



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

APR 21 2010

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

Re: **Proposed Authorities to Construct / Certificate of Conformity (Minor Mod)**
District Facility # S-1326
Project # S-1095593

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, located at Vintage's Heavy Oil Central Stationary Source within the Kern Front Oil Field, which has been issued a Title V permit. Vintage Production California LLC is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. Vintage Production California LLC proposes to increase the number of steam enhanced wells of unit -35 from 100 wells to 150 well and increase the number of steam enhanced wells of unit -287 from 205 wells to 305 wells.

Enclosed is the engineering evaluation of this application, a copy of the current Title V permit, and proposed Authorities to Construct # S-1326-35-11 and '-287-9 with Certificate of Conformity. After demonstrating compliance with the Authorities to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

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
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Southern Region

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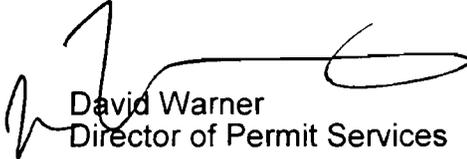
San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

Mr. Gerardo C. Rios
Page 2

Thank you for your cooperation in this matter.

Sincerely,



David Warner
Director of Permit Services

Enclosures
cc: Jesse A. Garcia, Permit Services

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San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

APR 21 2010

Jim Robinson
Vintage Production California LLC
9600 Ming Ave, Suite 300
Bakersfield, CA 93311

Re: Proposed Authorities to Construct / Certificate of Conformity (Minor Mod)
District Facility # S-1326
Project # S-1095593

Dear Mr. Robinson:

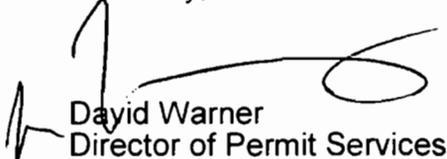
Enclosed for your review is the District's analysis of your application for Authorities to Construct for the facility identified above. You have requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. Vintage Production California LLC proposes to increase the number of steam enhanced wells of unit -35 from 100 wells to 150 well and increase the number of steam enhanced wells of unit -287 from 205 wells to 305 wells.

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

If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,



David Warner
Director of Permit Services

Enclosures
cc: Jesse A. Garcia, Permit Services

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II. APPLICABLE RULES

District Rule 2201 New and Modified Stationary Source Review Rule (9/21/06)
District Rule 2520 Federally Mandated Operating Permits (6/21/01)
District Rule 4001 New Sources Performance Standards (4/14/99)
40 CFR Part 60, Subpart Dc - *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*
District Rule 4101 Visible Emissions (2/17/05)
District Rule 4102 Nuisance (12/17/92)
District Rule 4401 Steam Enhanced Crude Oil Production Well Vents (12/14/06)
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 new wells will be located in Vintage's Heavy Oil Central Stationary Source within the Kern Front Oil Field and various locations within the Township 28S, Range 27E. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. PROCESS DESCRIPTION

Steam generators are used to provide high quality steam for injection into heavy crude oil production zones. The heat added by the steam reduces the viscosity of the crude oil making it easier to produce.

Production wells will be equipped with closed casing vents. Produced fluids from unit -35 will be discharged to the tank vapor recovery system that is listed on and serves storage tank S-1326-260 which is equipped with vapor collection and control. Produced fluids from unit -287 will be discharged to the tank vapor recovery system that is listed on and serves storage tank S-1326-263 and tanks -279, -280, -281, -283, -285, and -315 which are equipped with vapor collection and control.

Like all existing wells on the Section 23 leases, the wells being added will produce heavy crude oil (API gravity less than 20°) and water. The new wells will also be subject to the existing requirement that all components in vapor service exclusively handle vapor streams with less than 10% by weight VOC. The components required for the tie-in of wells, valves, flanges, connections, stuffing boxes, etc. will be assigned zero emissions in accordance with District policy SSP 2015. This policy stipulates that components in heavy oil liquid service and components in vapor service with streams having less than 10% VOC will not be assessed VOC emissions.

V. EQUIPMENT LISTING

Pre-project Equipment Descriptions:

S-1326-35-10: THERMALLY ENHANCED OIL RECOVERY OPERATION WITH WELL VENT VAPOR CONTROL SYSTEM SERVING 100 STEAM ENHANCED WELLS, INCLUDING 50 HP COMPRESSOR, ONE AIR-COOLED VAPOR CONDENSER, AND PIPING TO FIELD FUEL GAS SYSTEM, DOGGR DISPOSAL WELL, AND FLARE (S-1326-260) (SECTION 14 YOUNG)

S-1326-287-8: THERMALLY ENHANCED OIL RECOVERY OPERATION WITH 205 STEAM ENHANCED PRODUCTION WELLS CONNECTED TO WELL HEAD CASING VENT VAPOR RECOVERY SYSTEM (CVR) VENTING VAPORS TO SECTION 23 TANK VAPOR RECOVERY SYSTEM (S-1326-263)

Proposed Modifications:

S-1326-35-11: MODIFICATION OF THERMALLY ENHANCED OIL RECOVERY OPERATION WITH WELL VENT VAPOR CONTROL SYSTEM SERVING 100 STEAM ENHANCED WELLS, INCLUDING 50 HP COMPRESSOR, ONE AIR-COOLED VAPOR CONDENSER, AND PIPING TO FIELD FUEL GAS SYSTEM, DOGGR DISPOSAL WELL, AND FLARE (S-1326-260) (SECTION 14 YOUNG): INCREASE THE NUMBER OF STEAM ENHANCES WELLS FROM 100 WELLS TO 150 WELLS

S-1326-287-9: MODIFICATION OF THERMALLY ENHANCED OIL RECOVERY OPERATION WITH 205 STEAM ENHANCED PRODUCTION WELLS CONNECTED TO WELL HEAD CASING VENT VAPOR RECOVERY SYSTEM (CVR) VENTING VAPORS TO SECTION 23 TANK VAPOR RECOVERY SYSTEM (S-1326-263): INCREASE THE NUMBER OF WELLS FROM 205 WELLS TO 305 WELLS

Proposed PTO Equipment Descriptions:

S-1326-31-1: THERMALLY ENHANCED OIL RECOVERY OPERATION WITH WELL VENT VAPOR CONTROL SYSTEM SERVING 150 STEAM ENHANCED WELLS, INCLUDING 50 HP COMPRESSOR, ONE AIR-COOLED VAPOR CONDENSER, AND PIPING TO FIELD FUEL GAS SYSTEM, DOGGR DISPOSAL WELL, AND FLARE (S-1326-260) (SECTION 14 YOUNG)

S-1326-32-2: THERMALLY ENHANCED OIL RECOVERY OPERATION WITH 305 STEAM ENHANCED PRODUCTION WELLS CONNECTED TO WELL HEAD CASING VENT VAPOR RECOVERY SYSTEM (CVR) VENTING VAPORS TO SECTION 23 TANK VAPOR RECOVERY SYSTEM (S-1326-263)

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

The existing vapor recovery system has been shown to be very effective in controlling emissions from well head casing vents, demonstrating a VOC reduction efficiency of greater than > 99% from the uncontrolled level. The collected vapor is disposed of downhole or burned in devices approved for that purpose. There will be no change in emission control technology; therefore, no further discussion is required.

VII. GENERAL CALCULATIONS

A. Assumptions

- Maximum potential emissions are based on 24 hours/day and 365 days/year
- VOC emissions from any well vent shall be reduced by at least 99% by weight
- VOC content of hydrocarbons in the gas stream are < 10% by weight. In accordance with District SSP 2015 policy "Quantifying Fugitive VOC Emissions at Petroleum and SOCMF Facilities", VOC emissions are not assessed to piping and components handling vapor streams with a VOC content of 10% or less by weight and condensate streams having a water content greater than 50%. Therefore, fugitive emissions components do not emit VOCs.

B. Emission Factors (Pre and Post Project)

S-1326 -35

Emission Factors for Flare		
Pollutant	Emission Factor (lb/MMBtu)	Source
NO _x	0.068	Current Permit
SO _x	0.00285	Mass Balance Equation Below*
PM ₁₀	0.008	Current Permit
CO	0.37	Current Permit
VOC	0.063	Current Permit

*SO_x is calculated as follows:

$$0.00285 \frac{\text{lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{1 \text{ MMBtu}}{1,000,000 \text{ Btu}} \times \frac{2,542.5 \text{ Btu}}{\text{bhp} - \text{hr}} \times \frac{1 \text{ bhp input}}{0.35 \text{ bhp out}} \times \frac{453.6 \text{ g}}{\text{lb}} = 0.0094 \frac{\text{g} - \text{SO}_x}{\text{bhp} - \text{hr}}$$

S-1326 -287

0 lb/day for each component, as all components are either in heavy oil service or vapor service handling streams with VOC content not exceeding 10% by weight.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

S-1326 -35 (Flare)

Daily Emissions = Emission Factor x gas combusted/day x fuel heating value

NO_x: 0.068 lb/MMBtu x 0.15 MMscf/day x 1000 MMBtu/MMscf = 10.2 lb/day
 VOC: 0.063 lb/MMBtu x 0.15 MMscf/day x 1000 MMBtu/MMscf = 9.5 lb/day
 CO: 0.37 lb/MMBtu x 0.15 MMscf/day x 1000 MMBtu/MMscf = 55.5 lb/day
 PM10: 0.008 lb/MMBtu x 0.15 MMscf/day x 1000 MMBtu/MMscf = 1.2 lb/day
 SO_x: 0.00285 lb/MMBtu x 0.15 MMscf/day x 1000 MMBtu/MMscf = 0.4 lb/day

Annual Emissions = Daily Emissions x 365 day/yr

NO_x: 10.2 lb/day x 365 day/yr = 3,723 lb/yr
 VOC: 9.5 lb/day x 365 day/yr = 3,468 lb/yr
 CO: 55.5 lb/day x 365 day/yr = 20,258 lb/yr
 PM10: 1.2 lb/day x 365 day/yr = 438 lb/yr
 SO_x: 0.4 lb/day x 365 day/yr = 146 lb/yr

S-1326 -287

0 lb/day and 0 lb/yr

2. Post-Project Potential to Emit (PE2)

Since the modifications in this project have no impact on emission calculations, PE1 = PE2.

Post-Project Emissions				
Pollutant	S-1326-35		S-1326-287	
	Daily Emission (lb/day)	Annual Emission (lb/yr)	Daily Emission (lb/day)	Annual Emission (lb/yr)
NO _x	10.2	3,723	0.0	0
VOC	9.5	3,468	0.0	0
CO	55.5	20,258	0.0	0
PM10	1.2	438	0.0	0
SO _x	0.4	146	0.0	0

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

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (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 that have occurred at the source, and which have not been used on-site.

Facility emissions are already above the Offset and Major Source Thresholds for NO_x and VOC emissions; therefore, SSPE1 calculations are not necessary and will not be performed for the purposes of this project.

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

Pursuant to Section 4.10 of District Rule 2201, the Post-Project Stationary Source Potential to Emit (SSPE2) 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 that have occurred at the source, and which have not been used on-site.

Facility emissions are already above the Offset and Major Source Thresholds for NO_x VOC emissions; therefore, SSPE2 calculations are not necessary and will not be performed for the purposes of this project.

5. Major Source Determination

Pursuant to District Rule 2201, Section 3.24, a major source is a source with an SSPE2 equal to or exceeding one or more of the major source thresholds. However, pursuant to Section 3.24.2 of District Rule 2201, the quantity of ERC's that have been banked onsite for actual emission reductions (AER's) do not add to the SSPE2 for major source determination purposes.

As discussed above, this source is an existing Major Source for NO_x and VOC and will remain above the Major Source for NO_x and VOC after this project.

