



APR 30 2013

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

**Re: Proposed Authority to Construct / Certificate of Conformity (Minor Mod)
District Facility # S-6848
Project # S-1131068**

Dear Mr. Rodriguez:

Enclosed for your review is the District's analysis of your application for Authority to Construct for the facility identified above. You have requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The applicant proposes to install a Thermally Enhanced Oil Recovery (TEOR) operation with 3 closed casing vents cyclic wells.

After addressing any EPA comments made during the 45-day comment period, the Authority to Construct will be issued to the facility with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority 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

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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APR 30 2013

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

**Re: Proposed Authority to Construct / Certificate of Conformity (Minor Mod)
District Facility # S-6848
Project # S-1131068**

Dear Mr. Rios

Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct for Occidental of Elk Hills Inc, located at Heavy Oil Western Stationary Source located within SE Sec 35, T 30S, R 22E, which has been issued a Title V permit. Occidental of Elk Hills Inc is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. The applicant proposes to install a Thermally Enhanced Oil Recovery (TEOR) operation with 3 closed casing vents cyclic wells.

Enclosed is the engineering evaluation of this application, a copy of the current Title V permit, and proposed Authority to Construct # S-6848-14-0 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

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

Thank you for your cooperation in this matter.

Sincerely,



David Warner
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San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Thermally Enhanced Oil Recovery Operation

Facility Name:	Occidental of Elk Hills Inc	Date:	April 16, 2013
Mailing Address:	10800 Stockdale Hwy Bakersfield, CA 93311	Engineer:	Jesse A. Garcia
Contact Person	Raymond Rodriguez	Lead Engineer:	Joven Refuerzo
Telephone:	(661) 412-5263		
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E-Mail	<u>raymond_rodriguez@oxy.com</u>		
Application #(s)	S-6848-14-0		
Project #:	S-1131068		
Deemed Complete	March 29, 2013		

I. Proposal

Occidental of Elk Hills Inc (Oxy) has requested an Authority to Construct (ATC) for the installation of a Thermally Enhanced Oil Recovery (TEOR) operation with 3 closed casing vents cyclic wells.

Oxy received their Title V Permit on December 31, 2012. This modification can be classified as a Title V minor modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). The facility has requested that this project be processed in that manner, therefore, Oxy will be required to submit a Title V administrative amendment application prior to operating under the revised provisions of the ATC issued with this project.

Facilities S-6848 and S-1327 constitute one stationary source.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4401	Steam Enhanced Crude Oil Production Well Vents (6/6/11)
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 TEOR will be operated within Oxy's Heavy Oil Western Stationary Source located within SE Sec 35, T 30S, R 22E. 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

Oxy operates permitted equipment within their Heavy Oil Western stationary source, utilized for the thermally enhanced production of crude oil and natural gas. In thermally enhanced oil recovery (TEOR), natural gas is combusted in steam generators to produce steam for injection into heavy crude oil bearing strata via injection wells to reduce viscosity of the crude oil, thereby facilitating thermally enhanced oil production.

V. Equipment Listing

S-6848-14-0 THERMALLY ENHANCED OIL RECOVERY OPERATION WITH 3 CLOSED CASING VENTS CYCLIC WELLS

VI. Emission Control Technology Evaluation

The TEOR wells will emit VOCs from fugitive emissions components. The permittee will be required to monitor the number of fugitive emissions components and resulting emissions and to implement an inspection and monitoring (I&M) program consistent with the requirements of District Rule 4401 (Steam-Enhanced Crude Oil Production Wells). Since fugitive emissions from the equipment were estimated using component counts and CAPCOA "no leak" emission factors, leaks exceeding 10,000 ppmv are a violation of the permit.

