



JUL 19 2016

Mr. Juan Campos
California Resources Elk Hills
11109 River Run Blvd
Bakersfield, CA 93309

**Re: Proposed Authority to Construct/Certificate of Conformity (Minor Mod)
District Facility # S-382
Project # 1160507**

Dear Mr. Campos:

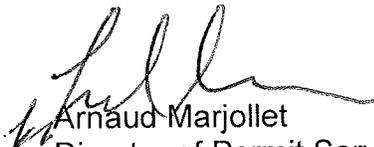
Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. You requested that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The project revises the allowable fugitive emissions from nine gas compressors.

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

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

Thank you for your cooperation in this matter.

Sincerely,



Arnaud Marjollet
Director of Permit Services

Enclosures

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

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
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Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
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Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards (NSPS)

Subpart KKK—Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants.

Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4409 Components at Light Crude Oil Production Facilities, Natural Gas Production Facilities, and Natural Gas Processing Facilities (04/20/2005)
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 compressors are authorized to operate at unspecified locations within OEHI's Light Oil Western stationary source.

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.

A project location map is included in **Attachment I**.

IV. Process Description

Natural Gas Compressor Units

V. Equipment Listing

Pre-Project Equipment Description:

S-382-858-0: 1,480 BHP WAUKESHA MODEL 7042 NATURAL GAS-FIRED RICH-BURN IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION, PCV VALVE, AND AIR/FUEL RATIO CONTROLLER OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382

S-382-859-0: 1,480 BHP WAUKESHA MODEL 7042 NATURAL GAS-FIRED RICH-BURN IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION, PCV VALVE, AND AIR/FUEL RATIO CONTROLLER OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382

- S-382-867-0: 2500 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K143 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE
- S-382-868-0: 2500 HP OR GREATER ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K142 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE
- S-382-869-0: 2500 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K144 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE
- S-382-870-0: 3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K138 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE
- S-382-871-0: 3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K139 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE
- S-382-872-0: 3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K140 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE
- S-382-873-0: 3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K141 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE

Proposed Modification:

- S-382-858-2: MODIFICATION OF 1,480 BHP WAUKESHA MODEL 7042 NATURAL GAS-FIRED RICH-BURN IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION, PCV VALVE, AND AIR/FUEL RATIO CONTROLLER OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382: REVISE FUGITIVE EMISSION CALCULATIONS AND LEAK REQUIREMENTS
- S-382-859-2: MODIFICATION OF 1,480 BHP WAUKESHA MODEL 7042 NATURAL GAS-FIRED RICH-BURN IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION, PCV VALVE, AND AIR/FUEL RATIO CONTROLLER OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382: REVISE FUGITIVE EMISSION CALCULATIONS AND LEAK REQUIREMENTS
- S-382-867-1: MODIFICATION OF 2500 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K143 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE: REVISE FUGITIVE EMISSION CALCULATIONS AND LEAK REQUIREMENTS
- S-382-868-1: MODIFICATION OF 2500 HP OR GREATER ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K142 OPERATED AT VARIOUS

UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN
STATIONARY SOURCE: REVISE FUGITIVE EMISSION CALCULATIONS
AND LEAK REQUIREMENTS

- S-382-869-1: MODIFICATION OF 2500 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K144 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE: REVISE FUGITIVE EMISSION CALCULATIONS AND LEAK REQUIREMENTS
- S-382-870-1: MODIFICATION OF 3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K138 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE: REVISE FUGITIVE EMISSION CALCULATIONS AND LEAK REQUIREMENTS
- S-382-871-1: MODIFICATION OF 3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K139 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE: REVISE FUGITIVE EMISSION CALCULATIONS AND LEAK REQUIREMENTS
- S-382-872-2: MODIFICATION OF 3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K140 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE: REVISE FUGITIVE EMISSION CALCULATIONS AND LEAK REQUIREMENTS
- S-382-873-1: MODIFICATION OF 3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K141 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE: REVISE FUGITIVE EMISSION CALCULATIONS AND LEAK REQUIREMENTS

Post Project Equipment Description:

- S-382-858-2: 1,480 BHP WAUKESHA MODEL 7042 NATURAL GAS-FIRED RICH-BURN IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION, PCV VALVE, AND AIR/FUEL RATIO CONTROLLER OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382
- S-382-859-2: 1,480 BHP WAUKESHA MODEL 7042 NATURAL GAS-FIRED RICH-BURN IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION, PCV VALVE, AND AIR/FUEL RATIO CONTROLLER OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382
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- S-382-872-2: 3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K140 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE
- S-382-873-1: 3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K141 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE

VI. Emission Control Technology Evaluation

All emissions units are controlled by vapor collection and control technology or designed to prevent release of liquids or vapors to atmosphere. All components handling crude oil and gas are subject to the leak detection and repair (LDAR) requirements of SJVUAPCD Rule 4409. A LDAR program exists at the facilities and ensures inspections and repairs are conducted as prescribed by the permits and Rule 4409.

Fugitive Emissions BACT Requirement

As described below BACT is triggered for several of the permits. BACT is a leak definition of (3) drops per minute of liquid containing VOC or a reading of methane in excess of 100 ppmv (valves and connectors) and 500 ppmv (compressor and pump seals) and an Inspection and Maintenance Program (I&M) pursuant to District Rule 4409 (BACT Requirement).

VII. General Calculations

A. Assumptions

- The facility operates 24 hours per day, 7 days per week, and 52 weeks per year
- VOC content of the hydrocarbons being processed is <20% by weight for all units.

- Facility operates 24 hr/day 365 days per year.
- Only fugitive emissions of VOC change with the project and therefore PE1 and PE2 combustion emissions for IC engines '-858 and '-859 are not addressed (not subject to NSR considerations).
- Emissions from IC engines S-382-858 and '-859 consist of both combustion and fugitive emissions.
- Emissions from electrically-driven compressor consist of fugitive emissions

Post Project VOC Limits and Component Counts (no of leaks*)

	VOC content limit	valves	Pump seals	others	connectors	flanges
S-382-858	<20%	57 (1)	0	3	425 (1)	220 (1)
S-382-859	<20%	57 (1)	0	3	425 (1)	220 (1)
S-382-867	<20%	179 (1)	2	55 (1)	758 (1)	509 (1)
S-382-868	<20%	179 (1)	2	55 (1)	758 (1)	509 (1)
S-382-869	<20%	179 (1)	2	55 (1)	758 (1)	509 (1)
S-382-870	<20%	179 (1)	2	55 (1)	758 (1)	509 (1)
S-382-871	<20%	179 (1)	2	55 (1)	758 (1)	509 (1)
S-382-872	<20%	179 (1)	2	55 (1)	758 (1)	509 (1)
S-382-873	<20%	179 (1)	2	55 (1)	758 (1)	509 (1)

*Number of allowed leakers in parentheses

B. Emission Factors

Pre-Project

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

Post-Project

Emissions were calculated 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 Emission Factors." The leak threshold is 10,000 ppmv.

The fugitive emissions factors and calculations are included in **Attachment II**.

C. Calculations

1. Pre Project Potential to Emit (PE1)

The pre-project potential to emit for the emissions units is summarized in the table below:

From project 1141820

The daily and annual PE2 for each engine is calculated in the following tables.