6. Baseline Emissions (BE)

Per District Rule 2201, Section 3.7, the baseline emissions, for a given pollutant, shall be equal to the pre-project potential to emit for:

- Any emission unit located at a non-major source,
- Any highly utilized emission unit, located at a major source,
- Any fully-offset emission unit, located at a major source,
- Any clean emission unit located at a major source, or

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.22 of District Rule 2201

S-1326-35-11

The TEOR operations are clean emissions units as they meet the following Achieved-in-Practice requirements of current BACT Guideline 7.1.1 "Thermally Enhanced Oil Recovery Steam Drive Wells":

VOC: Vapor control system and inspection and maintenance program with either 1) Non-condensables balanced casing vent system tied into tank vapor control system or b) Non-condensables incinerated at steam generator, incinerator or equal

Note that the flare serving S-1326-35 is VOC control devices; therefore, it is not an emissions unit. Also, the facility is not a major source for PM10, SOx, or CO; therefore, baseline emissions are equal to PE1 for these pollutants.

S-1326-287-9

The thermally enhanced oil recovery (TEOR) operation permitted under S-1326-287 is controlled by a well casing VOC collection and control system that meets a 99% control efficiency requirement, as enforced by permit condition. As the well casing vent vapor collection system satisfies BACT, and is therefore a clean emissions unit, BE = PE1

7. Major Modification

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.*"

As discussed in Section VII.C.5 above, the facility is an existing Major Source for NOx and VOC; however, the project by itself would need to be a significant increase in order to trigger a Major Modification. The emissions units within this project do not have a total potential to emit which is greater than Major Modification thresholds (see table below). Therefore, the project cannot be a significant increase and the project does not constitute a Major Modification.

Major Modification Thresholds (Existing Major Source)			
Pollutant	Project PE (lb/year)	Threshold (lb/year)	Major Modification?
NO _x	3,723	50,000	No
SO _x	146	80,000	No
PM ₁₀	438	30,000	No
VOC	3,468	50,000	No

8. Federal Major Modification

As shown above, this project does not constitute a Major Modification. Therefore, in accordance with District Rule 2201, Section 3.17, this project does not constitute a Federal Major Modification and 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. Since there is no change in potential emissions for the units being modified in this project, the QNEC is equal to zero.

VIII. COMPLIANCE

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis 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 AIFE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in a Major Modification.

*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 wells being added are new emissions units. As discussed and shown above, each new well will be controlled by a VOC collection and control system, will exclusively handle heavy oil and vapor streams with no more than 10% VOC and will have, by policy, emission of less than 0.0 lb/day VOC. As the emissions for each permit unit are less than 2 lb/day; BACT is not triggered under this provision.

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

The wells being added are considered to be new and not modified; therefore, BACT is not triggered for modification to an emissions unit.

d. Major Modification

As discussed in Section VII.C.7 above, this project does not constitute a Major Modification; therefore BACT is not triggered.

B. Offsets

1. Offset Applicability

Pursuant to Section 4.5.3, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the Post Project Stationary Source Potential to Emit (SSPE2) equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The following table compares the post-project facility-wide annual emissions in order to determine if offsets will be required for this project.

Offset Determination (lb/year)					
	NO_x	SO_x	PM₁₀	CO	VOC
Post Project SSPE (SSPE2)*	51,209	16,056	25,243	166,153	100,064
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	No	No	No	Yes

*Taken from Project S-1093675 as there is no change in emissions due to this project.

2. Quantity of Offsets Required

Per Sections 4.7.1, the quantity of offsets, in pounds per year, is calculated as follows for sources with an SSPE total greater than the emission offset threshold levels.

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

Where,

SSPE2 = Post Project Facility 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

There are no increases in cargo carrier emissions as a result of this project. Therefore, the amount of offsets required can be calculated as follows:

S-1326-35-11

As calculated in Section VII.C.6 above, the Baseline Emissions (BE) for the TEOR system is the Pre-Project Potential to Emit (PE1) and the project results in no increase in emissions. Therefore the quantity of offsets required are 0 lb/yr.

$$\begin{aligned}\text{Offsets Required (lb/year)} &= (\text{PE2} - \text{BE} + \text{ICCE}) \times \text{DOR} \\ \text{Offsets Required (lb/year)} &= (\text{PE2} - \text{PE1} + \text{ICCE}) \times \text{DOR} \\ \text{Offsets Required (lb/year)} &= (0) \times \text{DOR} = 0 \text{ lb/yr}\end{aligned}$$

S-1326-287-9

As the PE2 and BE are 0 lb/yr, as shown above in Sections VII. C. 2 and VII. C. 6, and as there is no increase in cargo carrier emissions, the quantity of offset required for the project is 0 lb/yr:

$$\begin{aligned}\text{Offsets Required (lb/year)} &= (\text{PE2} - \text{BE} + \text{ICCE}) \times \text{DOR} \\ \text{Offsets Required (lb/year)} &= (0 - 0 + 0) \times \text{DOR} = 0 \text{ lb/yr}\end{aligned}$$

C. Public Notification

1. Applicability

Public noticing is required for:

- a. Any new Major Source, which is a new facility that is also a Major Source,
- b. Major Modifications,
- c. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- d. Any project which results in the offset thresholds being surpassed, and/or
- e. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Source

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.

b. Major Modification

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

c. PE > 100 lb/day

Applications which include a new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project; therefore public noticing is not required for this project for Potential to Emit Purposes.

d. Offset Threshold

There is no increase in permitted emissions as a result of this project. Therefore, the SSPE is not increasing with this project and an offset threshold cannot be surpassed as a result of this project. A public notice will not be required for offset threshold purposes.

e. SSIPE > 20,000 lb/year

An SSIPE exceeding 20,000 pounds per year for any one pollutant triggers public notice, where $SSIPE = SSPE2 - SSPE1$.

There is no increase in permitted emissions as a result of this project. Therefore, the SSIPE is zero for all pollutants and public notice will not be required for SSIPE purposes.

2. Public Notice Action

As discussed above, this project will not result in emissions, for any criteria pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will not be required for this project.

D. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

S-1326-35-11:

- Well vent vapors shall vent to the field fuel gas system, DOGGR approved injection wells, flare listed on permit S-1326-260, or steam generators S-1326-9, '-294, '-295, '-314, '-337, and '-338. [District Rule 2201]
- VOC content of well vent vapor gas shall not exceed 10% by weight. If the VOC content of the well vent vapor gas is less than 10% by weight for 8 consecutive quarterly samplings per District approved plan, sampling frequency shall only be required annually. Representative samples shall be collected during periods of normal operation and not be within 48 hours after routine maintenance or repair. Records of test shall be maintained for a period of five years and be made readily available for District inspection upon request. [District NSR Rule]
- Collected vapors shall discharge to H2S scrubber prior to vapor combustion in flare or bypass to steam generators S-1326-9, '-294, '-295, '-314, '-337, and '-338. [District NSR Rule]

- Emissions from the flare shall not exceed any of the following limits (based on total gas combusted): NO_x (as NO₂): 0.068 lb/MMBtu; PM₁₀: 0.008 lb/MMBtu; CO: 0.37 lb/MMBtu; or VOC: 0.063 lb/MMBtu. [District Rule 2201]

S-1326-287-9:

- Total combined fugitive emissions from all components associated with this TEOR operation shall not exceed 0.0 lb VOC/ day. [District NSR Rule]
- Well casing vents shall remain closed, connected to well produced fluids lines, or connected to a well vent VOC collection and control system at all times except during periods of actual service or repair when wells are not producing. [District NSR Rule and District Rule 4401]
- VOC content of gas collected by the CVR system shall not exceed 10% by weight. Permittee shall maintain a written record of VOC content (sampled not less than annually) and shall make such records available for District inspection upon request for a period of five years. Permittee may use test results obtained from S-1326-263 to demonstrate compliance. [District NSR Rule and District Rule 1070]
- Permittee shall maintain an accurate component count for the well vent collection and control system serving this operation, in accordance with 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. Permittee shall update such records when new components are installed. [District NSR Rule]

E. Compliance Assurance

1. Source Testing

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

2. Monitoring

S-1326-35-11:

Monitoring of the heating value of flare '35 will be required because the DEL is based on the daily amount of gas combusted. The following condition will be included on the ATC:

- The higher heating value of the flared gas shall be monitored at least quarterly. Measured higher heating value and quantity of gas flared shall be used to determine compliance with heat input limits. [District Rules 1070 and 2201]

S-1326-287-9:

An ongoing component inspection and repair program consistent with the requirement of Rule 4401 is currently being implemented. The newly added steam enhanced wells will be subject to this program.

3. Recordkeeping

S-1326-35-11:

Records of the daily quantity of gas combusted by flare '35 will be required as stated in the following condition:

- The permittee shall keep accurate records of the amount of gas flared, H2S content and recharging dates, for a period of five years, and shall make such records available for District inspection upon request. [District NSR Rule] Y

S-1326-287-9:

The following conditions will be included on the ATC to ensure compliance with recordkeeping requirements:

- Permittee shall maintain a current list of all steam enhanced wells authorized by this permit and shall update the list whenever a well is added, replaced, or deleted. [District NSR Rule]
- Permittee shall maintain an accurate component count for the well vent collection and control system serving this operation, in accordance with 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. Permittee shall update such records when new components are installed. [District NSR Rule]
- For a period of at least five years, permittee shall maintain records of the component inspections required by this permit, including the components inspected, date of inspection, leak screening level concentration values recorded and manner and date of repair and reinspection of identified leaking components. Records shall be made readily available for District inspection upon request. [District NSR Rule]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

Rule 2520 Federally Mandated Operating Permits

Vintage has a Title V permit. The changes authorized by these ATCs constitute a minor modification of their Title V permit. The facility has requested that this ATC be issued with a Certificate of Conformity (COC). Therefore, prior to issuance, the ATCs will undergo a 45 day

EPA review. Prior to initial operation under these ATCs, the applicant must submit a Title V application for an administrative amendment, and permit conditions will be listed as follows:

- {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]
- {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]

Rule 4101 Visible Emissions

District Rule 4101, Section 5.0, indicates 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 dark or darker than Ringlemann 1 or equivalent to 20% opacity. Compliance with the requirements of this rule is expected.

Rule 4102 Nuisance

Section 4.0 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.

As demonstrated above, there are no increases in emissions associated with this project, therefore a health risk assessment is not necessary and no further risk analysis is required.

Rule 4401 Steam Enhanced Crude Oil Production Well Vents

The purpose of this rule is to limit the VOC emissions from steam-enhanced crude oil production well vents. This rule is applicable to all steam-enhanced crude oil production wells and any associated vapor collection and control systems.

Section 3.0, Definitions

Section 3.20.2 defines leak as: the dripping of VOC-containing liquid or the detection of a concentration of total organic compound, above background, determined according to the test method specified in Section 6.3.3 that exceeds the values specified in Table 1, Section 3.20.2.1 and Section 3.20.2.2 of this rule. Any liquid or gas coming from a component undergoing repair or replacement, or during sampling of process fluid from a component into a

container is not considered a leak provided such activities are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere.

Table 1 Rule 4401 Gas Leak in ppmv as Methane		
Type of Components	Major Gas Leak	Minor Gas Leak
1. PRDs	Greater than 10,000	400 to 10,000
2. Components other than PRDs	Greater than 10,000	2,000 to 10,000

Section 3.20.2.1 defines Major Liquid Leak as: a visible mist or a continuous flow of liquid that is not seal lubricant.

Section 3.20.2.2 defines Minor Liquid Leak as: a liquid leak, except seal lubricant, that is not a major liquid leak and drips liquid at a rate of more than three drops per minute.