VII. General Calculations

A. Assumptions

- The maximum operating schedule is 24 hours per day (per applicant)
- VOCs are the only emissions for TEOR system S-6848-14-0

B. Emission Factors

Emissions from fugitive leaks from piping components are quantified based on emission factors from the "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.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since this is a new emissions unit, PE1 = 0 for all pollutants

2. Post Project Potential to Emit (PE2)

The potential to emit for this unit is summarized in the following table (see Appendix C for detailed fugitive emission calculations):

Post Project Potential to Emit (PE2)		
Permit Unit	Daily VOC Emissions (lb/day)	Annual VOC Emissions (lb/year)
S-6848-14-0	0.12 ≈ 0.1	44*

Where, the annual PE2 is the daily PE2 multiplied by 365 days/yr

* Per District Policy APR 1130, an IPE of less than 0.5 lb/day (equivalent to 183 lb/year), calculated emissions unit by emission unit, is to be rounded to zero for the purposes of triggering NSR requirements and therefore the requirements are not triggered. However, to minimize rounding errors, DELs, SSPE, PE and all other associated figures will be reflected in the EE and the permits without setting a daily increase in emissions of less than 0.5 lb/day (equivalent to 183 lb/year) to zero. This project has an annual PE2 of less than 183 lb/year; therefore, NSR requirements are not triggered.

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. The facility has no ERCs for on-site reductions.

Facility emissions are already above the Offset and Major Source Thresholds for VOC emissions; therefore, SSPE1 calculations are not necessary.

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. The facility has no ERCs for on-site reductions.

Facility emissions are already above the Offset and Major Source Thresholds for VOC emissions, therefore, SSPE2 calculations are not necessary.

5. Major Source Determination

Rule 2201 Major Source Determination:

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

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

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

Rule 2410 Major Source Determination:

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

PSD Major Source Determination (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Estimated Facility PE before Project Increase	N/A	N/A	N/A	N/A	N/A	N/A	123,792 ¹
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
PSD Major Source ? (Y/N)	N/A	N/A	N/A	N/A	N/A	N/A	Y

As shown above, the facility is an existing major source for PSD for at least one pollutant. Therefore the facility is an existing major source for PSD.

6. Baseline Emissions (BE)

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

Pursuant to Section 3.7 of District Rule 2201, BE = Pre-project Potential to Emit for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,

¹ See Appendix E for CO2e Calculations

- Any Clean Emissions Unit, located at a Major Source

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3 22 of District Rule 2201

Since this is a new emissions unit, BE = PE1 = 0 for all pollutants

7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51 165 as "*any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act.*"

Since this source is not included in the 28 specific source categories specified in 40 CFR 51 165, the increases in fugitive emissions are not included in the SB 288 Major Modification calculation. Therefore the project is not a SB 288 Major Modification.

8. Federal Major Modification

District Rule 2201, Section 3 17 states that Federal Major Modifications are the same as "Major Modification" as defined in 40 CFR 51 165 and part D of Title I of the CAA

Since this source is not included in the 28 specific source categories specified in 40 CFR 51 165, the increases in fugitive emissions are not included in the Federal Major Modification determination. Therefore the project is not a Federal Major Modification.

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

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

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

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

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

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

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

I. Project Location Relative to Class 1 Area

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

II. Significance of Project Emission Increase Determination

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

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

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)						
	NO2	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	0	0	0	0	0	0 1 ²
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	N	N	N	N	N	N

² For crude oil, VOC is assumed to be 85% by weight of total organic carbon (TOC) (EPA, AP-42 Section 5.2, 2008) Also, assume 15% by weight of TOC is CH4 (methane) if site specific data is not available (2009 API Compendium of Greenhouse Gas Emissions for the Oil and Gas Industry, Appendix E, page E-6)

Annual Emissions

CH4 Emissions = (VOC Emissions - 0.85) x 0.15

CH4 Emissions = [44 - 0.85 x 0.15] lb/year x 21 lb-CO2e per lb-CH4
= 163 lb-CO2e/year

Total = 163 lb-CO2e/year - 2,000 lb/ton = **0.1 short tons-CO2e/year**

As demonstrated above, because the project has a total potential to emit from all new and modified emission units below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and no further discussion is required

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. The QNEC for the new emissions unit was calculated for each pollutant by dividing annual emissions by 4 quarters/year.

$$PE2 = 44 \text{ lb/yr}, BE = 0, QNEC = 44 \text{ lb/yr} / 4 = 11 \text{ lb/qtr}$$

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

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

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

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

As seen in Section VII C.2 above, the applicant is proposing to install a new TEOR system with a PE less than 2 lb/day for VOC. BACT is not triggered for VOC since the PE is less than 2 lbs/day

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

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

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

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

d. SB 288/Federal Major Modification

As discussed in Section VII C 7 above, this project does not constitute an SB 288 and/or Federal Major Modification for NO_x emissions. Therefore BACT is not triggered for any pollutant.