IC Engines S-382-858 and '-859 (each)

Daily PE2 for each Engines								
NO _x	0.075	g/hp·hr x	1,480	hp x	24	hr/day x 1 lb/454 g =	5.9	lb/day
SO _x	0.0085	g/hp·hr x	1,480	hp x	24	hr/day x 1 lb/454 g =	0.7	lb/day
PM ₁₀	0.02	g/hp·hr x	1,480	hp x	24	hr/day x 1 lb/454 g =	1.6	lb/day
CO	0.51	g/hp·hr x	1,480	hp x	24	hr/day x 1 lb/454 g =	39.9	lb/day
VOC	0.13	g/hp·hr x	1,480	hp x	24	hr/day x 1 lb/454 g =	10.2	lb/day

Annual PE2 for each Engines								
NO _x	0.075	g/hp·hr x	1,233	hp x	8,760	hr/yr x 1 lb/454 g =	1,784	lb/yr
SO _x	0.0085	g/hp·hr x	1,233	hp x	8,760	hr/yr x 1 lb/454 g =	202	lb/yr
PM ₁₀	0.02	g/hp·hr x	1,233	hp x	8,760	hr/yr x 1 lb/454 g =	476	lb/yr
CO	0.51	g/hp·hr x	1,233	hp x	8,760	hr/yr x 1 lb/454 g =	12,133	lb/yr
VOC	0.13	g/hp·hr x	1,233	hp x	8,760	hr/yr x 1 lb/454 g =	3,093	lb/yr

PE1		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	5.9	1,784
SO _x	0.7	202
PM ₁₀	1.6	476
CO	39.9	12,133
VOC	10.2 + 0.3 (fugitives) 10.5	3,093 + (0.3 x 365) = 3,203

PE1 – VOCs only		
	Daily Emissions (lb/day)*	Annual Emissions (lb/year)
S-382-858	10.5	3,203
S-382-859	10.5	3,203
S-383-867	0.7	256
S-382-868	0.7	256
S-382-869	0.7	256
S-382-870	0.5	183
S-382-871	0.5	183
S-382-872	0.5	183
S-382-873	0.5	183
Total		7,906

*fugitive emissions stated as PTO DEL

2. Post Project Potential to Emit (PE2)

IC Engines S-382-858 and '-859 (each)

PE2		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	5.9	1,784
SO _x	0.7	202
PM ₁₀	1.6	476
CO	39.9	12,133
VOC	10.2 + 2.5 (fugitives) 12.7	3,093 + (2.5 x 365) = 4,006

PE2 – VOCs only		
	Daily Emissions (lb/day)*	Annual Emissions (lb/year)
S-382-858	12.7	4,006
S-382-859	12.7	4,006
S-383-867	4.3	1555
S-382-868	4.3	1555
S-382-869	4.3	1555
S-382-870	4.3	1555
S-382-871	4.3	1555
S-382-872	4.3	1555
S-382-873	4.3	1555
Total		18,897

*fugitive emissions stated as PTO DEL

Emissions profiles are included in **Attachment III**.

3. 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 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.

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

Rule 2201 Major Source Determination (lb/year)						
	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO	VOC
SSPE1	356,830	12,582	33,759	33,759	1,492,853	848,345
SSPE2	356,830	12,582	33,759	33,759	1,492,853	18,897 – 7,906 + 848,345 = 859,336
Major Source Threshold	20,000	140,000	140,000	200,000	200,000	20,000
Major Source?	Yes	No	No	No	Yes	Yes

* 7/5/16 SSPE calculator

Note: PM2.5 assumed to be equal to PM10, emissions from SSPE calculator 9-17-15

This source is an existing Major Source for NO_x, SO_x, PM10, CO, and VOC emissions and will remain a Major Source for these air contaminants.

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)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Estimated Facility PE before Project Increase				746		
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)				Y		

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

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,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

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

S-382-858, '-859, '-867 through '-869

These units are fully offset for VOCs. Therefore, BE = PE1.

S-382-870 through '-873

Pre-project VOC emissions (0.5 lb/day) were rounded to zero and no offsets were required. Therefore BE = 0.

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. The project is not a SB288 Major Modification.

8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

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

Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, the increases in fugitive emissions are not included in the Federal Major Modification determination. The project is not a Federal Major Modification.

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

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀

I. Project Location Relative to Class 1 Area

As demonstrated in the "PSD Major Source Determination" Section above, the facility was determined to be an existing PSD Major Source. Because the project is not located within 10 km (6.2 miles) 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. Project Emission Increase – Significance Determination

a. Evaluation of Calculated Post-project Potential to Emit for New or Modified Emissions Units vs PSD Significant Emission Increase Thresholds

As a screening tool, the post-project potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if the total potentials to emit from all new and modified units are below the applicable thresholds, no further PSD analysis is needed.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)					
	NO2	SO2	CO	PM	PM10
Total PE from New and Modified Units	1.8	0.2	12.1	0.5	0.5
PSD Significant Emission Increase Thresholds	40	40	100	25	15
PSD Significant Emission Increase?	N	N	N	N	N

As demonstrated above, because the post-project total potentials to emit from all new and modified emission units are below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 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 is listed in the table below.

PTO/ATC	PE 1 lbs/yr	PE2 lbs/yr	QNEC lbs/qtr
S-382-858	3,203	4,006	200.75
S-382-859	3,203	4,006	200.75
S-383-867	256	1555	324.75
S-382-868	256	1555	324.75
S-382-869	256	1555	324.75
S-382-870	183	1555	324.75
S-382-871	183	1555	324.75
S-382-872	183	1555	324.75
S-382-873	183	1555	324.75

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 discussed in Section I above, there are no new emissions units associated with this project. Therefore BACT for new units with PE > 2 lb/day purposes is not triggered.

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

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

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

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

Where,

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

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

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

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

Where,

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

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

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

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

PTO/ATC	PE 1 (lbs/day)	PE2 (lbs/day)	AIPE (lb/day)	BACT For this project?*	Current PTO/ATC BACT Conditions
S-382-858	10.5	12.7	2.2	Yes	7.2.7
S-382-859	10.5	12.7	2.2	Yes	7.2.7
S-382-867	0.7	4.3	3.7	Yes	7.2.7
S-382-868	0.7	4.3	3.7	Yes	7.2.7
S-382-869	0.7	4.3	3.7	Yes	7.2.7
S-382-870	0.5	4.3	3.8	Yes	7.2.7
S-382-871	0.5	4.3	3.8	Yes	7.2.7
S-382-872	0.5	4.3	3.8	Yes	7.2.7
S-382-873	0.5	4.3	3.8	Yes	7.2.7

*BACT Guidelines

7.2.7 Natural Gas Processing Plant – Valves, Connectors, and Compressor and Pump Seals (Subject to Rule 4409) \leq 100 MMscf/day

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 and/or Federal Major Modification for VOC emissions. Therefore BACT is not triggered for any pollutant.

2. BACT Guideline

BACT Guideline 7.2.7, applies to valves, connectors, compressor seals, and pump seals at natural gas processing plants (**Attachment IV**).

3. Top-Down BACT Analysis

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

BACT has been satisfied with the following:

VOC: Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 100 ppmv above background (for Valves and Connectors) and 500 ppmv (for Compressor and Pump Seals) when measured per EPA Method 21 from the potential source, and an Inspection and Maintenance Program pursuant to District Rule 4409.

The BACT Analysis is included in **Attachment V**.

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.

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

2. Quantity of Offsets Required

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

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	--	--	--	--	~859,336
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?					Yes

As seen above, the SSPE2 is greater than the offset thresholds for VOCs; therefore, offset calculations for VOCs will be required.

