flashing losses occur in this tank-----		36,500
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, T _{ax} (°F)		77.65
daily minimum ambient temperature, T _{an} (°F)		53.15
daily total solar insolation factor, I (Btu/ft ² -day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (T _{lx}), P _{vx} (psia)	118.6	1.6372
water vapor pressure at daily minimum liquid surface temperature (T _{ln}), P _{vn} (psia)	107.8	1.2062
water vapor pressure at average liquid surface temperature (T _{la}), P _{va} (psia)	113.2	1.4117
roof outage, H _{ro} (feet)		0.3115
vapor space volume, V _v (cubic feet)		5133.77
paint factor, alpha		0.68
vapor density, W _v (lb/cubic foot)		0.0034
daily vapor temperature range, delta T _v (degrees Rankine)		49.04
vapor space expansion factor, K _e		0.1139

Results	lb/year	lb/day
Standing Storage Loss	729	2.00
Working Loss	3,833	10.50
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	4,561	12.5

Summary Table	
Permit Number	-333-2
Facility Tank I.D.	Stock
Tank capacity (bbl)	2,000
Tank diameter (ft)	29.9
Tank shell height (ft)	16
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	500
Maximum Annual Fluid Throughput (bbl/year)	182,500
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N/A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	12.5
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	4,561

Vintage Production California, LLC
S-1326-332-2, 1124099 Tank & Vapor Control System

Fugitive Emissions Using Screening Emission Factors

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

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

Percentage of components with $\geq 10,000$ ppmv leaks allowed? 0 %
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	Component Count	Total allowable leaking components	Screening Value EF TOC		VOC emissions (lb/day)
				< 10,000 ppmv (lb/day/source)	$\geq 10,000$ ppmv (lb/day/source)	
Valves	Gas/Light Liquid	76	0	1.852E-03	7.333E+00	0.14
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00
Pump Seals	Gas/Light Liquid	0	0	5.270E-02	4.709E+00	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A
Others	Gas/Light Liquid	30	0	7.778E-03	7.281E+00	0.23
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00
	Heavy Crude Oil	6	0	3.016E-03	N/A*	0.02
Connectors	Gas/Light Liquid	370	0	6.349E-04	1.370E+00	0.23
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00
Flanges	Gas/Light Liquid	57	0	1.482E-03	3.228E+00	0.08
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00

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

Total VOC Emissions = 0.7 lb/day

Vintage Production California, LLC

S-1326-333-3, 1124099

Fugitive Emissions Using Screening Emission Factors

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

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

Percentage of components with $\geq 10,000$ ppmv leaks allowed? 0 %
 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	Component Count	Total allowable leaking components	Screening Value: EF - TOC		VOC emissions (lb/day)
				< 10,000 ppmv (lb/day/source)	> 10,000 ppmv (lb/day/source)	
Valves	Gas/Light Liquid	16	0	1.852E-03	7.333E+00	0.03
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00
Pump Seals	Gas/Light Liquid	0	0	5.270E-02	4.709E+00	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A
Others	Gas/Light Liquid	10	0	7.778E-03	7.281E+00	0.08
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00
	Heavy Crude Oil	6	0	3.016E-03	N/A*	0.02
Connectors	Gas/Light Liquid	90	0	6.349E-04	1.370E+00	0.06
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00
Flanges	Gas/Light Liquid	22	0	1.482E-03	3.228E+00	0.03
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00
Open-ended Lines	Gas/Light Liquid	2	0	1.270E-03	2.905E+00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00

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

Total VOC Emissions = 0.2 lb/day

ATTACHMENT C
Health Risk Analysis

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Steve Davidson, AQE – Permit Services
 From: Joe Aguayo, AQS – Technical Services
 Date: December 13, 2012
 Facility Name: Vintage Production
 Location: NE/4 Sec 21 T27S R28E
 Application #(s): S-1326-332-2
 Project #: S-1124099

A. RMR SUMMARY

RMR Summary			
Categories	Flare (Unit 332-2)	Project Totals	Facility Totals
Prioritization Score	<1.0	<1.0	<1.0
Acute Hazard Index	N/A ¹	N/A	N/A
Chronic Hazard Index	N/A ¹	N/A	N/A
Maximum Individual Cancer Risk (10 ⁻⁶)	N/A ¹	N/A	N/A
T-BACT Required?	No		
Special Permit Conditions?	No		

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

A. Proposed Permit Conditions

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

Unit # 332-2

No special conditions are required.

B. RMR REPORT

I. Project Description

Technical Services received a request on November 26, 2012, to perform an Ambient Air Quality Analysis and a Risk Management Review for the modification of a 2000 BBL tank. The modification consists of installing a vapor control system consisting of a 70 MMBtu/hr air-assist flare.