B. Offsets

1. Offset Applicability

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

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

Offset Determination (lb/year)	
	VOC
SSPE2	>20,000
Offset Thresholds	20,000
Offsets triggered?	Yes

2. Quantity of Offsets Required

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

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = Pre-project Potential to Emit for

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

otherwise,

BE = Historic Actual Emissions (HAE)

Per District Policy APR 1130, an IPE of less than 0.5 lb/day (equivalent to 183 lb/year) is to be rounded to zero for the purposes of triggering NSR requirements. This project results in an emission increase of less than 183 lb/year for each unit. Therefore, offsets are not required for this project.

C. Public Notification

1. Applicability

Public noticing is required for

- a New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- b Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c Any project which results in the offset thresholds being surpassed, and/or
- d Any project with an SSPE of greater than 20,000 lb/year for any pollutant.

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

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

b. PE > 100 lb/day

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

c. Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
VOC	>20,000	>20,000	20,000 lb/year	No

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

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
VOC	>20,000	>20,000	44	20,000 lb/year	No

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

2. Public Notice Action

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

D. Daily Emission Limits (DELs)

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

Proposed Rule 2201 (DEL) Conditions:

- Permittee shall maintain an accurate component count and resulting emissions calculations 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 Ranges emission factors. Permittee shall update such records when new components are installed [District Rule 2201]
- Fugitive emissions from all components in gas service associated with this TEOR operation shall not exceed 0.12 lb VOC/day. [District Rule 2201]

- Leaks exceeding an instrument reading of 10,000 ppmv are a violation of this permit [District Rule 2201]

E. Compliance Assurance

1. Source Testing

Source testing requirements, in accordance with District Rule 4401 will be discussed in Section VIII, District Rule 4401, of this evaluation

2. Monitoring

Monitoring requirements, in accordance with District Rule 4401 will be discussed in Section VIII, District Rule 4401, of this evaluation

3. Recordkeeping

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

- Permittee shall maintain accurate fugitive component counts and resulting emissions from this tank using California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities Table IV-2c Oil and Gas Production Screening Value Ranges (<10,000 ppmv) Emission Factors. Permittee shall update such records when new components are approved and installed [District Rule 2201]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit pursuant to Section 3.20 of this rule.

In accordance with Rule 2520, 3.20, these modifications

- Do not violate requirements of any applicable federally enforceable local or federal requirement;
- Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions,

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

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

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR), and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60.

There are no subparts of 40 CFR 60 that apply to TEOR systems. Therefore, the TEOR unit in this project is not subject to Rule 4001.

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. This facility wide permit for Berry contains the following condition:

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

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

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 3.20.1 defines various types of gas and liquid leaks.

The following conditions will be included on the ATC 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 as stated in the following ATC condition:

- 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. [District Rule 4401, 4.1]

Section 5.1 Vapor Control System Requirements

- An operator shall not operate a steam-enhanced crude oil production well unless the operator complies with the following requirements: 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 of Rule 4401, 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, the steam-enhanced crude oil production well vent is open and the well vent is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401 [District Rule 4401, 5.1.1 and 5.1.2]

Section 5.2 Determination of Compliance with Leak Standards

- An operator shall be in violation of this rule if any District inspection demonstrates that one or more of the following conditions in Section 5.2.2 exist at the facility or if any operator inspection conducted pursuant to Section 5.4 of Rule 4401 demonstrates that one or more of the following conditions in Section 5.2.2 exist at the facility: 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 as defined by Section 5.2.2.1 of Rule 4401 requiring process fluid flow through the open-ended lines [District Rule 4401, 5.2.2]
- An operator shall be in violation of this rule if any District inspection demonstrates that one or more of the following conditions exist at the facility or if any operator inspection conducted pursuant to Section 5.4 of Rule 4401 demonstrates that one or more of the conditions in Section 5.2.2 exist at the facility: existence of a component with any of the following: a major liquid leak, a gas leak greater than 50,000 ppmv, a minor liquid leak or a minor gas leak in excess of the allowable number of leaks allowed by Table 3 of Rule 4401, or a gas leak greater than 10,000 ppmv up to 50,000 ppmv in excess of the allowable number of leaks allowed by, Table 3 of Rule 4401 [District Rule 4401, 5.2.2]