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

The emissions units are clean emissions units since they meet the BACT standards of BACT Guideline 7.2.7. These units are located at a major source.

Therefore, BE = PE1.

Offsets Required (lb/year) = (PE2 – BE) x DOR

The proposed ERCs have reductions occurring at the same stationary source (S-382). Therefore, DOR = 1. Therefore, the Offsets required for each permit unit are

Offsets Required (lb/year) = (PE2 – BE) x 1.0

The amount of VOC ERCs that need to be withdrawn for each permit unit is provided in far right hand column of the table below:

PE2 – VOCs only				
	PE2 (lb/yr)	BE (lb/yr)	PE2 – BE (lb/yr)	Offsets (lb/qtr)
S-382-858	4,006	3,203	803	200,201,201,201
S-382-859	4,006	3,203	803	200,201,201,201
S-382-867	1555	256	1299	324,325,325,325
S-382-868	1555	256	1299	324,325,325,325
S-382-869	1555	256	1299	324,325,325,325
S-382-870	1555	0	1555	388,389,389,389
S-382-871	1555	0	1555	388,389,389,389
S-382-872	1555	0	1555	388,389,389,389
S-382-873	1555	0	1555	388,389,389,389
Total	18,897	7,174	11,723	2930,2931,2931,2931

The applicant has stated that the facility plans to use ERC certificates listed in the following table.

ERC #	Q1	Q2	Q3	Q4
S-1779-1	0	656	559	0
S-2120-1	55	794	1411	55
S-3379-1	386	6020	8655	1509
Total	441	7,470	10,625	1,564
Transfer 3369 from Q2 to Q3 and 2254 from Q3 to Q4 *	+2,489	-2,489	-1,367	+1,367
ERCs after transfers	2,930	4,981	9,258	2,931
Demand	2,930	2,931	2,931	2,931
Remainder ERC	2,930 – 2,930 = 0	4,981 – 2,931 = 2,050	9,258 – 2,931 = 6,327	2,931 – 2,931 = 0

*Rule 2201 Section 4.13.8 states that "AER (ERCs) for NOx and VOC that occurred from April through November(Q3 and Q4) may be used to offset increases in VOC during any period of the year."

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

Proposed Rule 2201 (offset) Conditions:

S-382-858 (example)

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 200 lb, 2nd quarter - 201 lb, 3rd quarter - 201 lb, and fourth quarter -201 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- {GC# 1983} ERC Certificate Numbers S-1779-1, S-2120-1, and S-3379-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

C. Public Notification

1. Applicability

Public noticing is required for:

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

- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed, and/or
- d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.
- e. Any project which results in a Title V significant permit modification

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

As demonstrated in Sections VII.C.7 and VII.C.8, 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. There are no new emissions units associated with this project. Therefore public noticing is not required for this project for PE > 100 lb/day.

c. Offset Threshold

As detailed in Section VIII.B.1 above, the SSPE1 is greater than the offset threshold for all pollutants; therefore, there were no thresholds surpassed with this project and public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

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

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x			0	20,000 lb/year	No
SO _x			0	20,000 lb/year	No
PM ₁₀			0	20,000 lb/year	No
CO			0	20,000 lb/year	No
VOC	859,336	848,345	10,991	20,000 lb/year	No

As demonstrated above, the SSIPE for VOC is not greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

e. Title V Significant Permit Modification

As shown in the Discussion of Rule 2520 below, this project does not constitute a Title V Minor Modification. Therefore, public noticing for Title V Significant Modifications is not required for this project.

2. Public Notice Action

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

D. Daily Emission Limits (DELs)

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

DELs for the emission units in this project will be included on the ATCs in the form of fugitive component emissions limits in lb VOC/day. The permittee will be required to maintain accurate records of fugitive component counts and resulting emission calculations to validate the DEL.

The following condition is included on the ATC:

Proposed Rule 2201 (DEL) Conditions:

S-382-867-1 (example)

10. *Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using screening value emissions factors of CARB/CAPCOA "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities" included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). Emissions shall be calculated after each quarterly inspection period as required by Rule 4409. [District Rules 2201 and 4409] Y*
11. *This permit allows for a specified percentage of allowed leaking components as defined in this permit to be discovered within prescribed timeframes under District Rule 4409. [District Rules 2201 and 4409] Y*
12. *A gas leak is defined as a reading in excess of 10,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified*

in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. [District Rule 2201] Y

13. *BACT Requirement Any leak greater than 500 ppmv for pump seals and compressor seals and 100 ppmv for valves and connectors, 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 Rule 4409 (adopted April 20, 2005). This requirement shall not apply to inaccessible or unsafe-to-access components as identified in the revised Operator Management Plan required by Rule 4409. [District Rules 2201 and 4409] Y*
14. *VOC fugitive emissions from the components in gas service shall not exceed 4.3 lb/day. [District Rule 2201] Y*
15. *VOC content of the non-condensable vapors shall not exceed 20% by weight. [District Rule 2201] Y*

E. Compliance Assurance

1. Source Testing

The project results in no change in source testing requirements for IC engines S-382-858 and '-859.

2. Monitoring

S-382-858-2, '-859-2, '-867-1 through '-873-1

16. *Operator shall test and maintain records of VOC content of the non-condensable vapors no less than annually. [District Rule 2201] Y*
17. *The VOC content by weight percent (wt. %) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases. [District Rule 1081] The project results in no change in monitoring requirements for combustion equipment.*

3. Recordkeeping

S-382-858-2, '-859-2, '-867-1 through '-873-1

The following permit condition will be listed on permit as follows:

{2983} 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 Rules 1070, 4305, 4306, and 4320]

4. Reporting

There are no reporting requirements for Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. As there is no air quality standard for VOCs, an AAQA is not required.

Rule 2520 Federally Mandated Operating Permits

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

In accordance with Rule 2520, these modifications:

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

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

The Title V Compliance Certification form is included in **Attachment VI**.

Rule 4001 New Source Performance Standards (NSPS)

Subpart KKK—Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants.

40 CFR Part 60, Subpart KKK (40 CFR 60.630 to 60.636) applies to onshore natural gas

processing plants. These general requirements and those of 40 CFR Subpart VV, establish leak standards for each category of component (valves, flanges, pressure relief valves etc.) and specify procedures and timelines for repairing leaks. The following condition is included on the ATCs for the compressors:

S-382-858-2, '-859-2, '-867-1 through '-873-1

Permittee shall comply with applicable monitoring, inspection, maintenance, recordkeeping, reporting, and leak requirements of 40 CFR Part 60 Subpart KKK and Rule 4409. [40 CFR Part 60 Subpart KKK, District Rule 2201, and District Rule 4409] Y

Note that tanks are not subject to 40 CFR KKK because they are not part of a process unit and not used for the extraction of natural gas liquids. Compliance is expected.

Rule 4101 Visible Emissions

Per Section 5.0, no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). As the IC engines are fired solely on natural gas, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. Compliance 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.

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (**Attachment VII**), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:

A. RMR SUMMARY

RMR Summary				
Categories	Two Natural Gas ICEs (Units 858-2 & 859-2)	VOC Fugitives from Component Leaks (Units 867-1 thru 873-1)	Project Totals	Facility Totals
Prioritization Score	0.06	0.10	0.16	>1.0
Acute Hazard Index	0.00	0.11	0.11	0.86
Chronic Hazard Index	0.00	0.01	0.01	0.04
Maximum Individual Cancer Risk	1.45E-08	1.16E-06	1.17E-06	19.9E-06
T-BACT Required?	No	No¹		
Special Permit Requirements?	Yes	Yes		

¹T-BACT is not required for these units, because each unit individually results in a Cancer Risk of less than 1 in a million.