Therefore, the following conditions are listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- A gas leak is defined as the detection of a concentration of total organic compounds, above background (measured in accordance with EPA Method 21) that exceeds the following values: 1) A major gas leak is a detection of greater than 10,000 ppmv as methane; and 2) A minor gas leak is a detection of 400 to 10,000 ppmv as methane for pressure relief devices (PRDs) and 2,000 to 10,000 for components other than PRDs. [District Rule 4401]
- A liquid leak is defined as the dripping of VOC-containing liquid. A major liquid leak is a visible mist or a continuous flow of liquid that is not seal lubricant. A minor liquid leak is a liquid leak that is not a major liquid leak and drips liquid at a rate of more than three drops per minute, except for seal lubricant. [District Rule 4401]

Section 4.0, Exemptions

Section 4.1 states that any steam-enhanced crude oil production well undergoing service or repair during the time the well is not producing is exempt from the requirements of this Rule. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- During the time any steam-enhanced crude oil production well is undergoing service or repair while the well is not producing, it shall be exempt from the emission control requirements of District Rule 4401, 5.0 (as amended December 14, 2006). [District Rule 4401, 4.1]

Section 5.0, Requirements

Sections 5.1 and 5.2 require that no person shall operate a steam-enhanced crude oil production well, except cyclic wells meeting the requirements of Section 5.4, unless the uncontrolled VOC emissions from any well vent are reduced by at least 99% by weight, or if several steam-enhanced crude oil production well vents are connected to a vapor collection and control system, total uncontrolled VOC emissions shall be reduced by at least 99%. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- {1298} The uncontrolled VOC emissions from any well vent shall be reduced by at least 99 percent by weight or, if several steam-enhanced crude oil production well vents are connected to a vapor collection and control system, total uncontrolled VOC emissions shall be reduced by at least 99 percent. [District Rule 4401, 5.1 and 5.2]

Section 5.3 requires that all components of a well vent vapor collection and control system shall be maintained in good repair. A total number of leaks is a violation of this rule if it exceeds the number of allowable leaks. Vapor collection and control systems serving 501 or more wells shall be determined to be in violation of the number of allowable leaks if more than one (1) leak is detected for each 20 wells tested with a minimum of 50 wells tested.

Rule 4401 Allowable Number of Leaks	
Number of Steam Enhanced Crude Oil Production Wells Connected to a Vapor Collection and Control System	Number of Allowable Leaks
Up to and including 25	3
26 to 50	6
51 to 100	8
101 to 250	10
251 to 500	15

Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- Total number of leaks from the vapor collection and control system, including condensate handling, shall not exceed the number as allowed by Rule 4401 (as amended December 14, 2006) at any one time. [District Rule 4401, 5.3]

Section 5.3.1 requires that an operator, upon detection of a leak, shall affix a readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired. Failure to repair a leak within fifteen (15) calendar days shall constitute a violation of this rule. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions have and are being taken to correct the leak. Failure to repair a leak after a ten (10) calendar day extension constitutes a violation of this rule. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- {1302} Operator shall affix a readily visible tag bearing the date on which a leak is detected. The tag shall remain in place until the leaking component is repaired. [District Rule 4401, 5.3.1]
- [1303] The operator shall repair each leak within 15 days of detection. The APCO may grant a 10-day extension if the operator demonstrates that the necessary and sufficient actions have and are being taken to correct the leak. Failure to repair a leak after a 10-day extension constitutes a violation of this rule. [District Rule 4401, 5.3.1]

Section 5.3.2 states that for the purpose of Section 5.3, components of the well vent vapor collection and control system shall include all piping, valves, fittings, pumps, compressors, tanks, etc. used to collect, control, store, or dispose of VOC condensate or non-condensable VOCs prior to blending of VOC condensate with crude oil or blending of non-condensable VOCs with gases to be used as a fuel. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- {1304} Operator shall maintain all components of a well vent vapor collection and control system in good repair. Components of the well vent vapor collection and control system shall include all piping, valves, fittings, pumps, compressors, tanks, etc. used to collect, control, store, or dispose of VOC condensate or non-condensable VOCs and which is prior to any blending of VOC condensate with crude oil or blending of non-condensable VOCs with gases to be used as a fuel. [District Rule 4401, 5.3 and 5.3.2]

Section 5.4 requires that no person shall operate a cyclic well located on properties with less than ten (10) cyclic wells, owned by a company, unless the uncontrolled VOC emissions from any well vent or system of well vents connected to a single vapor collection and control device are reduced by at least 50 percent. Properties shall include contiguous and adjacent oil production properties owned by or under control of the company. Permit unit S-1326-35-11 will have 150 wells and permit unit S-1326-287-9 will have 305 wells. Therefore, the requirements of this section are not applicable and no further discussion is required.

Section 5.5.1 requires that the steam-enhanced crude oil production well vent is closed and the front line production equipment downstream of the wells that carry produced fluids (crude oil or mixture of crude oil and water) is connected to a VOC collection and control system as defined in Section 3.0. The well vent may be temporarily opened during periods of attended service or repair of the well provided such activity is done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- Permittee shall keep the steam-enhanced crude oil production well vents closed and the front line production equipment downstream of the wells that carry produced fluids (crude oil or mixture of crude oil and water) shall be connected to a VOC collection and control system. The well vent may be temporarily opened during periods of attended service or repair of the well provided such activity is done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401]

Section 5.6.1 requires that an operator shall be in violation of this rule if any District inspection demonstrates that one or more of the conditions in Section 5.6.2 exist at the facility or if any operator inspection conducted pursuant to Section 5.8 demonstrates that one or more of the conditions in Section 5.6.2 exist at the facility.

Section 5.6.2 requires that the following conditions shall be used for determination of violation during an inspection pursuant to the provisions of Section 5.6.1:

- 5.6.2.1 Existence of an open-ended line or a valve located at the end of the line that is not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended lines. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere.
- 5.6.2.2 Existence of a component with a major liquid leak as defined in Section 3.0.
- 5.6.2.3 Existence of a component with a gas leak greater than 50,000 ppmv.
- 5.6.2.4 Existence of a component leak described in Section 5.6.2.4.1 through Section 5.6.2.4.3 in excess of the allowable number of leaks specified in Table 3.
 - 5.6.2.4.1 A minor liquid leak, or
 - 5.6.2.4.2 A minor gas leak, or
 - 5.6.2.4.3 A gas leak greater than 10,000 ppmv up to 50,000 ppmv.

Table 3 Rule 4401 Number of Allowable Leaks	
Number of Steam-Enhanced Crude Oil Production Wells Connected to a VOC Collection and Control System	Number of Allowable Leaks
1 to 25	3
26 to 50	6
51 to 100	8
101 to 250	10
251 to 500	15
More than 500	One (1) for each 20 wells tested with a minimum of 50 wells tested.

Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- During District compliance inspection, the following conditions shall be used to determination of a violation: 1) Existence of an open-ended line or a valve located at the end of the line that is not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended lines. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere; 2) Existence of a component with a major liquid leak; 3) Existence of a component with a gas leak greater than 50,000 ppmv; or 4) Existence of a component leak consisting of a minor liquid or gas leak, or a gas leak greater than 10,000 ppmv up to 50,000 ppmv, in excess of the allowable number of leaks specified in Table 3 of Rule 4401. [District Rule 4401]

Section 5.7.1 requires that an operator shall not use any component with a leak as defined in Section 3.0, or that is found to be in violation of the provisions of Section 5.6.2. However, components that were found leaking may be used provided such leaking components have been identified with a tag for repair, are repaired, or awaiting re-inspection after being repaired within the applicable time frame specified in Section 5.9 of this rule. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- {modified 3321} The permittee shall not use any components that leak in excess of the applicable leak standards as specified in this permit. Components that have been found leaking in excess of the applicable leak standards of this rule may be used provided such leaking components have been identified with a tag for repair, are repaired, or are awaiting re-inspection after being repaired, within the applicable time period specified in this permit. [District Rule 4401]

Section 5.7.2 requires that each hatch shall be closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- Permittee shall keep all hatches closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401]

Section 5.7.3 requires that an operator shall comply with the requirements of Section 6.7, if there is any change in the description of major components or critical components. Section 6.7 requires that by January 30 of each year after 2008, an operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to an existing Operator Management Plan. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- {modified 3469} By January 30 of each year, permittee shall submit to the APCO for approval, in writing, an annual report indicating any changes to the existing, approved OMP. [District Rule 4401]

Section 5.8.1 requires that except for pipes and unsafe-to-monitor components, an operator shall inspect all other components pursuant to the requirements of Section 6.3.3 at least once every year.

Section 5.8.2 requires that an operator shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 4 of this rule. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- Except for pipes and unsafe-to-monitor components, permittee shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of Rule 4401 shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 4 of Rule 4401. [District Rule 4401]

Section 5.8.3 requires that in addition to the inspections required by Section 5.8.1, an operator shall inspect for leaks all accessible operating pumps, compressors, and pressure relief devices (PRDs) in service as follows:

- 5.8.3.1 An operator shall audio-visually (by hearing and by sight) inspect for leaks all accessible operating pumps, compressors, and PRDs in service at least once each calendar week.
- 5.8.3.2 Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 4 of this rule.

Therefore, the following conditions will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- Permittee shall inspect audio-visually (by hearing and by sight) for leaks all accessible operating pumps, compressors, and pressure relief devices (PRDs) in service at least once each calendar week. [District Rule 4401]
- Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of Rule 4401 shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as

soon as practicable but not later than the time frame specified in Table 4 of Rule 4401.
[District Rule 4401]

Section 5.8.4 requires that in addition to the inspections required by Section 5.8.1, Section 5.8.2 and Section 5.8.3, an operator shall perform the following inspections:

- 5.8.4.1 An operator shall initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release. An operator shall re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection.
- 5.8.4.2 An operator shall inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service.
- 5.8.4.3 Except for PRDs subject to the requirements of Section 5.8.4.1, an operator shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced.

Therefore, the following conditions will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- Permittee shall initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release. Permittee shall re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection. [District Rule 4401]
- Permittee shall inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service. [District Rule 4401]
- Except for PRDs, an operator shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced. [District Rule 4401]

Section 5.8.5 requires that an operator shall inspect all unsafe-to-monitor components during each turnaround. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- Permittee shall inspect all unsafe-to-monitor components during each turnaround. [District Rule 4401]

Section 5.8.6 requires that a District inspection in no way fulfills any of the mandatory inspection requirements that are placed upon operators and cannot be used or counted as an inspection required of an operator.

Section 5.9.1 requires that an operator shall affix a readily visible weatherproof tag to a leaking component upon detection of the leak. An operator shall include the following information on the tag:

- 1) The date and time of leak detection.
- 2) The date and time of leak measurement.
- 3) For a gaseous leak, the leak concentration in ppmv.
- 4) For a liquid leak, whether it is a major liquid leak or a minor liquid leak.
- 5) Whether the component is an essential component, an unsafe-to-monitor component, or a critical component.

Section 5.9.2 requires that an operator shall keep the tag affixed to the component until an operator has met all of the following conditions:

- 1) Repaired or replaced the leaking component, and
- 2) Re-inspected the component using the test method in Section 6.3.3, and
- 3) The component is found to be in compliance with the requirements of this rule.
- 4) An operator shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak.

Section 5.9.3 requires that an operator shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak.

Therefore, the following conditions will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- Permittee shall affix a readily visible weatherproof tag to a leaking component upon detection of the leak. The following information shall be included on the tag: 1) the date and time of leak detection; 2) the date and time of leak measurement; 3) leak concentration in ppmv for a gaseous leak; 4) description of whether it is a major liquid leak or a minor liquid leak; and 5) whether the component is an essential component, an unsafe-to-monitor component, or a critical component. [District Rule 4401]
- Permittee shall keep the tag affixed to the component until all of the following conditions have been met: 1) the leaking component has been repaired or replaced, and 2) the component has been re-inspected using the test methods described in this permit; and 3) the component is found to be in compliance with the requirements of Rule 4401. [District Rule 4401]
- Permittee shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak. [District Rule 4401]

Section 5.9.4 requires that except for leaking critical components or leaking essential components subject to the requirements of Section 5.9.7, if an operator has minimized a leak but the leak still exceeds the applicable leak limits as defined in Section 3.0, an operator shall comply with at least one of the requirements of Section 5.9.4.1, Section 5.9.4.2, or Section 5.9.4.3 as soon as practicable but not later than the time period specified in Table 4.