Section 5.3 Operating Requirements

- An operator shall not use any component with a leak as defined in Section 3.0 of Rule 4401, or that is found to be in violation of the provisions of Section 5.2.2 of Rule 4401. 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 5.5 of Rule 4401 [District Rule 4401, 5.3.1]
- 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 [District Rule 4401 5.3.2]
- An operator shall comply with the requirements of Section 6.7 of Rule 4401 if there is any change in the description of major components or critical components [District Rule 4401 5.3.3]

Section 5 4 Inspection and Re-Inspection Requirements

- Unless otherwise specified in Section 5 4, an operator shall perform all component inspections and gas leak measurements pursuant to the requirements of Section 6 3 3. [District Rule 4401, 5 4]
- Except for pipes and unsafe-to-monitor components, an operator shall inspect all other components pursuant to the requirements of Section 6 3 3 of Rule 4401 at least once every year [District Rule 4401 5 4 1]
- 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 3 of Rule 4401 [District Rule 4401 5 4 2]
- An operator shall inspect for leaks all accessible operating pumps, compressors, and PRDs in service as follows 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 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 3 of this Rule [District Rule 4401, 5 4 3]
- The operator shall also perform the following inspections 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 2) An operator shall inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service, and 3) Except for PRDs subject to the requirements of Section 5 4 4 1 of this Rule, 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, 5 4 4]
- Components located in unsafe areas shall be inspected and repaired at the next process unit turnaround and inaccessible components shall be inspected at least annually [District Rule 4401 5 4 7]
- 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 [District Rule 4401 5 4 8]

Section 5.5, Leak Repair Requirements

- Upon detection of a leak, an operator shall affix a readily visible weatherproof tag to that leaking component that includes the following information: 1) The date and time of leak detection, 2) The date and time of the leak measurement, 3) For a gaseous leak, the leak concentration in ppmv, 4) For a liquid leak, whether it is a major or minor liquid leak; and 5) Whether the component is an essential component, an unsafe-to-monitor component, or a critical component [District Rule 4401, 5.5.1]
- The tag shall remain affixed to the leaky component until all the following requirements are met: 1) The component is repaired or replaced, 2) The component is re-inspected as set forth in Section 6.3, and 3) The component is found to be in compliance with this Rule [District Rule 4401, 5.5.2]
- 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 [District Rule 4401 5.5.3]
- Except for leaking critical components or leaking essential components subject to the requirements of Section 5.5.7 of Rule 4401, if an operator has minimized a leak but the leak still exceeds the applicable leak limits as defined in Section 3.0 of Rule 4401, an 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 3 of Rule 4401: Repair or replace the leaking component, or vent the leaking component to a VOC collection and control system as defined in Section 3.0 of Rule 4401, or remove the leaking component from operation [District Rule 4401 5.5.4]
- The repair period in calendar days shall not exceed 14 days for minor gas leaks, 5 days for major gas leaks less than or equal to 50,000 ppmv, 2 days for gas leak greater than 50,000 ppmv, 3 days for minor liquid leaks, 2 days for major liquid leaks [District Rule 4401 5.5.4]
- 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 3 of Rule 4401 [District Rule 4401 5.5.5]
- The time of the initial leak detection shall be the start of the repair period specified in Table 3 of Rule 4401 [District Rule 4401 5.5.6]
- 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 5.5.7]

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. The following condition will be listed on the ATCs to ensure compliance.