The project is approvable without TBACT.

The following special conditions are required:

Units 858-2 & 859-2

1. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction.
2. This unit shall not operate within 800 meters of the nearest receptor.

Units 867-1, 868-1, 869-1, 870-1, 871-1, 872-1, & 873-1

1. This unit shall not operate within 300 meters of the nearest receptor.

Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot. IC engines S-382-858 and '859 are currently operating in compliance with the rule and the project is not expected to affect compliance status.

Therefore, compliance with District Rule 4201 requirements is expected.

Rule 4409 Component at Light Crude Oil Production Facilities, Natural Gas Production Facilities, and Natural Gas Processing Facilities

The IC engines and compressors are proposed cryogenic gas plant is subject to the rule requirements as listed in the facility wide PTO S-382-0-3. Applicant has requested that the following exemption requirement be placed on the permit:

31. *Except for complying with the applicable requirements of Sections 6.1 and 7.3 of Rule 4409, the requirements of Rule 4409 shall not apply to pressure relief devices, pumps and compressors equipped with a closed-vent system as defined in Section 3.0 of Rule 4409, components buried below ground, components exclusively handling liquid streams which have less than 10 wt % evaporation at 1500 deg C as determined by the test method specified in Section 6.3.3 of Rule 4409, components handling liquids with 90 vol % or greater water concentration if the components are located after initial oil/water separation, components at oil production facilities and gas production facilities exclusively handling gas/vapor or liquid with a VOC content of 10% by weight or less as determined by the test methods in Section 6.3.2 of Rule 4409, components exclusively in vacuum service, components handling commercial quality natural gas exclusively, and one-half inch nominal or less stainless steel tube fittings which have been demonstrated to the APCO to be leak-free based on initial inspection using the test method specified in Section 6.3.1 of Rule 4409. An operator claiming any of the above exemptions shall provide proof of the applicable criteria to the satisfaction of the APCO. [District Rule 4409] Y*

Compliance is expected.

Rule 4801 Sulfur Compounds

The gas combusted in the IC engines is natural gas containing no more than 1.0 gr S/100 scf and therefore is expected to have exhaust sulfur compound emissions much less than 2000 ppmv. Therefore compliance with this rule is expected.

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;

- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Greenhouse Gas (GHG) Significance Determination

District is a Lead Agency & Facility is Subject to Cap-and-Trade

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

On December 17, 2009, the District's Governing Board adopted a policy, APR 2005, *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*, for addressing GHG emission impacts when the District is Lead Agency under CEQA and approved the District's guidance document for use by other agencies when addressing GHG impacts as lead agencies under CEQA. Under this policy, the District's determination of significance of project-specific GHG emissions is founded on the principal that projects with GHG emission reductions consistent with AB 32 emission reduction targets are considered to have a less than significant impact on global climate change. Consistent with District Policy 2005, projects complying with an approved GHG emission reduction plan or GHG mitigation program, which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, would be determined to have a less than significant individual and cumulative impact for GHG emission.

The California Air Resources Board (ARB) adopted a Cap-and-Trade regulation as part one of the strategies identified for AB 32. This Cap-and-Trade regulation is a statewide plan, supported by a CEQA compliant environmental review document, aimed at reducing or mitigating GHG emissions from targeted industries. Facilities subject to the Cap-and-Trade regulation are subject to an industry-wide cap on overall GHG emissions. Any growth in emissions must be accounted for under that cap such that a corresponding and equivalent reduction in emissions must occur to allow any increase. Further, the cap decreases over time, resulting in an overall decrease in GHG emissions.

Under District policy APR 2005, *CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation*, the District finds that the Cap-and-Trade is a regulation plan approved by ARB, consistent with AB32 emission reduction targets, and supported by a CEQA compliant environmental review document. As such, consistent with District Policy 2005, projects complying project complying with Cap-and-Trade requirements are determined to have a less than significant individual and cumulative impact for GHG emissions.

Industries covered by Cap-and-Trade are identified in the regulation under section 95811, Covered Entities:

1. Group 1: Large industrial facilities

These types of facilities are subject to Cap and Trade, and the specific companies covered are listed at <http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>, Section 95811 (a), under the “Publically Available Market Information” section (list maintained by the California Air Resources Board).

2. Group 2: Electricity generation facilities located in California, or electricity importers

These types of facilities are subject to Cap and Trade (section 95811, b).

3. Group 3: Suppliers of Natural Gas, Suppliers of Reformulated Gasoline Blend stock for Oxygenate Blending and Distillate Fuel Oil, Suppliers of Liquefied Petroleum Gas, and Suppliers of Blended Fuels

These entities are subject to Cap and Trade compliance obligations which must cover all fuels (except jet fuels) identified in section 95811 (c) through (f) of the Cap-and-Trade regulation delivered to end users in California, less the fuel delivered to covered entities (group 1 above).

This facility is subject to the Cap-and-Trade regulation. Therefore, as discussed above, consistent with District Policies APR 2005 and APR 2025, the District concludes that the GHG emissions increases associated with this project would have a less than significant individual and cumulative 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 § 15301 (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)).

Indemnification Agreement/Letter of Credit Determination

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit is based on a case-by-case analysis of a particular project's potential for litigation risk, which in turn may be based on a project's potential to generate public concern, its potential for significant impacts, and the project

proponent's ability to pay for the costs of litigation without a letter of credit, among other factors.

The criteria pollutant emissions and toxic air contaminant emissions associated with the proposed project are not significant, and there is minimal potential for public concern for this particular type of facility/operation. Therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful COC Noticing period, issue Authorities to Construct S-382-858-2, '-859-2, '-867-1 through '-873-1 subject to the conditions included on the attached draft Authorities to Construct in **Attachment XIII**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-382-858	3020-01H	26,900 hp	\$1080.00
S-382-859	3020-06	miscellaneous	\$111.00
S-382-867	3020-02H	19.5 MMBtu/hr	\$1080.00
S-382-868	3020-01D	120 hp	\$330.00
S-382-869	3020-01A	30 hp	\$123.00
S-382-870	3020-01H	4043 hp	\$1080.00
S-382-871	3020-01H	20,100 hp	\$1080.00
S-382-872	3020-01D	120 hp	\$330.00
S-382-873	3020-01F	600 hp	\$637.00

Attachments

- I: Current PTOs
- II: Fugitive Emissions
- III: Emissions Profiles
- IV: BACT Guidelines
- V: BACT Analysis
- VI: Title V Compliance Certification Form
- VII: HRA
- XIII: Draft ATCs

ATTACHMENT I
Current ATC and PTOs

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-382-858-0

EXPIRATION DATE: 10/31/2016

EQUIPMENT DESCRIPTION:

1,480 BHP WAUKESHA MODEL 7042 NATURAL GAS-FIRED RICH-BURN IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION, PCV VALVE, AND AIR/FUEL RATIO CONTROLLER OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382