- 5.9.4.1 Repair or replace the leaking component; or
- 5.9.4.2 Vent the leaking component to a VOC collection and control system as defined in Section 3.0, or
- 5.9.4.3 Remove the leaking component from operation.

Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- Except for leaking critical components or leaking essential components, if the operator has minimized a leak but the leak still exceeds the applicable leak limits, the operator shall comply with at least one of the following requirements as soon as practicable but not later than the time period specified in Table 4 of Rule 4401: 1) repair or replace the leaking component; 2) vent the leaking component to a VOC collection and control system; or 3) remove the leaking component from operation. [District Rule 4401]

Section 5.9.5 requires that the leak rate measured after leak minimization has been performed shall be the leak rate used to determine the applicable repair period specified in Table 4.

Section 5.9.6 requires that the time of the initial leak detection shall be the start of the repair period specified in Table 4.

Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- The leak rate, measured after leak minimization has been performed, shall be used to determine the applicable repair period specified in Table 4 of Rule 4401 and the time of initial leak detection shall be the start of the repair period specified in Table 4 of Rule 4401. [District Rule 4401]

Section 5.9.7 requires that if the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of this rule, the operator shall repair or replace the essential component or critical component to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- If the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of this rule, the operator shall repair or replace

the essential component or critical component to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier. [District Rule 4401]

Section 6.1, Recordkeeping and Submissions

Section 6.1 requires that an operator shall maintain the records required by Sections 6.1 and 6.2 for a period of five (5) years. These records shall be made available to the APCO upon request. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 1070]

Section 6.1.1 requires that the operator of any steam-enhanced crude oil production well shall maintain records of the date and well identification where steam injection or well stimulation occurs. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- The operator shall maintain monitoring records of the date and well identification where steam injection or well stimulation occurs. [District Rule 4401, 6.1]

Section 6.1.2 states that effective January 15, 1998, a small producer shall maintain monthly records of county-specific crude oil production. For the purpose of this rule, the monthly crude oil production records required by the California Division of Oil, Gas, and Geothermal Resources may be used to satisfy Section 6.1.2. This facility is not a "Small Producer"; therefore this Section of the Rule is not applicable and no further discussion is required.

Section 6.1.5 requires that an inspection log shall be maintained pursuant to Section 6.4. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- Permittee shall maintain an inspection log which includes the following information: 1) the total number of components inspected and the total number and percentage of leaking components found by component type, 2) the location, type, and name or description of each leaking component and description of any unit where the leaking component is found, 3) the date and method of leak detection, 4) the size of the leak (in ppmv for gaseous leaks, and major or minor for liquid leaks), 5) the date the leaking component is repaired, replaced, or removed from service, 6) the identity and location of essential or critical components found leaking that cannot be repaired until the next regular process unit turnaround or not later than one year after leak detection, whichever comes later, 7) the methods used to minimize the leak from essential or critical components, 8) the date of re-inspection and the leak concentration (in ppmv) after the component is repaired or replaced, 9) the inspector's name, mailing address, and business telephone number, and 10) the date and signature of the facility operator responsible for the inspection and repair program certifying the accuracy of the information recorded in the log. [District Rule 4401, 6.1.5 and 6.4]

Section 6.1.6 requires records of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components, including a copy of current calibration gas certification from the vendor of said calibration gas cylinder, the date of calibration, concentration of calibration gas, instrument reading of calibration gas before adjustment, instrument reading of calibration gas after adjustment, calibration gas expiration date, and calibration gas cylinder pressure at the time of calibration. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- Records shall be maintained of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components. The records shall include a copy of the current calibration gas certification from the vendor of the calibration gas cylinder, the date of calibration, the concentration of calibration gas, the instrument reading of calibration gas before adjustment, the instrument reading of calibration gas after adjustment, the calibration gas expiration date, and the calibration gas cylinder pressure at the time of calibration. [District Rule 4401, 6.1.6]

Section 6.1.7 requires an operator shall maintain copies at the facility of the training records of the training program operated pursuant to Section 6.5. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- Permittee shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures, as necessary. Permittee shall maintain at the facility the copies of the training records of the training program. [District Rule 4401, 6.1.7 and 6.5]

Section 6.1.8 requires an operator shall keep a copy of the APCO-approved Operator Management Plan at the facility. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- Permittee shall maintain a copy of the latest APCO-approved Operator Management Plan (OMP) at the facility and make it available to the APCO, ARB, and US EPA upon request. [District Rule 4401, 6.1.8]

Sections 6.1.9 and 6.1.10 specify recordkeeping and submission requirements for gauge tanks. This permit covers thermally enhanced oil recovery wells and does not include any gauge tanks. Therefore, the requirements of these sections are not applicable to this operation and no further discussion is required.

Section 6.2, Compliance Source Testing

Section 6.2.1 requires that an operator source test annually all vapor collection and control systems used to control emissions from steam-enhanced crude oil production well vents to determine control efficiency of the device(s) used for destruction or removal of VOC. Compliance testing shall be performed annually by source testers certified by ARB. Testing shall be performed during June, July, August, or September of each year if the system's control efficiency is dependent upon ambient air temperature.

Section 6.2.2 states that the APCO may waive the annual testing requirement of Section 6.2.1 if all uncondensed VOC emissions collected by a vapor collection and control system are incinerated in fuel burning equipment, an internal combustion engine or in a smokeless flare.

Section 6.2.3 states that the APCO may waive the annual testing requirement of Section 6.2.1 for a vapor control system which does not have a VOC destruction device.

Closed casing vents shows compliance with this section of the rule.

Section 6.2.5 specifies compliance testing requirements for gauge tanks. This permit covers thermally enhanced oil recovery wells and does not include any gauge tanks. Therefore, the requirements of this section are not applicable to this operation and no further discussion is required.

Section 6.3, Test Methods

Section 6.3.2 requires that the VOC content shall be analyzed by using the latest revision of ASTM Method E168, E169, or E260 as applicable. Analysis of halogenated exempt compounds shall be analyzed by CARB Method 432. Vintage is not required to measure the VOC content of the liquids or gases processed by this tank vapor control system operation. Therefore, the requirements of this section are not applicable and no further discussion is required.

Section 6.3.3 specifies that leak detection shall be performed with a portable hydrocarbon detection instrument in accordance with EPA Method 21. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one (1) centimeter or less from the surface of the component interface. Therefore, the following condition will be listed on ATCs S-1326-35-11 and S-1326-287-9 to ensure compliance:

- The operator shall perform leak inspections at least annually, using a portable hydrocarbon detection instrument in accordance with USEPA Method 21. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one centimeter or less from the surface of the component interface. [District Rule 4401, 6.3.3]

Section 6.3.4 specifies that for the purpose of Section 4.6.2, the VOC mass emission rate shall be determined according to the procedures described in the document USEPA-909/9-81-003, September 1981, entitled "Assessment of VOC Emissions from Well Vents Associated with Thermally Enhanced Oil Recovery". Vintage owns and operates more than 10 wells at this stationary source. Therefore, they are not subject to the requirements of Section 4.6.2 and the requirements of this section are not applicable. No further discussion is required.

Compliance with all applicable provisions of the rule is expected.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is located within 1,000 feet of a school. However, pursuant to California Health and Safety Code 42301.6, since this project will not result in an increase in emissions, 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.

Greenhouse Gas (GHG) Significance Determination

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project. The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions (See Attachment D). The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

District CEQA Findings

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

IX. RECOMMENDATION

Compliance with all applicable rules and regulations is expected. Issue Authorities to Construct S-1326-35-11 and S-1326-287-9 subject to the permit conditions on the attached draft Authorities to Construct in Attachment C.

X. BILLING INFORMATION

Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1326-35-11	3020-02-A	150 Wells	\$1,401.00
S-1326-287-9	3020-09-A	305 Wells	\$2,848.70

Attachments:

- Attachment A: Current Permits
- Attachment B: Certificate of Compliance
- Attachment C: Draft Authorities to Construct
- Attachment D: Greenhouse Gas Calculations

Attachment A

Current Permits

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1326-35-10

EXPIRATION DATE: 03/31/2006

SECTION: 14 **TOWNSHIP:** 28S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

THERMALLY ENHANCED OIL RECOVERY OPERATION WITH WELL VENT VAPOR CONTROL SYSTEM SERVING 100 STEAM ENHANCED WELLS, INCLUDING 50 HP COMPRESSOR, ONE AIR-COOLED VAPOR CONDENSER, AND PIPING TO FIELD FUEL GAS SYSTEM, DOGGR DISPOSAL WELL, AND FLARE (S-1326-260) (SECTION 14 YOUNG)

PERMIT UNIT REQUIREMENTS

1. TEOR operation shall include 50 hp compressor, one air-cooled vapor condenser, piping to field fuel gas system, DOGGR disposal well, and flare. (SECTION 14 Young). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Wells may be operated with closed casing vents or be vented to vapor control system. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Collected vapors shall discharge to H2S scrubber prior to vapor combustion in flare or in steam generators S-1326-9, '-294, '-314, '-337, and '-338. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Sulfur scrubber shall be monitored monthly for H2S content of gas after treatment to determine when recharging is required. [District NSR Rule and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
5. Sulfur content of gas combusted in flare shall not exceed 1 gr/100 scf. [District NSR Rule, District Rule 4801, and Kern County Rule 407] Federally Enforceable Through Title V Permit
6. Permittee shall test annually the sulfur content of gas combusted in flare using ASTM method D1072, D3031, D4084, or D3246 and make test results readily available for District inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. Flare shall operate with no visible emission in excess of 5% opacity. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Maximum amount of gas (pilot and waste gas) combusted by flare shall not exceed 150.0 MMBtu/day. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Emissions from the flare shall not exceed any of the following limits (based on total gas combusted): NOx (as NO2): 0.068 lb/MMBtu; PM10: 0.008 lb/MMBtu; CO: 0.37 lb/MMBtu; or VOC: 0.063 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The higher heating value of the flared gas shall be monitored at least quarterly. Measured higher heating value and quantity of gas flared shall be used to determine compliance with heat input limit. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
11. The flare shall be operated according to the manufacturer's specifications, a copy of which shall be maintained on site. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. If this flare requires a pilot flame, then the flare shall be operated with a flame present at all times, and kept in operation when emissions may be vented to it. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