- 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 [District Rule 4401 6 1 1]
- The operator of any steam-enhanced crude oil production well shall keep an inspection log maintained pursuant to Section 6 4 of Rule 4401 [District Rule 4401 6.1 4]
- 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 shall be maintained [District Rule 4401 6 1 5]
- An operator shall maintain copies at the facility of the training records of the training program operated pursuant to Section 6 5 of Rule 4401 [District Rule 4401 6.1 6]
- Operator shall keep a copy of the APCO-approved Operator Management Plan at the facility [District Rule 4401, 6 1.7]
- All records of required monitoring data and support information shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request [District Rules 2520, 9 4 2 and 4401, 6 1]

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

Since the TEOR operation only operates closed vent casing wells, no VOC collection and control systems are proposed to be used and no gauge tanks are proposed, therefore, source testing is not required. This section is not applicable and no further discussion is required.

Section 6.3, Test Methods

Section 6.3 1 specifies that the control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a.

provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported

Since, a VOC control device is not being proposed and the VOC content is being assumed to be 100%, no testing is required

The following condition will be included on the permit to ensure compliance

- Leak inspection, other than audio-visual, and measurements of gaseous leak concentrations shall be conducted according to EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in EPA Method 21 or the manufacturer's instruction, as appropriate, not more than 30 days prior to its use. The operator shall record the calibration date of the instrument. 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 [District Rule 4401 6 3 3]

Section 6 4 Inspection Log

- The operator shall maintain an inspection log in which the operator records at least all of the following 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 liquids leaks, whether the leak is major or minor, 5) The date of repair, replacement or removal from operation of leaking components, 6) The identity and location of essential components and critical components as defined in this Rule, 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 1 year after detection, whichever comes earlier, 8) The date of re-inspection and the leak concentration in ppmv after the component is repaired or replaced, 9) The inspectors 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 6 4]

Section 7 0, Compliance Schedule

Section 7 0 establishes a compliance schedule for existing and new steam-enhanced crude oil production wells. The wells in this project are expected to operate in compliance with the requirements of this rule. Therefore, no further discussion is required.

- By January 30 of each year, an operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to an existing Operator Management Plan [District Rule 4401, 6 7]

Continued compliance is expected

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality ACT (CEQA)

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

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

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission unit(s) are exempt from Best Available Control Technology (BACT) requirements. Furthermore, the District has determined that potential emission increases would have a less than significant health impact on sensitive receptors.

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

APPENDIX A

Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-6848-14-0

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

LOCATION: HEAVY OIL WESTERN

EQUIPMENT DESCRIPTION:
THERMALLY ENHANCED OIL RECOVERY OPERATION WITH 3 CLOSED CASING VENTS CYCLIC 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 Rule 2201] Federally Enforceable Through Title V Permit
- 2 {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4 [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
- 3 Fugitive emissions from all components in gas service associated with this TEOR operation shall not exceed 0.12 lb VOC/day [District Rule 2201] Federally Enforceable Through Title V Permit
- 4 Leaks exceeding an instrument reading of 10,000 ppmv are a violation of this permit [District Rule 2201] Federally Enforceable Through Title V Permit
- 5 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] Federally Enforceable Through Title V Permit
- 6 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] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services
S-6848-14-0 Apr 22 2013 11:50AM - GARCIAJ Joint Inspection Required with GARCIAJ