PERMIT UNIT REQUIREMENTS

1. This unit shall not operate within 800 meters of the nearest receptor. [District Rule 4102]
2. This unit shall not operate within 140 meters of the boundary of the Elk Hills Field region of facility S-382. [District Rule 4102]
3. This unit shall only operate within facility S-382. [District Rule 4102]
4. Operator shall notify the District by letter or fax at least 48-hours in advance of the re-location of this unit. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Operator shall maintain records of compressor skid location and dates spent at each location and make such records available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
6. This IC engine shall be equipped with a three-way catalyst and shall be fired on natural gas fuel only. [District Rule 2201] Federally Enforceable Through Title V Permit
7. This engine shall be equipped with either a positive crankcase ventilation (PCV) system that recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
10. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
11. The permittee shall install and operate a nonresettable fuel flow meter. The fuel meter shall be properly maintained in accordance with the manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit
12. This IC engine shall only be fired on Public Utility Commission (PUC) quality natural gas. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
13. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702] Federally Enforceable Through Title V Permit
14. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

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

15. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
16. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
17. The fuel consumption for this engine shall not exceed 93,489 MMscf/year based on a 12-month rolling average. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Emissions from this IC engine shall not exceed any of the following limits: 0.075 g-NOx/bhp-hr or 5 ppmv @ 15% O₂, 0.0085 g-SOx/bhp-hr, 0.02 g-PM10/bhp-hr, 0.51 g-CO/bhp-hr or 56 ppmv @ 15% O₂, 0.13 g-VOC/bhp-hr or 25 ppmv @ 15% O₂. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
19. Sulfur content of the natural gas burned shall not exceed 0.75 grain/100 scf. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
20. VOC fugitive emissions from the components in gas service associated with the compressor shall not exceed 0.3 lb/day. [District Rule] Federally Enforceable Through Title V Permit
21. Permittee shall maintain accurate component count and component types for this tank and the associated tank vapor control system and resulting emissions calculated using EPA's, Protocol for Equipment Leak Emission Estimates, November 1995. Table 5-7, "Equations relating Average Leak Rate to Fraction Leaking at Oil and Gas Production operation Units. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
22. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a VOC concentration of greater than 2,000 ppmv measured in accordance with EPA Method 21. Upon detection of a gas leak, the operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
23. If the IC engine is fired on PUC-regulated natural gas, the permittee shall retain on file, copies of all natural gas bills. [District Rule 2201] Federally Enforceable Through Title V Permit
24. If the engine is fired on any fuel gas other than PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the IC engine shall be determined using ASTM methods D1072, D3246, D4084, Double GC for H₂S and mercaptans, or alternative test method with prior written approval from the APCO. [District Rule 2201] Federally Enforceable Through Title V Permit
25. If the engine is fired on any fuel gas other than PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NO_x, CO, and VOC emissions from this engine shall be conducted not less than once every 12 months. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
27. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] 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.

29. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702] Federally Enforceable Through Title V Permit
30. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
31. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
32. This operation shall comply with the requirements of District Rule 4409, as specified on facility wide permit S-382-0. [District Rule 4409] Federally Enforceable Through Title V Permit
33. After compliance date in specified in Section 7.5 of Rule 4702, operator shall conduct annual fuel analysis using applicable test methods in Section 6.4. Records of the fuel analysis shall be kept and made available for District inspection upon request. [District Rule 4702] Federally Enforceable Through Title V Permit
34. This engine shall be operated and maintained in proper operating condition according to the manufacturer's specifications and the Rule 4702 Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702] Federally Enforceable Through Title V Permit
35. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit
36. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
37. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
38. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702] Federally Enforceable Through Title V Permit
39. The results of the measurements taken with the District approved analyzer shall be retained on-site at all times. [District Rule 1081] 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.

40. The owner/operator shall submit to the APCO for approval, and Inspection and Maintenance (I&M) plan that specifies all actions to be taken to satisfy all of the requirements of Rule 4702 Sections 5.8 and 6.5. [District Rule 4702] Federally Enforceable Through Title V Permit
41. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702] Federally Enforceable Through Title V Permit
42. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
43. The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, compliance source test results, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit
44. The permittee shall maintain records of annual natural gas consumption (in MMscf) based on a 12-month rolling basis. [District Rule 2201] Federally Enforceable Through Title V Permit
45. 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 Rules 2201 and 4702] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-382-859-0

EXPIRATION DATE: 10/31/2016

EQUIPMENT DESCRIPTION:

1,480 BHP WAUKESHA MODEL 7042 NATURAL GAS-FIRED RICH-BURN IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION, PCV VALVE, AND AIR/FUEL RATIO CONTROLLER OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382

PERMIT UNIT REQUIREMENTS

1. This unit shall not operate within 800 meters of the nearest receptor. [District Rule 4102]
2. This unit shall not operate within 140 meters of the boundary of the Elk Hills Field region of facility S-382. [District Rule 4102]
3. This unit shall only operate within facility S-382. [District Rule 4102]
4. Operator shall notify the District by letter or fax at least 48-hours in advance of the re-location of this unit. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Operator shall maintain records of compressor skid location and dates spent at each location and make such records available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
6. This IC engine shall be equipped with a three-way catalyst and shall be fired on natural gas fuel only. [District Rule 2201] Federally Enforceable Through Title V Permit
7. This engine shall be equipped with either a positive crankcase ventilation (PCV) system that recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
10. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
11. The permittee shall install and operate a nonresettable fuel flow meter. The fuel meter shall be properly maintained in accordance with the manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit
12. This IC engine shall only be fired on Public Utility Commission (PUC) quality natural gas. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
13. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702] Federally Enforceable Through Title V Permit
14. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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15. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
16. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
17. The fuel consumption for this engine shall not exceed 93,489 MMscf/year based on a 12-month rolling average. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Emissions from this IC engine shall not exceed any of the following limits: 0.075 g-NOx/bhp-hr or 5 ppmv @ 15% O₂, 0.0085 g-SOx/bhp-hr, 0.02 g-PM10/bhp-hr, 0.51 g-CO/bhp-hr or 56 ppmv @ 15% O₂, 0.13 g-VOC/bhp-hr or 25 ppmv @ 15% O₂. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
19. Sulfur content of the natural gas burned shall not exceed 0.75 grain/100 scf. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
20. VOC fugitive emissions from the components in gas service associated with the compressor shall not exceed 0.3 lb/day. [District Rule] Federally Enforceable Through Title V Permit
21. Permittee shall maintain accurate component count and component types for this tank and the associated tank vapor control system and resulting emissions calculated using EPA's, Protocol for Equipment Leak Emission Estimates, November 1995. Table 5-7, "Equations relating Average Leak Rate to Fraction Leaking at Oil and Gas Production operation Units. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
22. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a VOC concentration of greater than 2,000 ppmv measured in accordance with EPA Method 21. Upon detection of a gas leak, the operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
23. If the IC engine is fired on PUC-regulated natural gas, the permittee shall retain on file, copies of all natural gas bills. [District Rule 2201] Federally Enforceable Through Title V Permit
24. If the engine is fired on any fuel gas other than PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the IC engine shall be determined using ASTM methods D1072, D3246, D4084, Double GC for H₂S and mercaptans, or alternative test method with prior written approval from the APCO. [District Rule 2201] Federally Enforceable Through Title V Permit
25. If the engine is fired on any fuel gas other than PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NOx, CO, and VOC emissions from this engine shall be conducted not less than once every 12 months. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
27. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] 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.

29. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702] Federally Enforceable Through Title V Permit
30. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
31. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
32. This operation shall comply with the requirements of District Rule 4409, as specified on facility wide permit S-382-0. [District Rule 4409] Federally Enforceable Through Title V Permit
33. After compliance date in specified in Section 7.5 of Rule 4702, operator shall conduct annual fuel analysis using applicable test methods in Section 6.4. Records of the fuel analysis shall be kept and made available for District inspection upon request. [District Rule 4702] Federally Enforceable Through Title V Permit
34. This engine shall be operated and maintained in proper operating condition according to the manufacturer's specifications and the Rule 4702 Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702] Federally Enforceable Through Title V Permit
35. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit
36. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
37. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
38. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702] Federally Enforceable Through Title V Permit
39. The results of the measurements taken with the District approved analyzer shall be retained on-site at all times. [District Rule 1081] 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.

40. The owner/operator shall submit to the APCO for approval, and Inspection and Maintenance (I&M) plan that specifies all actions to be taken to satisfy all of the requirements of Rule 4702 Sections 5.8 and 6.5. [District Rule 4702] Federally Enforceable Through Title V Permit
41. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702] Federally Enforceable Through Title V Permit
42. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
43. The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, compliance source test results, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit
44. The permittee shall maintain records of annual natural gas consumption (in MMscf) based on a 12-month rolling basis. [District Rule 2201] Federally Enforceable Through Title V Permit
45. 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 Rules 2201 and 4702] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-382-867-0

EXPIRATION DATE: 10/31/2016

SECTION: SW 28 **TOWNSHIP:** 30S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

2500 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K143 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE

PERMIT UNIT REQUIREMENTS

1. The equipment shall not be located within 1,000 feet of any K-12 school. [CH&SC 42301.6]
2. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
3. Units S-382-867, S-382-868, and S-382-869 may only operate within facility S-382. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Units S-382-867, S-382-868, and S-382-869 may not operate within 300 meters (984 feet) of the nearest receptor. [District Rule 4102]
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using (ALR) equations for a 2,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
7. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 2,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. A gas or liquid leak is a violation of this permit and shall be reported as a deviation. [District Rule 2201] Federally Enforceable Through Title V Permit
8. VOC fugitive emissions shall not exceed 0.7 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Prior to operating equipment under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: VOCs: 66 lb/quarter. Offsets include the applicable offset ratio specified in Section 4.8 of Rule 2201 (as amended 4/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit
10. ERC Certificate Number S-3982-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
11. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-382-868-0

EXPIRATION DATE: 10/31/2016

SECTION: SW 34 **TOWNSHIP:** 30S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

2500 HP OR GREATER ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K142 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE

PERMIT UNIT REQUIREMENTS

1. The equipment shall not be located within 1,000 feet of any K-12 school. [CH&SC 42301.6]
2. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
3. Units S-382-867, S-382-868, and S-382-869 may only operate within facility S-382. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Units S-382-867, S-382-868, and S-382-869 may not operate within 300 meters (984 feet) of the nearest receptor. [District Rule 4102]
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using (ALR) equations for a 2,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
7. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 2,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. A gas or liquid leak is a violation of this permit and shall be reported as a deviation. [District Rule 2201] Federally Enforceable Through Title V Permit
8. VOC fugitive emissions shall not exceed 0.7 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Prior to operating equipment under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: VOCs: 66 lb/quarter. Offsets include the applicable offset ratio specified in Section 4.8 of Rule 2201 (as amended 4/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit
10. ERC Certificate Number S-3982-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
11. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-382-869-0

EXPIRATION DATE: 10/31/2016

SECTION: SW 10 **TOWNSHIP:** 31S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

2500 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K144 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE

PERMIT UNIT REQUIREMENTS

1. The equipment shall not be located within 1,000 feet of any K-12 school. [CH&SC 42301.6]
2. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
3. Units S-382-867, S-382-868, and S-382-869 may only operate within facility S-382. [District Rule 2201]
4. Units S-382-867, S-382-868, and S-382-869 may not operate within 300 meters (984 feet) of the nearest receptor. [District Rule 4102]
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using (ALR) equations for a 2,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
7. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 2,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. A gas or liquid leak is a violation of this permit and shall be reported as a deviation. [District Rule 2201] Federally Enforceable Through Title V Permit
8. VOC fugitive emissions shall not exceed 0.7 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Prior to operating equipment under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: VOCs: 66 lb/quarter. Offsets include the applicable offset ratio specified in Section 4.8 of Rule 2201 (as amended 4/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit
10. ERC Certificate Number S-3982-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
11. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-382-870-0

EXPIRATION DATE: 10/31/2016

SECTION: SW 34 **TOWNSHIP:** 30S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K138 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE

PERMIT UNIT REQUIREMENTS

1. The equipment shall not be located within 1,000 feet of any K-12 school. [CH&SC 42301.6]
2. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
3. Units S-382-870, S-382-871, S-382-872, S-382-873, and S-382-874 may only operate within facility S-382. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Units S-382-870, S-382-871, S-382-872, S-382-873, and S-382-874 may not operate within 300 meters (984 feet) of the nearest receptor. [District Rule 4102]
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using (ALR) equations for a 2,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
7. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 2,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. A gas or liquid leak is a violation of this permit and shall be reported as a deviation. [District Rule 2201] Federally Enforceable Through Title V Permit
8. VOC fugitive emissions shall not exceed 0.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
9. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-382-871-0

EXPIRATION DATE: 10/31/2016

SECTION: SW 34 **TOWNSHIP:** 30S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K139 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE

PERMIT UNIT REQUIREMENTS

1. The equipment shall not be located within 1,000 feet of any K-12 school. [CH&SC 42301.6]
2. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
3. Units S-382-870, S-382-871, S-382-872, S-382-873, and S-382-874 may only operate within facility S-382. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Units S-382-870, S-382-871, S-382-872, S-382-873, and S-382-874 may not operate within 300 meters (984 feet) of the nearest receptor. [District Rule 4102]
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using (ALR) equations for a 2,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
7. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 2,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. A gas or liquid leak is a violation of this permit and shall be reported as a deviation. [District Rule 2201] Federally Enforceable Through Title V Permit
8. VOC fugitive emissions shall not exceed 0.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
9. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-382-872-0

EXPIRATION DATE: 10/31/2016

SECTION: SW 34 **TOWNSHIP:** 30S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K140 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE

PERMIT UNIT REQUIREMENTS

1. The equipment shall not be located within 1,000 feet of any K-12 school. [CH&SC 42301.6]
2. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
3. Units S-382-870, S-382-871, S-382-872, S-382-873, and S-382-874 may only operate within facility S-382. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Units S-382-870, S-382-871, S-382-872, S-382-873, and S-382-874 may not operate within 300 meters (984 feet) of the nearest receptor. [District Rule 4102]
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using (ALR) equations for a 2,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
7. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 2,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. A gas or liquid leak is a violation of this permit and shall be reported as a deviation. [District Rule 2201] Federally Enforceable Through Title V Permit
8. VOC fugitive emissions shall not exceed 0.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
9. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-382-873-0

EXPIRATION DATE: 10/31/2016

SECTION: SW 34 **TOWNSHIP:** 30S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K141 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE

PERMIT UNIT REQUIREMENTS

1. The equipment shall not be located within 1,000 feet of any K-12 school. [CH&SC 42301.6]
2. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
3. Units S-382-870, S-382-871, S-382-872, S-382-873, and S-382-874 may only operate within facility S-382. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Units S-382-870, S-382-871, S-382-872, S-382-873, and S-382-874 may not operate within 300 meters (984 feet) of the nearest receptor. [District Rule 4102]
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using (ALR) equations for a 2,000 ppmv leak threshold included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). [District Rule 2201] Federally Enforceable Through Title V Permit
7. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 2,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. A gas or liquid leak is a violation of this permit and shall be reported as a deviation. [District Rule 2201] Federally Enforceable Through Title V Permit
8. VOC fugitive emissions shall not exceed 0.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
9. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