13. This flare shall be inspected every two weeks while in operation for visible emissions. If visible emissions are observed, corrective action shall be taken. If visible emissions continue, an EPA Method 9 test shall be conducted within 72 hours. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. This flare shall not be used as a leak control device as described in Rule 4403, 5.3.1, nor as a control device for any permit unit subject to NSPS, without modification of permit requirements to address 40 CFR 60.18. [District Rule 2520, 9.3.3] Federally Enforceable Through Title V Permit
15. Fluids produced from wells with closed vents shall be introduced only to production equipment served by vapor control system listed on tank S-1326-201 which is 99% efficient. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Well vent vapors shall vent to the field fuel gas system, DOGGR approved injection wells, flare listed on permit S-1326-260, or steam generators S-1326-9, '-294, '-314, '-337, and '-338. [District Rule 2201] Federally Enforceable Through Title V Permit
17. The crude oil production from wells associated with this permit unit shall not lie within 1000 feet of an air injection well used for in-situ combustion. [District Rule 4407, 2.0, 3.4, and 3.5] Federally Enforceable Through Title V Permit
18. During the time any steam-enhanced crude oil production well is undergoing service or repair while the well is not producing, it shall be exempt from the emission control requirements of District Rule 4401, 5.0 (as amended January 15, 1998). [District Rule 4401, 4.1] Federally Enforceable Through Title V Permit
19. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (as amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
20. The operator shall maintain monitoring records of the date and well identification where steam injection or well stimulation occurs. [District Rule 4401, 6.1] Federally Enforceable Through Title V Permit
21. The uncontrolled VOC emissions from any well vent shall be reduced by at least 99 percent by weight or, if several steam-enhanced crude oil production well vents are connected to a vapor collection and control system, total uncontrolled VOC emissions shall be reduced by at least 99 percent. This requirement does not apply to cyclic wells located on contiguous and adjacent oil production properties with less than 10 cyclic wells owned by or under the control of a company. [District Rule 4401, 5.1 and 5.2] Federally Enforceable Through Title V Permit
22. For cyclic wells located on properties with less than 10 cyclic wells and owned by a company, the uncontrolled VOC emissions from any well vent or system of well vents connected to a single control device shall be reduced by at least 50 percent. Properties shall include contiguous and adjacent oil production properties owned by or under control of the company. [District Rule 4401, 5.4] Federally Enforceable Through Title V Permit
23. Total number of leaks from the vapor collection and control system, including condensate handling, shall not exceed the number as allowed by Rule 4401 (as amended January 15, 1998) at any one time. [District Rule 4401, 5.3] Federally Enforceable Through Title V Permit
24. Operator shall affix a readily visible tag bearing the date on which a leak is detected. The tag shall remain in place until the leaking component is repaired. [District Rule 4401, 5.3.1] Federally Enforceable Through Title V Permit
25. Operator shall repair each leak within 15 days of detection. The APCO may grant a 10 day extension if the operator demonstrates that the necessary and sufficient actions have and are being taken to correct the leak. [District Rule 4401, 5.3.1] Federally Enforceable Through Title V Permit
26. Operator shall maintain all components of a well vent vapor collection and control system in good repair. Components of the well vent vapor collection and control system shall include all piping, valves, fittings, pumps, compressors, tanks, etc. used to collect, control, store, or dispose of VOC condensate or non-condensable VOCs and which is prior to any blending of VOC condensate with crude oil or blending of non-condensable VOCs with gases to be used as a fuel. [District Rule 4401, 5.3 and 5.3.2] Federally Enforceable Through Title V Permit

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

27. Annual control efficiency compliance tests shall be performed on all vapor collection and control systems used to control emissions from steam-enhanced crude oil production wells. Testing shall be performed by source tester certified by the California Air Resource Board (CARB) certified contractors during June, July, August or September of each year if the system's control efficiency is dependent upon ambient air temperature. The APCO may waive the requirements of this condition if the vapor control system does not exhaust to atmosphere or if all uncondensed VOC emissions collected by a vapor collection and control system are burned in fuel burning equipment or in a smokeless open flare and the source's Operating Permit contains adequate periodic monitoring to ensure the source meets 99% control efficiency. [District Rule 4401, 5.1, 5.2 and 6.2.1] Federally Enforceable Through Title V Permit
28. The control efficiency of the vapor collection and control system used to control VOC emissions from steam enhanced crude oil production well shall be determined by mass balance based on most stringent of a source test, USEPA approved emission factors, or Air Pollution (AP)-42 emission factors for components; and the efficiency of destruction devices determined by USEPA Method 25, 25a, or 25b as applicable. [District Rule 4401, 6.3.1] Federally Enforceable Through Title V Permit
29. The source shall perform leak inspections at least annually, using a portable hydrocarbon detection instrument in accordance with USEPA Method 21. [District Rules 2520, 9.3.2 and 4401, 6.2.4] Federally Enforceable Through Title V Permit
30. Compliance with permit conditions in the Title V permit shall be deemed compliance with Kern County Rule 108.1. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
31. Compliance with permit conditions in the Title V permit shall be deemed compliance with SJVUAPCD Rule 4401 (Amended January 15, 1998), excluding sections 5.1 and 5.2 for control systems which have been waived from complying with the requirement of section 6.2.1. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
32. The requirements of District Rule 4407 (Adopted May 19, 1994) do not apply to this permit unit because it is not an in situ combustion well vent. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. Wells authorized by this permit shall comply with all applicable requirements of Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit
34. Well head casing vent collection piping network shall be limited to 100 steam enhanced wells. [District NSR Rule] Federally Enforceable Through Title V Permit
35. Leaks shall be inspected and repaired as specified in Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit
36. VOC content of well vent vapor gas shall not exceed 10% by weight. If the VOC content of the well vent vapor gas is less than 10% by weight for 8 consecutive quarterly samplings per District approved plan, sampling frequency shall only be required annually. Representative samples shall be collected during periods of normal operation and not be within 48 hours after routine maintenance or repair. Records of test shall be maintained for a period of five years and be made readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
37. VOC content shall be determined using ASTM Method D1945, D3588, or EPA method 18. [District Rule 4401, 6.2.3] Federally Enforceable Through Title V Permit
38. The permittee shall keep accurate records of the amount of gas (pilot and waste gas) flared, H₂S content and recharging dates, for a period of five years, and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
39. Permittee shall maintain a current well roster of all wells served by collection system, and such roster shall be made readily available for District inspection upon request. [District Rule 2520, 9.3.2 and District Rule 1070] Federally Enforceable Through Title V Permit

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



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1326-287-8

ISSUANCE DATE: 06/10/2008

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

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SW23 **TOWNSHIP:** 28S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

MODIFICATION OF THERMALLY ENHANCED OIL RECOVERY OPERATION WITH 130 STEAM ENHANCED PRODUCTION WELLS CONNECTED TO WELL HEAD CASING VENT VAPOR RECOVERY SYSTEM (CVR) VENTING VAPORS TO SECTION 23 TANK VAPOR RECOVERY SYSTEM (S-1326-263): ADD 75 STEAM ENHANCED WELLS

CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Well casing vents shall remain closed, connected to well produced fluids lines, or connected to a well vent VOC collection and control system at all times except during periods of actual service or repair when wells are not producing. [District NSR Rule and District Rule 4401] Federally Enforceable Through Title V Permit
3. Collected CVR vapor shall be piped to tank vapor recovery system (TVR) serving S-1326-263. [District NSR Rule] Federally Enforceable Through Title V Permit
4. VOC content of gas collected by the CVR system shall not exceed 10% by weight. Permittee shall maintain a written record of VOC content (sampled not less than annually) and shall make such records available for District inspection upon request for a period of five years. Permittee may use test results obtained from S-1326-263 to demonstrate compliance. [District NSR Rule and District Rule 1070] Federally Enforceable Through Title V Permit
5. Fluids produced from these steam enhanced wells shall be introduced only to tanks listed on permit S-1326-263 that are vented to an approved vapor collection and control system achieving 99% control. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Permittee shall maintain a current list of all steam enhanced wells authorized by this permit and shall update the list whenever a well is added, replaced, or deleted. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 326-6900 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Sayed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1326-287-8 : Jun 10 2008 4:55PM - KARRSR : Joint Inspection NOT Required

7. Steam enhanced production wells covered by this permit shall each have a visible identification number. Field personnel shall be provided with written instructions concerning proper operation and maintenance of these wells. [District NSR Rule] Federally Enforceable Through Title V Permit
8. The crude oil production from wells associated with this permit unit shall not lie within 1000 feet of an air injection well used for in-situ combustion. [District Rule 4407, 2.0, 3.4, and 3.5] Federally Enforceable Through Title V Permit
9. Permittee shall maintain an accurate component count for the well vent collection and control system serving this operation, in accordance with 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. Permittee shall update such records when new components are installed. [District NSR Rule] Federally Enforceable Through Title V Permit
10. Total combined fugitive emissions from all components associated with this TEOR operation shall not exceed 0.0 lb VOC/ day. [District NSR Rule] Federally Enforceable Through Title V Permit
11. During the time any steam-enhanced crude oil production well is undergoing service or repair while the well is not producing, it shall be exempt from the emission control requirements of District Rule 4401, 5.0 (as amended December 14, 2006). [District Rule 4401, 4.1] Federally Enforceable Through Title V Permit
12. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (as amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
13. The operator shall maintain monitoring records of the date and well identification where steam injection or well stimulation occurs. [District Rule 4401, 6.1] Federally Enforceable Through Title V Permit
14. The 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 2520, 9.5.2] Federally Enforceable Through Title V Permit
15. The source shall perform leak inspections at least annually, using a portable hydrocarbon detection instrument in accordance with USEPA Method 21. [District Rules 2520, 9.4.2 and 4401, 6.3.3] Federally Enforceable Through Title V Permit
16. Portable hydrocarbon detection instrument shall be operated and calibrated in accordance with recommendations in CAPCOA/CARB's California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities (February, 1999). [District NSR Rule] Federally Enforceable Through Title V Permit
17. All polish rod stuffing boxes shall be inspected and screened for leaks using EPA method 21 at least quarterly. If less than two percent of the polish rod stuffing boxes are found to leak during each of five consecutive quarterly inspections, the inspection frequency may be changed from quarterly to annually. If any annual inspection shows that more than 2 percent of the polish rod stuffing boxes are leaking, then quarterly inspections shall be resumed. Any polish rod leaking greater than 10,000 ppmv, when measured with a portable hydrocarbon detection instrument calibrated with methane in accordance with EPA method 21 or leaking at a rate of greater than 3 drops of liquid per minute shall be repaired consistent with the procedures specified in Section 5.3.1 of Rule 4401. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Operator shall affix a readily visible tag bearing the date on which a leak is detected. The tag shall remain in place until the leaking component is repaired. [District Rule 4401, 5.3.1] Federally Enforceable Through Title V Permit
19. Well casings, casing vents, any casing vent piping and fluid piping associated with these wells shall be screened and inspected for leaks at least quarterly with a minimum of 25% of the wells tested per quarter. Any leak greater than 5000 ppm, when measured with a portable hydrocarbon detection instrument calibrated with methane in accordance with EPA Method 21 or leaking at a rate of greater than 3 drops of liquid per minute, shall be repaired in a manner consistent with the procedures specified in Section 5.3.1 of Rule 4401. [District NSR Rule] Federally Enforceable Through Title V Permit
20. For a period of at least five years, permittee shall maintain records of the component inspections required by this permit, including the components inspected, date of inspection, leak screening level concentration values recorded and manner and date of repair and reinspection of identified leaking components. Records shall be made readily available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Components to be screened shall be identified and categorized according to the following equipment types: connectors, flanges, open-ended lines, pump seals, valves with visible actuators, polished rods stuffing boxes and other (pressure relief devices, compressor seals, meters, etc.). [District NSR Rule] Federally Enforceable Through Title V Permit
22. Flanges shall be monitored with a portable hydrocarbon detection instrument along the entire circumference of the flange-gasket interface. Threaded connections, tubing fittings, and other types of non-permanent joints shall be monitored along the entire circumference of joint interface. [District NSR Rule] Federally Enforceable Through Title V Permit
23. Valves shall be monitored with a portable hydrocarbon detection instrument where the stem comes through the packing gland, and at any attached or connected body flange(s), bonnet flange(s), or plug(s). [District NSR Rule] Federally Enforceable Through Title V Permit
24. All other components such as diaphragms, dump arms, instruments, meters shall be monitored at all points of possible emissions. [District NSR Rule] Federally Enforceable Through Title V Permit
25. The uncontrolled VOC emissions from any well vent shall be reduced by at least 99 percent by weight or, if several steam-enhanced crude oil production well vents are connected to a vapor collection and control system, total uncontrolled VOC emissions shall be reduced by at least 99 percent. This requirement does not apply to cyclic wells located on contiguous and adjacent oil production properties with less than 10 cyclic wells owned by or under the control of a company. [District Rule 4401, 5.1 and 5.2] Federally Enforceable Through Title V Permit
26. Operator shall maintain all components of a well vent vapor collection and control system in good repair. Components of the well vent vapor collection and control system shall include all piping, valves, fittings, pumps, compressors, tanks, etc. used to collect, control, store, or dispose of VOC condensate or non-condensable VOCs and which is prior to any blending of VOC condensate with crude oil or blending of non-condensable VOCs with gases to be used as a fuel. [District Rule 4401, 5.3 and 5.3.2] Federally Enforceable Through Title V Permit
27. Total number of leaks from the vapor collection and control system, including condensate handling, shall not exceed the number as allowed by Rule 4401 (as amended December 14, 2006) at any one time. [District Rule 4401, 5.3] Federally Enforceable Through Title V Permit
28. Annual control efficiency compliance tests shall be performed on all vapor collection and control systems used to control emissions from steam-enhanced crude oil production wells. Testing shall be performed by source testers certified by the California Air Resources Board (CARB) during June, July, August or September of each year if the system's control efficiency is dependent upon ambient air temperature. The APCO may waive the annual testing requirements of this condition if the vapor control system does not exhaust to atmosphere or if all uncondensed VOC emissions collected by a vapor collection and control system are incinerated in fuel burning equipment, an internal combustion engine or in a smokeless open flare, and the source's Operating Permit contains adequate periodic monitoring to ensure the source meets 99% control efficiency. [District Rule 4401, 5.1, 5.2 and 6.2.1] Federally Enforceable Through Title V Permit
29. The control efficiency of the vapor collection and control system used to control VOC emissions from steam enhanced crude oil production well shall be determined by mass balance based on most stringent of a source test, USEPA approved emission factors, or Air Pollution (AP)-42 emission factors for components and number of components; and the efficiency of destruction devices determined by USEPA Method 25, 25a, or 25b as applicable. [District Rule 4401, 6.3.1] Federally Enforceable Through Title V Permit
30. VOC content shall be determined using ASTM Method E168, E169, or E260 as applicable, or equivalent test method with prior District approval. Halogenated exempt compounds shall be determined by CARB Method 432. [District Rule 4401, 6.3.2] Federally Enforceable Through Title V Permit
31. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
32. Compliance with permit conditions in the Title V permit shall be deemed compliance with SJVUAPCD Rule 4401 (Amended January 15, 1998), excluding sections 5.1 and 5.2 for control systems which have been waived from complying with the requirement of section 6.2.1. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. The requirements of SJVUAPCD Rule 4407 (Adopted May 19, 1994) do not apply to this permit unit. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