II. Analysis

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

The following parameters were used for the review:

Analysis Parameters Unit 332-2			
Throughput (MMBtu/hr)	70	Max Hours per Year	8760
Effective Stack Height (m)	11.01	Exit Velocity (m/s)	20
Effective Stack Diameter (m)	1.47	Exit Temperature (K)	1273
Closest Receptor (m)	609.6		

Technical Services performed modeling for criteria pollutants CO, NO_x, SO_x and PM₁₀; as well as a RMR. The emission rates used for criteria pollutant modeling were 1.08 lb/hr CO, 0.2 lb/hr NO_x, 0.01 lb/hr SO_x, and 0.03 lb/hr PM₁₀. The engineer supplied the maximum fuel rate for the flare used during the analysis.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Flare	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass	X	X	X	Pass
SO _x	Pass	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass	Pass
PM _{2.5}	X	X	X	Pass	Pass

*Results were taken from the attached PSD spreadsheet.

¹The project was compared to the 1-hour NO₂ National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures.

²The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusion

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

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

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

IV. Attachments

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

ATTACHMENT D

BACT Guideline and BACT Analysis

1. BACT Analysis for NO_x Emissions:

Oxides of nitrogen (NO_x) are generated from the high temperature combustion of the gas. A majority of the NO_x emissions are formed from the high temperature reaction of nitrogen and oxygen in the inlet air. The rest of the NO_x emissions are formed from the reaction of fuel-bound nitrogen with oxygen in the inlet air.

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 1.4.2, 4th quarter 1998, identifies the following BACT for waste gas flares incinerating produced gas:

- 1) Steam or air assisted or Coanda effect burner, when steam unavailable (Achieved in Practice)

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

- 1) Steam or air assisted or Coanda effect burner, when steam unavailable (Achieved in Practice)

d. Step 4 - Cost Effectiveness Analysis

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for NO_x emissions from this produced gas fired flare is steam or air assist or Coanda effect burner when steam is unavailable. The applicant has proposed to modify a produced gas fired flare equipped with a Coanda effect burner (steam is not available at this location); therefore BACT for NO_x emissions is satisfied.

1. BACT Analysis for CO Emissions:

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 1.4.2, 4th quarter 1998, identifies the following BACT for waste gas flares incinerating produced gas:

- 2) Steam or air assisted or Coanda effect burner, when steam unavailable (Achieved in Practice)

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

- 2) Steam or air assisted or Coanda effect burner, when steam unavailable (Achieved in Practice)

d. Step 4 - Cost Effectiveness Analysis

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for CO emissions from this produced gas fired flare is steam or air assist or Coanda effect burner when steam is unavailable. The applicant has proposed to modify a produced gas fired flare equipped with a Coanda effect burner (steam is not available at this location); therefore BACT for NO_x emissions is satisfied.

**San Joaquin Valley
Unified Air Pollution Control District**

Best Available Control Technology (BACT) Guideline 1.4.2*

Last Update 12/31/1998

Waste Gas Flare - Incinerating Produced Gas

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable		
NOx	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable		
PM10	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas.		
SOx	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas.	Precombustion SOx scrubbing system (non-emergency flares only.)	
VOC	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable		

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**

ATTACHMENT E
Emissions Profiles

Permit #: S-1326-332-2	Last Updated
Facility: VINTAGE PRODUCTION CALIFORNIA	01/19/2013 DAVIDSOS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	496.0	21.0	58.0	270.0	716.0
Daily Emis. Limit (lb/Day)	4.8	0.2	0.6	2509.0	5.1
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	124.0	5.0	15.0	675.0	-255.0
Q2:	124.0	5.0	15.0	675.0	-255.0
Q3:	124.0	5.0	15.0	675.0	-255.0
Q4:	124.0	5.0	15.0	675.0	-255.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-1326-333-3	Last Updated
Facility: VINTAGE PRODUCTION CALIFORNIA	01/19/2013 DAVIDSOS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	73.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-1122.0
Q2:	0.0	0.0	0.0	0.0	-1122.0
Q3:	0.0	0.0	0.0	0.0	-1122.0
Q4:	0.0	0.0	0.0	0.0	-1122.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

ATTACHMENT F
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1326-332-2

LEGAL OWNER OR OPERATOR: VINTAGE PRODUCTION CALIFORNIA LLC
MAILING ADDRESS: 9600 MING AVE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
KERN COUNTY, CA

SECTION: NE21 TOWNSHIP: 27S RANGE: 28E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 2000 BBL FIXED ROOF CRUDE OIL WASH TANK (SOUTH UNIT TANK FARM NO. 1): INSTALL VAPOR CONTROL SYSTEM, H2S SCRUBBER AND 70 MMBTU/DAY COANDA EFFECT FLARE SHARED WITH TANK S-1326-333

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in leak-free condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a gas pipeline distribution system, or an approved VOC destruction device that reduces the inlet VOC emissions by at least 95% by weight as determined by the test method specified in Section 6.4.7. [District Rule 4623] Federally Enforceable Through Title V Permit
4. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