ATTACHMENT II
Fugitive Emissions

FACILITY NAME
S-382-858 1,480 BHP WAUKESHA MODEL 7042 NATURAL GAS
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 ? 0.13 %
Weight percentage of VOC in the total organic compounds in gas? 20.0 %
Weight percentage of VOC in the total organic compounds in oil? 20.0 %

Equipment Type	Service	Component Count	Total leaking components	Screening Value EF - TOC		VOC emissions (lb/day)	VOC emissions (tons/yr)
				< 10,000 ppmv (lb/day/source)	$\geq 10,000$ ppmv (lb/day/source)		
Valves	Gas/Light Liquid	57	1	0.0019	7.333E+00	1.49	0.27
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00	0.00
Pump Seals	Gas/Light Liquid	0	0	5.270E-02	4.709E+00	0.00	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A	
Others	Gas/Light Liquid	3	0	7.778E-03	7.281E+00	0.00	0.00
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00	0.00
Connectors	Gas/Light Liquid	425	1	6.349E-04	1.370E+00	0.33	0.06
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00	0.00
Flanges	Gas/Light Liquid	220	1	1.482E-03	3.228E+00	0.71	0.13
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00	0.00

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

Proposed Total lb/day VOC Emissions =	2.53
Proposed Total tons/yr VOC Emissions =	0.46
Current Total lb/day VOC Emissions =	0.30
Current Total tons/yr VOC Emissions =	0.05
Change in Total lb/day VOC Emissions =	2.23
Change in Total tons/yr VOC Emissions =	0.41
OFFSET at 1.3 Ratio	
Tons of VOC Emissions	0.53

FACILITY NAME
S-382-859 1,480 BHP WAUKESHA MODEL 7042 NATURAL GAS
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 ? 0.13 %
Weight percentage of VOC in the total organic compounds in gas? 20.0 %
Weight percentage of VOC in the total organic compounds in oil? 20.0 %

Equipment Type	Service	Component Count	Total leaking components	Screening Value EF - TOC		VOC emissions (lb/day)	VOC emissions (tons/yr)
				< 10,000 ppmv (lb/day/source)	$\geq 10,000$ ppmv (lb/day/source)		
Valves	Gas/Light Liquid	57	1	1.852E-03	7.333E+00	1.49	0.27
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00	0.00
Pump Seals	Gas/Light Liquid	0	0	5.270E-02	4.709E+00	0.00	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A	N/A
Others	Gas/Light Liquid	3	0	7.778E-03	7.281E+00	0.00	0.00
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00	0.00
Connectors	Gas/Light Liquid	425	1	6.349E-04	1.370E+00	0.33	0.06
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00	0.00
Flanges	Gas/Light Liquid	220	1	1.482E-03	3.228E+00	0.71	0.13
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00	0.00

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

Proposed Total lb/day VOC Emissions =	2.53
Proposed Total tons/yr VOC Emissions =	0.46
Current Total lb/day VOC Emissions =	0.30
Current Total tons/yr VOC Emissions =	0.05
Change in Total lb/day VOC Emissions =	2.23
Change in Total tons/yr VOC Emissions =	0.41
OFFSET at 1.3 Ratio	
Tons of VOC Emissions	0.53

FACILITY NAME

S-382-867 1600 HP OR GREATER ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR OPERATED AT VARIOUS
UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE

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 ≥ 10,000 ppmv leaks ? 0.13 %
Weight percentage of VOC in the total organic compounds in gas? 20.0 %
Weight percentage of VOC in the total organic compounds in oil? 20.0 %

Equipment Type	Service	Component Count	Total leaking components	Screening Value EF - TOC		VOC emissions (lb/day)	VOC emissions (tons/yr)
				< 10,000 ppmv (lb/day/source)	≥ 10,000 ppmv (lb/day/source)		
Valves	Gas/Light Liquid	179	1	1.852E-03	7.333E+00	1.53	0.28
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00	0.00
Pump Seals	Gas/Light Liquid	2	0	5.270E-02	4.709E+00	0.02	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A	N/A
Others	Gas/Light Liquid	55	1	7.778E-03	7.281E+00	1.54	0.28
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00	0.00
Connectors	Gas/Light Liquid	758	1	6.349E-04	1.370E+00	0.37	0.07
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00	0.00
Flanges	Gas/Light Liquid	509	1	1.482E-03	3.228E+00	0.80	0.15
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00	0.00

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

Proposed Total lb/day VOC Emissions =	4.26
Proposed Total tons/yr VOC Emissions =	0.78
Current Total lb/day VOC Emissions =	0.70
Current Total tons/yr VOC Emissions =	0.13
Change in Total lb/day VOC Emissions =	3.56
Change in Total tons/yr VOC Emissions =	0.65
OFFSET at 1.3 Ratio	
Tons of VOC Emissions	0.84

FACILITY NAME

S-382-868 1600 HP OR GREATER ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE

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 ? 0.13 %
 Weight percentage of VOC in the total organic compounds in gas? 20.0 %
 Weight percentage of VOC in the total organic compounds in oil? 20.0 %

Equipment Type	Service	Component Count	Total leaking components	Screening Value EF - TOC		VOC emissions (lb/day)	VOC emissions (tons/yr)
				< 10,000 ppmv (lb/day/source)	$\geq 10,000$ ppmv (lb/day/source)		
Valves	Gas/Light Liquid	179	1	1.852E-03	7.333E+00	1.53	0.28
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00	0.00
Pump Seals	Gas/Light Liquid	2	0	5.270E-02	4.709E+00	0.02	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A	N/A
Others	Gas/Light Liquid	55	1	7.778E-03	7.281E+00	1.54	0.28
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00	0.00
Connectors	Gas/Light Liquid	758	1	6.349E-04	1.370E+00	0.37	0.07
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00	0.00
Flanges	Gas/Light Liquid	509	1	1.482E-03	3.228E+00	0.80	0.15
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00	0.00

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

Proposed Total lb/day VOC Emissions =	4.26
Proposed Total tons/yr VOC Emissions =	0.78
Current Total lb/day VOC Emissions =	0.70
Current Total tons/yr VOC Emissions =	0.13
Change in Total lb/day VOC Emissions =	3.56
Change in Total tons/yr VOC Emissions =	0.65
OFFSET at 1.3 Ratio	
Tons of VOC Emissions	0.84

FACILITY NAME

S-382-869 1600 HP OR GREATER ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR OPERATED
AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE

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 ? 0.13 %
Weight percentage of VOC in the total organic compounds in gas? 20.0 %
Weight percentage of VOC in the total organic compounds in oil? 20.0 %

Equipment Type	Service	Component Count	Total leaking components	Screening Value EF - TOC		VOC emissions (lb/day)	VOC emissions (tons/yr)
				< 10,000 ppmv (lb/day/source)	$\geq 10,000$ ppmv (lb/day/source)		
Valves	Gas/Light Liquid	179	1	1.852E-03	7.333E+00	1.53	0.28
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00	0.00
Pump Seals	Gas/Light Liquid	2	0	5.270E-02	4.709E+00	0.02	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A	N/A
Others	Gas/Light Liquid	55	1	7.778E-03	7.281E+00	1.54	0.28
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00	0.00
Connectors	Gas/Light Liquid	758	1	6.349E-04	1.370E+00	0.37	0.07
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00	0.00
Flanges	Gas/Light Liquid	509	1	1.482E-03	3.228E+00	0.80	0.15
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00	0.00