Attachment B

Certificate of Compliance

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

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

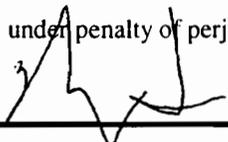
- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE
 MINOR PERMIT MODIFICATION AMENDMENT

COMPANY NAME: Vintage Production California LLC	FACILITY ID: S - 1326
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name: Vintage Production California LLC	
3. Agent to the Owner: Jim Robinson (661) 332-0343	

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

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

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



Signature of Responsible Official

12/5/2009

Date

Will Hill

Name of Responsible Official (please print)

Operations Manager

Title of Responsible Official (please print)

Attachment C

Draft Authorities to Construct

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1326-35-11

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: 14 **TOWNSHIP:** 28S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

MODIFICATION OF THERMALLY ENHANCED OIL RECOVERY OPERATION WITH WELL VENT VAPOR CONTROL SYSTEM SERVING 100 STEAM ENHANCED WELLS, INCLUDING 50 HP COMPRESSOR, ONE AIR-COOLED VAPOR CONDENSER, AND PIPING TO FIELD FUEL GAS SYSTEM, DOGGR DISPOSAL WELL, AND FLARE (S-1326-260) (SECTION 14 YOUNG): INCREASE THE NUMBER OF STEAM ENHANCED WELLS FROM 100 WELLS TO 150 WELLS

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 NSR Rule] 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. TEOR operation shall include 50 hp compressor, one air-cooled vapor condenser, piping to field fuel gas system, DOGGR disposal well, and flare. (SECTION 14 Young). [District Rule 2201] Federally Enforceable Through Title V Permit
4. Wells may be operated with closed casing vents or be vented to vapor control system. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Collected vapors shall discharge to H2S scrubber prior to vapor combustion in flare or in steam generators S-1326-9, '-294, '-314, '-337, and '-338. [District NSR Rule] 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

S-1326-35-11 Apr 12 2010 11:25AM -- GARCIAJ -- Joint Inspection NOT Required

6. Sulfur scrubber shall be monitored monthly for H₂S content of gas after treatment to determine when recharging is required. [District NSR Rule and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. Sulfur content of gas combusted in flare shall not exceed 1 gr/100 scf. [District NSR Rule, District Rule 4801, and Kern County Rule 407] Federally Enforceable Through Title V Permit
8. Permittee shall test annually the sulfur content of gas combusted in flare using ASTM method D1072, D3031, D4084, or D3246 and make test results readily available for District inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
9. Flare shall operate with no visible emission in excess of 5% opacity. [District NSR Rule] Federally Enforceable Through Title V Permit
10. Maximum amount of gas (pilot and waste gas) combusted by flare shall not exceed 150.0 MMBtu/day. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Emissions from the flare shall not exceed any of the following limits (based on total gas combusted): NO_x (as NO₂): 0.068 lb/MMBtu; PM₁₀: 0.008 lb/MMBtu; CO: 0.37 lb/MMBtu; or VOC: 0.063 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The higher heating value of the flared gas shall be monitored at least quarterly. Measured higher heating value and quantity of gas flared shall be used to determine compliance with heat input limit. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
13. The flare shall be operated according to the manufacturer's specifications, a copy of which shall be maintained on site. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. If this flare requires a pilot flame, then the flare shall be operated with a flame present at all times, and kept in operation when emissions may be vented to it. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
15. This flare shall be inspected every two weeks while in operation for visible emissions. If visible emissions are observed, corrective action shall be taken. If visible emissions continue, an EPA Method 9 test shall be conducted within 72 hours. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. This flare shall not be used as a leak control device as described in Rule 4403, 5.3.1, nor as a control device for any permit unit subject to NSPS, without modification of permit requirements to address 40 CFR 60.18. [District Rule 2520, 9.3.3] Federally Enforceable Through Title V Permit
17. A gas leak is defined as the detection of a concentration of total organic compounds, above background (measured in accordance with EPA Method 21) that exceeds the following values: 1) A major gas leak is a detection of greater than 10,000 ppmv as methane; and 2) A minor gas leak is a detection of 400 to 10,000 ppmv as methane for pressure relief devices (PRDs) and 2,000 to 10,000 for components other than PRDs. [District Rule 4401]
18. A liquid leak is defined as the dripping of VOC-containing liquid. A major liquid leak is a visible mist or a continuous flow of liquid that is not seal lubricant. A minor liquid leak is a liquid leak that is not a major liquid leak and drips liquid at a rate of more than three drops per minute, except for seal lubricant. [District Rule 4401]
19. Fluids produced from wells with closed vents shall be introduced only to production equipment served by vapor control system listed on tank S-1326-201 which is 99% efficient. [District NSR Rule] Federally Enforceable Through Title V Permit
20. Well vent vapors shall vent to the field fuel gas system, DOGGR approved injection wells, flare listed on permit S-1326-260, or steam generators S-1326-9, '-294, '-314, '-337, and '-338. [District Rule 2201] Federally Enforceable Through Title V Permit
21. {1294} The crude oil production from wells associated with this permit unit shall not lie within 1000 feet of an air injection well used for in-situ combustion. [District Rule 4407, 2.0, 3.4, and 3.5] Federally Enforceable Through Title V Permit
22. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (as amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit

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23. Permittee shall keep the steam-enhanced crude oil production well vents closed and the front line production equipment downstream of the wells that carry produced fluids (crude oil or mixture of crude oil and water) shall be connected to a VOC collection and control system. The well vent may be temporarily opened during periods of attended service or repair of the well provided such activity is done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401]
24. During the time any steam-enhanced crude oil production well is undergoing service or repair while the well is not producing, it shall be exempt from the emission control requirements of District Rule 4401, 5.0 (as amended December 14, 2006). [District Rule 4401, 4.1] Federally Enforceable Through Title V Permit
25. {1298} The uncontrolled VOC emissions from any well vent shall be reduced by at least 99 percent by weight or, if several steam-enhanced crude oil production well vents are connected to a vapor collection and control system, total uncontrolled VOC emissions shall be reduced by at least 99 percent. This requirement does not apply to cyclic wells located on contiguous and adjacent oil production properties with less than 10 cyclic wells owned by or under the control of a company. [District Rule 4401, 5.1 and 5.2] Federally Enforceable Through Title V Permit
26. {1299} For cyclic wells located on properties with less than 10 cyclic wells and owned by a company, the uncontrolled VOC emissions from any well vent or system of well vents connected to a single control device shall be reduced by at least 50 percent. Properties shall include contiguous and adjacent oil production properties owned by or under control of the company. [District Rule 4401, 5.4] Federally Enforceable Through Title V Permit
27. Total number of leaks from the vapor collection and control system, including condensate handling, shall not exceed the number as allowed by Rule 4401 (as amended December 14, 2006) at any one time. [District Rule 4401, 5.3] Federally Enforceable Through Title V Permit
28. {1302} Operator shall affix a readily visible tag bearing the date on which a leak is detected. The tag shall remain in place until the leaking component is repaired. [District Rule 4401, 5.3.1] Federally Enforceable Through Title V Permit
29. {1304} Operator shall maintain all components of a well vent vapor collection and control system in good repair. Components of the well vent vapor collection and control system shall include all piping, valves, fittings, pumps, compressors, tanks, etc. used to collect, control, store, or dispose of VOC condensate or non-condensable VOCs and which is prior to any blending of VOC condensate with crude oil or blending of non-condensable VOCs with gases to be used as a fuel. [District Rule 4401, 5.3 and 5.3.2] Federally Enforceable Through Title V Permit
30. Annual control efficiency compliance tests shall be performed on all vapor collection and control systems used to control emissions from steam-enhanced crude oil production wells. Testing shall be performed by source tester certified by the California Air Resource Board (CARB) certified contractors during June, July, August or September of each year if the system's control efficiency is dependent upon ambient air temperature. The APCO may waive the requirements of this condition if the vapor control system does not exhaust to atmosphere or if all uncondensed VOC emissions collected by a vapor collection and control system are burned in fuel burning equipment or in a smokeless open flare and the source's Operating Permit contains adequate periodic monitoring to ensure the source meets 99% control efficiency. [District Rule 4401, 5.1, 5.2 and 6.2.1] Federally Enforceable Through Title V Permit
31. The control efficiency of the vapor collection and control system used to control VOC emissions from steam enhanced crude oil production well shall be determined by mass balance based on most stringent of a source test, USEPA approved emission factors, or Air Pollution (AP)-42 emission factors for components; and the efficiency of destruction devices determined by USEPA Method 25, 25a, or 25b as applicable. [District Rule 4401, 6.3.1] Federally Enforceable Through Title V Permit
32. Permittee shall perform leak inspections at least annually, using a portable hydrocarbon detection instrument in accordance with USEPA Method 21. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one centimeter or less from the surface of the component interface. [District Rules 2520, 9.3.2 and 4401]
33. The permittee shall not use any components that leak in excess of the applicable leak standards as specified in this permit. Components that have been found leaking in excess of the applicable leak standards of this rule may be used provided such leaking components have been identified with a tag for repair, are repaired, or are awaiting re-inspection after being repaired, within the applicable time period specified in this permit. [District Rule 4401]