S-1326-332-2: Feb 6 2013 3:48PM - DAVIDSOS : Joint Inspection NOT Required

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

5. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation, except for the applicable provisions of Table 3. [District Rule 4623] Federally Enforceable Through Title V Permit
6. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623] Federally Enforceable Through Title V Permit
7. A flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311] Federally Enforceable Through Title V Permit
8. The flare outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311] Federally Enforceable Through Title V Permit
9. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311] Federally Enforceable Through Title V Permit
10. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of gas combusted in the flare shall be installed, utilized and maintained [District Rules 2201 and 4311] Federally Enforceable Through Title V Permit
11. VOC fugitive emissions from the components in gas service on tank shall not exceed 0.2 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Permittee shall maintain accurate component count for tank according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Except as otherwise provided in this permit, the operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2201] Federally Enforceable Through Title V Permit
14. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
15. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
16. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
17. 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 on of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
18. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

19. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
20. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
21. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
22. This tank shall be degassed before commencing interior cleaning by following one of the following options: 1) exhausting VOCs contained in the tank vapor space to an APCO-approved vapor recovery system until the organic vapor concentration is 5,000 ppmv or less, or is 10 percent or less of the lower explosion limit (LEL), whichever is less, or 2) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable liquid until 90 percent or more of the maximum operating level of the tank is filled. Suitable liquids are organic liquids having a TVP of less than 0.5 psia, water, clean produced water, or produced water derived from crude oil having a TVP less than 0.5 psia, or 3) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable gas. Degassing shall continue until the operator has achieved a vapor displacement equivalent to at least 2.3 times the tank capacity. Suitable gases are air, nitrogen, carbon dioxide, or natural gas containing less than 10 percent VOC by weight. [District Rule 4623]
23. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623] Federally Enforceable Through Title V Permit
24. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623] Federally Enforceable Through Title V Permit
25. During sludge removal from tanks containing an organic liquid with a TVP of 1.5 psia or greater, 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] Federally Enforceable Through Title V Permit
26. For tanks containing an 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] Federally Enforceable Through Title V Permit
27. For tanks containing an 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 Rule 4623] Federally Enforceable Through Title V Permit
28. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623] Federally Enforceable Through Title V Permit
29. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

30. 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 2201, 4311, and 4623] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1326-333-3

LEGAL OWNER OR OPERATOR: VINTAGE PRODUCTION CALIFORNIA LLC
MAILING ADDRESS: 9600 MING AVE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
KERN COUNTY, CA

SECTION: NE21 TOWNSHIP: 27S RANGE: 28E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 2000 BBL FIXED ROOF STOCK TANK (SOUTH UNIT TANK FARM NO. 2): CONNECT TO VAPOR CONTROL SYSTEM LISTED ON PERMIT S-1326-332

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in leak-free condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a gas pipeline distribution system, or an approved VOC destruction device that reduces the inlet VOC emissions by at least 95% by weight as determined by the test method specified in Section 6.4.7. [District Rule 4623] Federally Enforceable Through Title V Permit
4. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services

8-1326-333-3 : Feb 8 2013 3:50PM - DAVIDSOS : Joint Inspection NOT Required

5. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation, except for the applicable provisions of Table 3. [District Rule 4623] Federally Enforceable Through Title V Permit
6. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623] Federally Enforceable Through Title V Permit
7. VOC fugitive emissions from the components in gas service on tank shall not exceed 0.2 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Permittee shall maintain accurate component count for tank according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Except as otherwise provided in this permit, the operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2201] Federally Enforceable Through Title V Permit
10. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
11. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
12. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
13. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take on of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
14. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
15. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
16. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

17. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
18. This tank shall be degassed before commencing interior cleaning by following one of the following options: 1) exhausting VOCs contained in the tank vapor space to an APCO-approved vapor recovery system until the organic vapor concentration is 5,000 ppmv or less, or is 10 percent or less of the lower explosion limit (LEL), whichever is less, or 2) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable liquid until 90 percent or more of the maximum operating level of the tank is filled. Suitable liquids are organic liquids having a TVP of less than 0.5 psia, water, clean produced water, or produced water derived from crude oil having a TVP less than 0.5 psia, or 3) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable gas. Degassing shall continue until the operator has achieved a vapor displacement equivalent to at least 2.3 times the tank capacity. Suitable gases are air, nitrogen, carbon dioxide, or natural gas containing less than 10 percent VOC by weight. [District Rule 4623] Federally Enforceable Through Title V Permit
19. 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] Federally Enforceable Through Title V Permit
20. 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] Federally Enforceable Through Title V Permit
21. During sludge removal from tanks containing an organic liquid with a TVP of 1.5 psia or greater, 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] Federally Enforceable Through Title V Permit
22. For tanks containing an 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] Federally Enforceable Through Title V Permit
23. For tanks containing an 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 Rule 4623] Federally Enforceable Through Title V Permit
24. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623]
25. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
26. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 1070] Federally Enforceable Through Title V Permit

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