- 7 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 [District Rule 4401, 4 1] Federally Enforceable Through Title V Permit
- 8 An operator shall not operate a steam-enhanced crude oil production well unless the operator complies with the following requirements 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 of Rule 4401, 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, the steam-enhanced crude oil production well vent is open and the well vent is connected to a VOC collection and control system as defined in Section 3 0 of Rule 4401 [District Rule 4401, 5.1.1 and 5 1 2] Federally Enforceable Through Title V Permit
- 9 An operator shall be in violation of this rule if any District inspection demonstrates that one or more of the following conditions in Section 5 2 2 exist at the facility or if any operator inspection conducted pursuant to Section 5 4 of Rule 4401 demonstrates that one or more of the following conditions in Section 5 2 2 exist at the facility 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 as defined by Section 5 2 2 1 of Rule 4401 requiring process fluid flow through the open-ended lines [District Rule 4401, 5 2 2] Federally Enforceable Through Title V Permit
- 10 An operator shall be in violation of this rule if any District inspection demonstrates that one or more of the following conditions exist at the facility or if any operator inspection conducted pursuant to Section 5 4 of Rule 4401 demonstrates that one or more of the conditions in Section 5 2.2 exist at the facility: existence of a component with any of the following a major liquid leak, a gas leak greater than 50,000 ppmv, a minor liquid leak or a minor gas leak in excess of the allowable number of leaks allowed by Table 3 of Rule 4401, or a gas leak greater than 10,000 ppmv up to 50,000 ppmv in excess of the allowable number of leaks allowed by Table 3 of Rule 4401 [District Rule 4401, 5 2 2] Federally Enforceable Through Title V Permit
- 11 An operator shall not use any component with a leak as defined in Section 3 0 of Rule 4401, or that is found to be in violation of the provisions of Section 5.2 2 of Rule 4401 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 5 of Rule 4401 [District Rule 4401, 5 3 1] Federally Enforceable Through Title V Permit
- 12 Each hatch shall be closed at all times except during attended repair, replacement, or maintenance operations, providing such activities are done as expeditiously as possible with minimal spillage or material and VOC emissions into the atmosphere. [District Rule 4401, 5 3 2] Federally Enforceable Through Title V Permit
- 13 The operator shall comply with the requirements of Section 6.7 if there is any change in the description of major components or critical components. [District Rule 4401, 5 3 3] Federally Enforceable Through Title V Permit
- 14 Unless otherwise specified in Section 5 4, an operator shall perform all component inspections and gas leak measurements pursuant to the requirements of Section 6 3 3 [District Rule 4401, 5 4] Federally Enforceable Through Title V Permit
- 15 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. [District Rule 4401, 5 4 1] Federally Enforceable Through Title V Permit
16. 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 [District Rule 4401, 5 4 2] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

- 17 An operator shall inspect for leaks all accessible operating pumps, compressors, and PRDs in service as follows. 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. 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 [District Rule 4401, 5.4.3] Federally Enforceable Through Title V Permit
- 18 The operator shall also perform the following inspections. 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. 2) An operator shall inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service, and 3) Except for PRDs subject to the requirements of Section 5.4.4.1 of this Rule, 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, 5.4.4] Federally Enforceable Through Title V Permit
- 19 Components located in unsafe areas shall be inspected and repaired at the next process unit turnaround and inaccessible components shall be inspected at least annually [District Rule 4401, 5.4.7] Federally Enforceable Through Title V Permit
- 20 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 [District Rule 4401, 5.4.8] Federally Enforceable Through Title V Permit
- 21 Upon detection of a leak, an operator shall affix a readily visible weatherproof tag to that leaking component that includes the following information: 1) The date and time of leak detection, 2) The date and time of the leak measurement, 3) For a gaseous leak, the leak concentration in ppmv; 4) For a liquid leak, whether it is a major or minor liquid leak, and 5) Whether the component is an essential component, and unsafe-to-monitor component, or a critical component. [District Rule 4401, 5.5.1] Federally Enforceable Through Title V Permit
- 22 The tag shall remain affixed to the leaky component until all the following requirements are met: 1) The component is repaired or replaced, 2) The component is re-inspected as set forth in Section 6.3, and 3) The component is found to be in compliance with this Rule [District Rule 4401, 5.5.2] Federally Enforceable Through Title V Permit
- 23 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. [District Rule 4401, 5.5.3] Federally Enforceable Through Title V Permit
- 24 Except for leaking critical components or leaking essential components subject to the requirements of Section 5.5.7 of Rule 4401, if an operator has minimized a leak but the leak still exceeds the applicable leak limits as defined in Section 3.0 of Rule 4401, an 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 3 of Rule 4401: Repair or replace the leaking component; or vent the leaking component to a VOC collection and control system as defined in Section 3.0 of Rule 4401, or remove the leaking component from operation [District Rule 4401, 5.5.4] Federally Enforceable Through Title V Permit
- 25 The repair period in calendar days shall not exceed 14 days for minor gas leaks, 5 days for major gas leaks less than or equal to 50,000 ppmv, 2 days for gas leak greater than 50,000 ppmv, 3 days for minor liquid leaks, 2 days for major liquid leaks [District Rule 4401, 5.5.4] Federally Enforceable Through Title V Permit
- 26 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 3 of Rule 4401 [District Rule 4401, 5.5.5] Federally Enforceable Through Title V Permit
- 27 The time of the initial leak detection shall be the start of the repair period specified in Table 3 of Rule 4401 [District Rule 4401, 5.5.6] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