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34. Permittee shall maintain a copy of the latest APCO-approved Operator Management Plan (OMP) at the facility and make it available to the APCO, ARB, and US EPA upon request. [District Rule 4401]
35. By January 30 of each year, permittee shall submit to the APCO for approval, in writing, an annual report indicating any changes to the existing, approved OMP. [District Rule 4401]
36. During District compliance inspection, the following conditions shall be used to determination of a violation: 1) Existence of an open-ended line or a valve located at the end of the line that is not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended lines. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere; 2) Existence of a component with a major liquid leak; 3) Existence of a component with a gas leak greater than 50,000 ppmv; or 4) Existence of a component leak consisting of a minor liquid or gas leak, or a gas leak greater than 10,000 ppmv up to 50,000 ppmv, in excess of the allowable number of leaks specified in Table 3 of Rule 4401. [District Rule 4401]
37. Permittee shall keep all hatches closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401]
38. Except for pipes and unsafe-to-monitor components, permittee shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of Rule 4401 shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 4 of Rule 4401. [District Rule 4401]
39. Permittee shall inspect all unsafe-to-monitor components during each turnaround. [District Rule 4401]
40. Permittee shall inspect audio-visually (by hearing and by sight) for leaks all accessible operating pumps, compressors, and pressure relief devices (PRDs) in service at least once each calendar week. [District Rule 4401]
41. Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of Rule 4401 shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 4 of Rule 4401. [District Rule 4401]
42. Permittee shall initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release. Permittee shall re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection. [District Rule 4401]
43. Permittee shall inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service. [District Rule 4401]
44. Except for PRDs, permittee shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced. [District Rule 4401]
45. Permittee shall affix a readily visible weatherproof tag to a leaking component upon detection of the leak. The following information shall be included on the tag: 1) the date and time of leak detection; 2) the date and time of leak measurement; 3) leak concentration in ppmv for a gaseous leak; 4) description of whether it is a major liquid leak or a minor liquid leak; and 5) whether the component is an essential component, an unsafe-to-monitor component, or a critical component. [District Rule 4401]
46. Permittee shall keep the tag affixed to the component until all of the following conditions have been met: 1) the leaking component has been repaired or replaced, and 2) the component has been re-inspected using the test methods described in this permit; and 3) the component is found to be in compliance with the requirements of Rule 4401. [District Rule 4401]
47. Permittee shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak. [District Rule 4401]

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48. Except for leaking critical components or leaking essential components, if the operator has minimized a leak but the leak still exceeds the applicable leak limits, the operator shall comply with at least one of the following requirements as soon as practicable but not later than the time period specified in Table 4 of Rule 4401: 1) repair or replace the leaking component; 2) vent the leaking component to a VOC collection and control system; or 3) remove the leaking component from operation. [District Rule 4401]
49. The leak rate, measured after leak minimization has been performed, shall be used to determine the applicable repair period specified in Table 4 of Rule 4401 and the time of initial leak detection shall be the start of the repair period specified in Table 4 of Rule 4401. [District Rule 4401]
50. If the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of this rule, the operator shall repair or replace the essential component or critical component to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier. [District Rule 4401]
51. Permittee shall maintain an inspection log in which, at a minimum, all of the following information shall be recorded for each inspection performed: 1) The total number of components inspected, and the total number and percentage of leaking components found by component type; 2) The location, type, and name or description of each leaking component and description of any unit where the leaking component is found; 3) The date of leak detection and the method of leak detection; 4) For gaseous leaks, the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak; 5) The date of repair, replacement, or removal from operation of leaking components; 6) The identify and location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier; 7) The methods used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier; 8) The date of re-inspection and the leak concentration in ppmv after the component is repaired or is replaced; 9) The inspector's name, business mailing address, and business telephone number; and 10) The date and signature of the facility operator responsible for the inspection and repair program certifying the accuracy of the information recorded in the log. [District Rule 4401]
52. Compliance with permit conditions in the Title V permit shall be deemed compliance with Kern County Rule 108.1. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
53. Compliance with permit conditions in the Title V permit shall be deemed compliance with SJVUAPCD Rule 4401 (Amended December 14, 2006), excluding sections 5.1 and 5.2 for control systems which have been waived from complying with the requirement of section 6.2.1. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
54. {2459} The requirements of District Rule 4407 (Adopted May 19, 1994) do not apply to this permit unit because it is not an in situ combustion well vent. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
55. Wells authorized by this permit shall comply with all applicable requirements of Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit
56. Well head casing vent collection piping network shall be limited to 150 steam enhanced wells. [District NSR Rule] Federally Enforceable Through Title V Permit
57. Leaks shall be inspected and repaired as specified in Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit
58. VOC content of well vent vapor gas shall not exceed 10% by weight. If the VOC content of the well vent vapor gas is less than 10% by weight for 8 consecutive quarterly samplings per District approved plan, sampling frequency shall only be required annually. Representative samples shall be collected during periods of normal operation and not be within 48 hours after routine maintenance or repair. Records of test shall be maintained for a period of five years and be made readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

59. VOC content shall be determined using ASTM Method D1945, D3588, or EPA method 18. [District Rule 4401, 6.2.3] Federally Enforceable Through Title V Permit
60. Permittee shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures, as necessary. Permittee shall maintain at the facility the copies of the training records of the training program. [District Rule 4401]
61. {1297} The operator shall maintain monitoring records of the date and well identification where steam injection or well stimulation occurs. [District Rule 4401, 6.1] Federally Enforceable Through Title V Permit
62. The permittee shall keep accurate records of the amount of gas (pilot and waste gas) flared, H₂S content and recharging dates, for a period of five years, and shall make such records available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
63. Permittee shall maintain a current well roster of all wells served by collection system, and such roster shall be made readily available for District inspection upon request. [District Rule 2520, 9.3.2 and District Rule 1070] Federally Enforceable Through Title V Permit
64. Records shall be maintained of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components. The records shall include a copy of the current calibration gas certification from the vendor of the calibration gas cylinder, the date of calibration, the concentration of calibration gas, the instrument reading of calibration gas before adjustment, the instrument reading of calibration gas after adjustment, the calibration gas expiration date, and the calibration gas cylinder pressure at the time of calibration. [District Rule 4401]
65. All records required by this permit shall be maintained and retained on-site for a minimum of five (5) years and made available for District, ARB, and EPA inspection upon request. [District Rule 4401]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
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PERMIT NO: S-1326-287-9

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: SW23 **TOWNSHIP:** 28S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

MODIFICATION OF THERMALLY ENHANCED OIL RECOVERY OPERATION WITH 205 STEAM ENHANCED PRODUCTION WELLS CONNECTED TO WELL HEAD CASING VENT VAPOR RECOVERY SYSTEM (CVR) VENTING VAPORS TO SECTION 23 TANK VAPOR RECOVERY SYSTEM (S-1326-263): INCREASE THE NUMBER OF STEAM ENHANCED WELLS FROM 205 WELLS TO 305 WELLS

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 NSR Rule] 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. Authority to Construct (ATC) S-1326-287-8 shall be implemented concurrently or prior to the modification and startup of the equipment authorized by this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Well casing vents shall remain closed, connected to well produced fluids lines, or connected to a well vent VOC collection and control system at all times except during periods of actual service or repair when wells are not producing. [District NSR Rule and District Rule 4401] Federally Enforceable Through Title V Permit
5. Collected CVR vapor shall be piped to tank vapor recovery system (TVR) serving S-1326-263. [District NSR Rule] 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.

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DAVID WARNER, Director of Permit Services

S-1326-287-9 : Apr 12 2010 11:28AM -- GARCIAJ : Joint Inspection NOT Required

6. VOC content of gas collected by the CVR system shall not exceed 10% by weight. Permittee shall maintain a written record of VOC content (sampled not less than annually) and shall make such records available for District inspection upon request for a period of five years. Permittee may use test results obtained from S-1326-263 to demonstrate compliance. [District NSR Rule and District Rule 1070] Federally Enforceable Through Title V Permit
7. Fluids produced from these steam enhanced wells shall be introduced only to tanks listed on permit S-1326-263 that are vented to an approved vapor collection and control system achieving 99% control. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Permittee shall maintain a current list of all steam enhanced wells authorized by this permit and shall update the list whenever a well is added, replaced, or deleted. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Steam enhanced production wells covered by this permit shall each have a visible identification number. Field personnel shall be provided with written instructions concerning proper operation and maintenance of these wells. [District NSR Rule] Federally Enforceable Through Title V Permit
10. {1294} The crude oil production from wells associated with this permit unit shall not lie within 1000 feet of an air injection well used for in-situ combustion. [District Rule 4407, 2.0, 3.4, and 3.5] Federally Enforceable Through Title V Permit
11. Total combined fugitive emissions from all components associated with this TEOR operation shall not exceed 0.0 lb VOC/ day. [District NSR Rule] Federally Enforceable Through Title V Permit
12. During the time any steam-enhanced crude oil production well is undergoing service or repair while the well is not producing, it shall be exempt from the emission control requirements of District Rule 4401, 5.0 (as amended December 14, 2006). [District Rule 4401, 4.1] Federally Enforceable Through Title V Permit
13. {1296} All required source testing shall conform to the compliance testing procedures described in District Rule 1081(as amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
14. {1297} The operator shall maintain monitoring records of the date and well identification where steam injection or well stimulation occurs. [District Rule 4401, 6.1] Federally Enforceable Through Title V Permit
15. {520} The 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 2520, 9.5.2] Federally Enforceable Through Title V Permit
16. Permittee shall perform leak inspections at least annually, using a portable hydrocarbon detection instrument in accordance with USEPA Method 21. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one centimeter or less from the surface of the component interface. [District Rules 2520, 9.4.2 and 4401]
17. The source shall perform leak inspections at least annually, using a portable hydrocarbon detection instrument in accordance with USEPA Method 21. [District Rules 2520, 9.4.2 and 4401, 6.3.3] Federally Enforceable Through Title V Permit
18. A gas leak is defined as the detection of a concentration of total organic compounds, above background (measured in accordance with EPA Method 21) that exceeds the following values: 1) A major gas leak is a detection of greater than 10,000 ppmv as methane; and 2) A minor gas leak is a detection of 400 to 10,000 ppmv as methane for pressure relief devices (PRDs) and 2,000 to 10,000 for components other than PRDs. [District Rule 4401]
19. A liquid leak is defined as the dripping of VOC-containing liquid. A major liquid leak is a visible mist or a continuous flow of liquid that is not seal lubricant. A minor liquid leak is a liquid leak that is not a major liquid leak and drips liquid at a rate of more than three drops per minute, except for seal lubricant. [District Rule 4401]
20. Portable hydrocarbon detection instrument shall be operated and calibrated in accordance with recommendations in CAPCOA/CARB's California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities (February, 1999). [District NSR Rule] Federally Enforceable Through Title V Permit

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21. All polish rod stuffing boxes shall be inspected and screened for leaks using EPA method 21 at least quarterly. If less than two percent of the polish rod stuffing boxes are found to leak during each of five consecutive quarterly inspections, the inspection frequency may be changed from quarterly to annually. If any annual inspection shows that more than 2 percent of the polish rod stuffing boxes are leaking, then quarterly inspections shall be resumed. Any polish rod leaking greater than 10,000 ppmv, when measured with a portable hydrocarbon detection instrument calibrated with methane in accordance with EPA method 21 or leaking at a rate of greater than 3 drops of liquid per minute shall be repaired consistent with the procedures specified in Section 5.3.1 of Rule 4401. [District NSR Rule] Federally Enforceable Through Title V Permit
22. {1302} Operator shall affix a readily visible tag bearing the date on which a leak is detected. The tag shall remain in place until the leaking component is repaired. [District Rule 4401, 5.3.1] Federally Enforceable Through Title V Permit
23. The permittee shall not use any components that leak in excess of the applicable leak standards as specified in this permit. Components that have been found leaking in excess of the applicable leak standards of this rule may be used provided such leaking components have been identified with a tag for repair, are repaired, or are awaiting re-inspection after being repaired, within the applicable time period specified in this permit. [District Rule 4401]
24. Permittee shall maintain a copy of the latest APCO-approved Operator Management Plan (OMP) at the facility and make it available to the APCO, ARB, and US EPA upon request. [District Rule 4401]
25. By January 30 of each year, permittee shall submit to the APCO for approval, in writing, an annual report indicating any changes to the existing, approved OMP. [District Rule 4401]
26. During District compliance inspection, the following conditions shall be used to determination of a violation: 1) Existence of an open-ended line or a valve located at the end of the line that is not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended lines. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere; 2) Existence of a component with a major liquid leak; 3) Existence of a component with a gas leak greater than 50,000 ppmv; or 4) Existence of a component leak consisting of a minor liquid or gas leak, or a gas leak greater than 10,000 ppmv up to 50,000 ppmv, in excess of the allowable number of leaks specified in Table 3 of Rule 4401. [District Rule 4401]
27. Permittee shall keep all hatches closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401]
28. Except for pipes and unsafe-to-monitor components, permittee shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of Rule 4401 shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 4 of Rule 4401. [District Rule 4401]
29. Permittee shall inspect all unsafe-to-monitor components during each turnaround. [District Rule 4401]
30. Permittee shall inspect audio-visually (by hearing and by sight) for leaks all accessible operating pumps, compressors, and pressure relief devices (PRDs) in service at least once each calendar week. [District Rule 4401]
31. Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of Rule 4401 shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 4 of Rule 4401. [District Rule 4401]
32. Permittee shall initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release. Permittee shall re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection. [District Rule 4401]
33. Permittee shall inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service. [District Rule 4401]

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34. Except for PRDs, permittee shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced. [District Rule 4401]
35. Permittee shall affix a readily visible weatherproof tag to a leaking component upon detection of the leak. The following information shall be included on the tag: 1) the date and time of leak detection; 2) the date and time of leak measurement; 3) leak concentration in ppmv for a gaseous leak; 4) description of whether it is a major liquid leak or a minor liquid leak; and 5) whether the component is an essential component, an unsafe-to-monitor component, or a critical component. [District Rule 4401]
36. Permittee shall keep the tag affixed to the component until all of the following conditions have been met: 1) the leaking component has been repaired or replaced, and 2) the component has been re-inspected using the test methods described in this permit; and 3) the component is found to be in compliance with the requirements of Rule 4401. [District Rule 4401]
37. Permittee shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak. [District Rule 4401]
38. Except for leaking critical components or leaking essential components, if the operator has minimized a leak but the leak still exceeds the applicable leak limits, the operator shall comply with at least one of the following requirements as soon as practicable but not later than the time period specified in Table 4 of Rule 4401: 1) repair or replace the leaking component; 2) vent the leaking component to a VOC collection and control system; or 3) remove the leaking component from operation. [District Rule 4401]
39. The leak rate, measured after leak minimization has been performed, shall be used to determine the applicable repair period specified in Table 4 of Rule 4401 and the time of initial leak detection shall be the start of the repair period specified in Table 4 of Rule 4401. [District Rule 4401]
40. If the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of this rule, the operator shall repair or replace the essential component or critical component to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier. [District Rule 4401]
41. Permittee shall maintain an inspection log in which, at a minimum, all of the following information shall be recorded for each inspection performed: 1) The total number of components inspected, and the total number and percentage of leaking components found by component type; 2) The location, type, and name or description of each leaking component and description of any unit where the leaking component is found; 3) The date of leak detection and the method of leak detection; 4) For gaseous leaks, the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak; 5) The date of repair, replacement, or removal from operation of leaking components; 6) The identify and location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier; 7) The methods used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier; 8) The date of re-inspection and the leak concentration in ppmv after the component is repaired or is replaced; 9) The inspector's name, business mailing address, and business telephone number; and 10) The date and signature of the facility operator responsible for the inspection and repair program certifying the accuracy of the information recorded in the log. [District Rule 4401]
42. Well casings, casing vents, any casing vent piping and fluid piping associated with these wells shall be screened and inspected for leaks at least quarterly with a minimum of 25% of the wells tested per quarter. Any leak greater than 5000 ppm, when measured with a portable hydrocarbon detection instrument calibrated with methane in accordance with EPA Method 21 or leaking at a rate of greater than 3 drops of liquid per minute, shall be repaired in a manner consistent with the procedures specified in Section 5.3.1 of Rule 4401. [District NSR Rule] Federally Enforceable Through Title V Permit
43. Components to be screened shall be identified and categorized according to the following equipment types: connectors, flanges, open-ended lines, pump seals, valves with visible actuators, polished rods stuffing boxes and other (pressure relief devices, compressor seals, meters, etc.). [District NSR Rule] Federally Enforceable Through Title V Permit

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44. Flanges shall be monitored with a portable hydrocarbon detection instrument along the entire circumference of the flange-gasket interface. Threaded connections, tubing fittings, and other types of non-permanent joints shall be monitored along the entire circumference of joint interface. [District NSR Rule] Federally Enforceable Through Title V Permit
45. Valves shall be monitored with a portable hydrocarbon detection instrument where the stem comes through the packing gland, and at any attached or connected body flange(s), bonnet flange(s), or plug(s). [District NSR Rule] Federally Enforceable Through Title V Permit
46. All other components such as diaphragms, dump arms, instruments, meters shall be monitored at all points of possible emissions. [District NSR Rule] Federally Enforceable Through Title V Permit
47. {1298} The uncontrolled VOC emissions from any well vent shall be reduced by at least 99 percent by weight or, if several steam-enhanced crude oil production well vents are connected to a vapor collection and control system, total uncontrolled VOC emissions shall be reduced by at least 99 percent. This requirement does not apply to cyclic wells located on contiguous and adjacent oil production properties with less than 10 cyclic wells owned by or under the control of a company. [District Rule 4401, 5.1 and 5.2] Federally Enforceable Through Title V Permit
48. {1304} Operator shall maintain all components of a well vent vapor collection and control system in good repair. Components of the well vent vapor collection and control system shall include all piping, valves, fittings, pumps, compressors, tanks, etc. used to collect, control, store, or dispose of VOC condensate or non-condensable VOCs and which is prior to any blending of VOC condensate with crude oil or blending of non-condensable VOCs with gases to be used as a fuel. [District Rule 4401, 5.3 and 5.3.2] Federally Enforceable Through Title V Permit
49. Total number of leaks from the vapor collection and control system, including condensate handling, shall not exceed the number as allowed by Rule 4401 (as amended December 14, 2006) at any one time. [District Rule 4401, 5.3] Federally Enforceable Through Title V Permit
50. Permittee shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures, as necessary. Permittee shall maintain at the facility the copies of the training records of the training program. [District Rule 4401]
51. Annual control efficiency compliance tests shall be performed on all vapor collection and control systems used to control emissions from steam-enhanced crude oil production wells. Testing shall be performed by source testers certified by the California Air Resources Board (CARB) during June, July, August or September of each year if the system's control efficiency is dependent upon ambient air temperature. The APCO may waive the annual testing requirements of this condition if the vapor control system does not exhaust to atmosphere or if all uncondensed VOC emissions collected by a vapor collection and control system are incinerated in fuel burning equipment, an internal combustion engine or in a smokeless open flare, and the source's Operating Permit contains adequate periodic monitoring to ensure the source meets 99% control efficiency. [District Rule 4401, 5.1, 5.2 and 6.2.1] Federally Enforceable Through Title V Permit
52. The control efficiency of the vapor collection and control system used to control VOC emissions from steam enhanced crude oil production well shall be determined by mass balance based on most stringent of a source test, USEPA approved emission factors, or Air Pollution (AP)-42 emission factors for components and number of components; and the efficiency of destruction devices determined by USEPA Method 25, 25a, or 25b as applicable. [District Rule 4401, 6.3.1] Federally Enforceable Through Title V Permit
53. VOC content shall be determined using ASTM Method E168, E169, or E260 as applicable, or equivalent test method with prior District approval. Halogenated exempt compounds shall be determined by CARB Method 432. [District Rule 4401, 6.3.2] Federally Enforceable Through Title V Permit
54. {1309} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
55. Compliance with permit conditions in the Title V permit shall be deemed compliance with SJVUAPCD Rule 4401 (Amended January 15, 1998), excluding sections 5.1 and 5.2 for control systems which have been waived from complying with the requirement of section 6.2.1. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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56. {1311} The requirements of SJVUAPCD Rule 4407 (Adopted May 19, 1994) do not apply to this permit unit. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
57. Permittee shall maintain an accurate component count for the well vent collection and control system serving this operation, in accordance with 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. Permittee shall update such records when new components are installed. [District NSR Rule] Federally Enforceable Through Title V Permit
58. Permittee shall keep the steam-enhanced crude oil production well vents closed and the front line production equipment downstream of the wells that carry produced fluids (crude oil or mixture of crude oil and water) shall be connected to a VOC collection and control system. The well vent may be temporarily opened during periods of attended service or repair of the well provided such activity is done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401]
59. For a period of at least five years, permittee shall maintain records of the component inspections required by this permit, including the components inspected, date of inspection, leak screening level concentration values recorded and manner and date of repair and reinspection of identified leaking components. Records shall be made readily available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
60. Records shall be maintained of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components. The records shall include a copy of the current calibration gas certification from the vendor of the calibration gas cylinder, the date of calibration, the concentration of calibration gas, the instrument reading of calibration gas before adjustment, the instrument reading of calibration gas after adjustment, the calibration gas expiration date, and the calibration gas cylinder pressure at the time of calibration. [District Rule 4401]
61. All records required by this permit shall be maintained and retained on-site for a minimum of five (5) years and made available for District, ARB, and EPA inspection upon request. [District Rule 4401]

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Attachment D

Greenhouse Gas Calculations

Greenhouse Gas Emission Calculation

The District has evaluated potential greenhouse gas emissions from the new wells being proposed in this project to determine if there will be an increase in greenhouse gas emissions associated with this project.

Taking the fugitive emissions calculated in the attached spreadsheets and assuming that 100% of the VOC emissions are methane (worst case) and 23 lb-CO₂e per lb-CH₄:

$$\begin{aligned}\text{Annual GHG} &= \text{Daily Methane emissions} \times 365 \text{ days/yr} \times 23 \text{ lb-CO}_2\text{e/lb-CH}_4 \times 1 \text{ ton} / 2000 \text{ lb} \\ &= (7.5 + 11.2) \text{ lb-CH}_4\text{/day} \times 365 \text{ days/yr} \times 23 \text{ lb-CO}_2\text{e/lb-CH}_4 \times 1 \text{ ton} / 2000 \text{ lb}\end{aligned}$$

$$\text{Annual GHG} = 78 \text{ ton-CO}_2\text{e/year}$$

Per District Policy APR 2015, projects that emit greenhouse gases below 254 ton-CO₂e/year are considered equivalent to zero for CEQA purposes.

Vintage Production California LLC
Project S-1095593, Permit Unit S-1326-35

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)? 10 %
 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	250	10	1.852E-03	7.333E+00	7.38
	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	0	0	7.778E-03	7.281E+00	0.00
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00
Connectors	Gas/Light Liquid	950	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	100	0	1.482E-03	3.228E+00	0.01
	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 allowable leaking components taken as worst case as allowed by Rule 4401

Total VOC Emissions = 7.5 lb/day

Vintage Production California LLC
Project S-1095593, Permit Unit S-1326-287

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)? 10 %
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	500	15	1.852E-03	7.333E+00	11.09
	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	0	0	7.778E-03	7.281E+00	0.00
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00
Connectors	Gas/Light Liquid	1,200	0	6.349E-04	1.370E+00	0.08
	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	200	0	1.482E-03	3.228E+00	0.03
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00

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

** Total allowable leaking components taken as worst case as allowed by Rule 4401

Total VOC Emissions = 11.2 lb/day