28. 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, 5 5 7] Federally Enforceable Through Title V Permit
29. 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 [District Rule 4401, 6 1 1] Federally Enforceable Through Title V Permit
30. The operator of any steam-enhanced crude oil production well shall maintain an inspection log pursuant to Section 6 4 of Rule 4401 [District Rule 4401, 6 1 4] Federally Enforceable Through Title V Permit
31. Records shall be maintained 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 [District Rule 4401, 6 1 5] Federally Enforceable Through Title V Permit
32. An operator shall maintain copies at the facility of the training records of the training program operated pursuant to Section 6 5 of Rule 4401 [District Rule 4401, 6 1 6] Federally Enforceable Through Title V Permit
33. Operator shall keep a copy of the APCO-approved Operator Management Plan at the facility [District Rule 4401, 6 1 7] Federally Enforceable Through Title V Permit
34. The results of gauge tank TVP testing conducted pursuant to Section 6 2 3 shall be submitted to the APCO within 60 days after the completion of the testing [District Rule 4401, 6 1 9] Federally Enforceable Through Title V Permit
35. An operator that discovers that a PRD has released shall record the date that the release was discovered, and the identity and location of the PRD that released. An operator shall submit such information recorded during the calendar year to the APCO no later than 60 days after the end of the calendar year [District Rule 4401, 6 1 10] Federally Enforceable Through Title V Permit
36. Leak inspection, other than audio-visual, and measurements of gaseous leak concentrations shall be conducted according to EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in EPA Method 21 or the manufacturer's instruction, as appropriate, not more than 30 days prior to its use. The operator shall record the calibration date of the instrument. 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 [District Rule 4401, 6 3 3] Federally Enforceable Through Title V Permit
37. The operator shall maintain an inspection log in which the operator records at least all of the following 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 liquids leaks, whether the leak is major or minor, 5) The date of repair, replacement or removal from operation of leaking components, 6) The identity and location of essential components and critical components as defined in this Rule, 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 1 year after detection, whichever comes earlier, 8) The date of re-inspection and the leak concentration in ppmv after the component is repaired or replaced, 9) The inspectors 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, 6 4] Federally Enforceable Through Title V Permit
38. The operator shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures as necessary [District Rule 4401, 6 5] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

- 39 By January 30 of each year, an operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to an existing Operator Management Plan [District Rule 4401, 6 7] Federally Enforceable Through Title V Permit
- 40 Permittee shall maintain an accurate component count and resulting emissions calculations 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 Ranges emission factors Permittee shall update such records when new components are installed [District Rule 2201] Federally Enforceable Through Title V Permit
41. All records of required monitoring data and support information shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request [District Rules 2520, 9 4 2 and 4401, 6 1] Federally Enforceable Through Title V Permit

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APPENDIX B

Compliance Certification

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

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE
 MINOR PERMIT MODIFICATION AMENDMENT

COMPANY NAME OCCIDENTAL OF ELK HILLS, INC	FACILITY ID S - 6848
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 OCCIDENTAL OF ELK HILLS INC	
3 Agent to the Owner OCCIDENTAL OF ELK HILLS, INC	

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

- Based on information and belief formed after reasonable inquiry the 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

Armando M. Gonzalez
Signature of Responsible Official

3/26/2013
Date

Armando Gonzalez

Name of Responsible Official (please print)

Health, Environmental and Safety Manager

Title of Responsible Official (please print)

Mailing Address: Central Regional Office * 1990 E Gettysburg Avenue * Fresno, California 93726-0244 * (559) 230-5900 * FAX (559) 230-6061

TVFORM-009
Rev. July 2005

APPENDIX C

Fugitive Emission Calculations

Occidental of Elk Hills Inc
Section 35Z (3) TEOR Wells

Fugitive Emissions Using Screening Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities
Table IV-2c Oil and Gas Production
Screening Value Ranges Emission Factors

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

Equipment Type	Service	Component Count	Total allowable leaking components	Screening Value EF - TOC		VOC emissions (lb/day)
				< 10,000 ppmv (lb/day/source)	$\geq 10,000$ ppmv (lb/day/source)	
Valves	Gas/Light Liquid	9	0	1 852E-03	7 333E+00	0 02
	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	9	0	7 778E-03	7 281E+00	0 07
	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	30	0	6 349E-04	1 370E+00	0 02
	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	9	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 VOC Emissions = 0 12 lb/day

APPENDIX D

CO2e Emissions Calculations

The CO2e emissions from combustion units only are calculated in the table below

Assumptions.

Operating schedule is 8,760 hrs/year unless otherwise limited on the permit

All units are fired on natural gas

CO2e emission factor for natural gas= 52.92 kg/MMBtu = 0.058 short tons/MMBtu

Permit Unit	Permitted		CO2e (short tons)
	MMBtu/hr	MMBtu/year	
S-1327- 32 -8	36	315,360	18,385
S-1327- 34 -6	23	201,480	11,746
S-1327- 35 -3	62.5	547,500	31,919
S-1327- 41 -2	4.25	37,230	2,171
S-1327- 83 -1	83	399	23
S-1327- 116 -1	25	219,000	12,768
S-1327- 120 -1	23	201,480	11,746
S-1327- 130 -1	85	655	38
S-1327- 131 -1	85	655	38
S-1327- 132 -1	85	655	38
S-1327- 133 -1	85	655	38
S-1327- 134 -1	85	655	38
S-1327- 135 -1	85	655	38
S-1327- 136 -1	85	655	38
S-1327- 137 -1	25	219,000	12,768
S-1327- 138 -1	25	219,000	12,768
S-1327- 155 -3	85	655	38
S-1327- 196 -0	18	157,680	9,193

Total CO2e (short tons)	123,792
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APPENDIX E

HRA Summary

San Joaquin Valley Air Pollution Control District Risk Management Review

To David Torii – Permit Services
 From Yu Vu – Technical Services
 Date March 30, 2013
 Facility Name Occidental of Elk Hills
 Location SE/4 Sec 35, T30S, R22E
 Application #(s) S-6848-14-0
 Project # S-1131068

A. RMR SUMMARY

RMR Summary			
Categories	3 Cyclic Wells (Unit 14-0)	Project Totals	Facility Totals
Prioritization Score	0.00	0.00	0.07
Acute Hazard Index	N/A ¹	N/A ¹	N/A
Chronic Hazard Index	N/A ¹	N/A ¹	N/A
Maximum Individual Cancer Risk (10 ⁻⁶)	N/A ¹	N/A ¹	N/A
T-BACT Required?	No		
Special Permit Conditions?	No		

¹This project passes on prioritization with a score less than 1.0, therefore, no further analysis was necessary

Proposed Permit Conditions

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

Unit # 14-0

No special conditions are required

B. RMR REPORT

I. Project Description

Technical Services received a request on March 29, 2013, to perform a Risk Management Review for a proposed installation of three cyclic wells with closed casing vents

II. Analysis

Toxic emissions for this proposed unit were calculated using the District's "Oilfield Fugitives - Heavy Crude Oil" spreadsheet. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905, March 2, 2001), risks from the

APPENDIX F

Emissions Profile

Permit # S-6848-14-0	Last Updated
Facility OCCIDENTAL OF ELK HILLS INC	04/16/2013 GARCIAJ

Equipment Pre-Baselined NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr)	00	00	00	00	440
Daily Emis Limit (lb/Day)	00	00	00	00	01
Quarterly Net Emissions Change (lb/Qtr)					
Q1	00	00	00	00	110
Q2	00	00	00	00	110
Q3	00	00	00	00	110
Q4	00	00	00	00	110
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1					
Q2					
Q3					
Q4					