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

Proposed Total lb/day VOC Emissions =	4.26
Proposed Total tons/yr VOC Emissions =	0.78
Current Total lb/day VOC Emissions =	0.70
Current Total tons/yr VOC Emissions =	0.13
Change in Total lb/day VOC Emissions =	3.56
Change in Total tons/yr VOC Emissions =	0.65
OFFSET at 1.3 Ratio	
Tons of VOC Emissions	0.84

FACILITY NAME

**S-382-8701600 HP OR GREATER ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE
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 ≥ 10,000 ppmv leaks ? 0.13 %
Weight percentage of VOC in the total organic compounds in gas? 20.0 %
Weight percentage of VOC in the total organic compounds in oil? 20.0 %

Equipment Type	Service	Component Count	Total leaking components	Screening Value EF - TOC		VOC emissions (lb/day)	VOC emissions (tons/yr)
				< 10,000 ppmv (lb/day/source)	≥ 10,000 ppmv (lb/day/source)		
Valves	Gas/Light Liquid	179	1	1.852E-03	7.333E+00	1.53	0.28
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00	0.00
Pump Seals	Gas/Light Liquid	2	0	5.270E-02	4.709E+00	0.02	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A	N/A
Others	Gas/Light Liquid	55	1	7.778E-03	7.281E+00	1.54	0.28
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00	0.00
Connectors	Gas/Light Liquid	758	1	6.349E-04	1.370E+00	0.37	0.07
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00	0.00
Flanges	Gas/Light Liquid	509	1	1.482E-03	3.228E+00	0.80	0.15
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00	0.00

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

Proposed Total lb/day VOC Emissions =	4.26
Proposed Total tons/yr VOC Emissions =	0.78
Current Total lb/day VOC Emissions =	0.50
Current Total tons/yr VOC Emissions =	0.09
Change in Total lb/day VOC Emissions =	3.76
Change in Total tons/yr VOC Emissions =	0.69
OFFSET at 1.3 Ratio	
Tons of VOC Emissions	0.89

FACILITY NAME

S-382-871 1600 HP OR GREATER ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE

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 ? 0.13 %
Weight percentage of VOC in the total organic compounds in gas? 20.0 %
Weight percentage of VOC in the total organic compounds in oil? 20.0 %

Equipment Type	Service	Component Count	Total leaking components	Screening Value EF - TOC		VOC emissions (lb/day)	VOC emissions (tons/yr)
				< 10,000 ppmv (lb/day/source)	$\geq 10,000$ ppmv (lb/day/source)		
Valves	Gas/Light Liquid	179	1	1.852E-03	7.333E+00	1.53	0.28
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00	0.00
Pump Seals	Gas/Light Liquid	2	0	5.270E-02	4.709E+00	0.02	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A	
Others	Gas/Light Liquid	55	1	7.778E-03	7.281E+00	1.54	0.28
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00	0.00
Connectors	Gas/Light Liquid	758	1	6.349E-04	1.370E+00	0.37	0.07
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00	0.00
Flanges	Gas/Light Liquid	509	1	1.482E-03	3.228E+00	0.80	0.15
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00	0.00

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

Proposed Total lb/day VOC Emissions =	4.26
Proposed Total tons/yr VOC Emissions =	0.78
Current Total lb/day VOC Emissions =	0.50
Current Total tons/yr VOC Emissions =	0.09
Change in Total lb/day VOC Emissions =	3.76
Change in Total tons/yr VOC Emissions =	0.69
OFFSET at 1.3 Ratio	
Tons of VOC Emissions	0.89

FACILITY NAME

S-382-872 1600 HP OR GREATER ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR
 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY
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? 0.13 %
 Weight percentage of VOC in the total organic compounds in gas? 20.0 %
 Weight percentage of VOC in the total organic compounds in oil? 20.0 %

Equipment Type	Service	Component Count	Total leaking components	Screening Value EF - TOC		VOC emissions (lb/day)	VOC emissions (tons/yr)
				< 10,000 ppmv (lb/day/source)	$\geq 10,000$ ppmv (lb/day/source)		
Valves	Gas/Light Liquid	179	1	1.852E-03	7.333E+00	1.53	0.28
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00	0.00
Pump Seals	Gas/Light Liquid	2	0	5.270E-02	4.709E+00	0.02	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A	0.00
Others	Gas/Light Liquid	55	1	7.778E-03	7.281E+00	1.54	0.28
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00	0.00
Connectors	Gas/Light Liquid	758	1	6.349E-04	1.370E+00	0.37	0.07
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00	0.00
Flanges	Gas/Light Liquid	509	1	1.482E-03	3.228E+00	0.80	0.15
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00	0.00

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

Proposed Total lb/day VOC Emissions =	4.26
Proposed Total tons/yr VOC Emissions =	0.78
Current Total lb/day VOC Emissions =	0.50
Current Total tons/yr VOC Emissions =	0.09
Change in Total lb/day VOC Emissions =	3.76
Change in Total tons/yr VOC Emissions =	0.69
OFFSET at 1.3 Ratio	
Tons of VOC Emissions	1.03

FACILITY NAME

S-382-873 1600 HP OR GREATER ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE

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 ? 0.13 %
 Weight percentage of VOC in the total organic compounds in gas? 20.0 %
 Weight percentage of VOC in the total organic compounds in oil? 20.0 %

Equipment Type	Service	Component Count	Total leaking components	Screening Value EF - TOC		VOC emissions (lb/day)	VOC emissions (tons/yr)
				< 10,000 ppmv (lb/day/source)	$\geq 10,000$ ppmv (lb/day/source)		
Valves	Gas/Light Liquid	179	1	1.852E-03	7.333E+00	1.53	0.28
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00	0.00
Pump Seals	Gas/Light Liquid	2	0	5.270E-02	4.709E+00	0.02	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A	
Others	Gas/Light Liquid	55	1	7.778E-03	7.281E+00	1.54	0.28
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00	0.00
Connectors	Gas/Light Liquid	758	1	6.349E-04	1.370E+00	0.37	0.07
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00	0.00
Flanges	Gas/Light Liquid	509	1	1.482E-03	3.228E+00	0.80	0.15
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00	0.00

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

Proposed Total lb/day VOC Emissions =	4.26
Proposed Total tons/yr VOC Emissions =	0.78
Current Total lb/day VOC Emissions =	0.50
Current Total tons/yr VOC Emissions =	0.09
Change in Total lb/day VOC Emissions =	3.76
Change in Total tons/yr VOC Emissions =	0.69
OFFSET at 1.3 Ratio	
Tons of VOC Emissions	1.03

ATTACHMENT III
Emissions Profiles

Permit #: S-382-858-2	Last Updated
Facility: CALIFORNIA RESOURCES ELK HILLS, LLC	07/07/2016 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	1784.0	202.0	476.0	12133.0	3203.0
Daily Emis. Limit (lb/Day)	5.9	0.7	1.6	39.9	10.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.0
Quarterly Offset Amounts (lb/Qtr)					
Q1:					200.0
Q2:					201.0
Q3:					201.0
Q4:					201.0

Permit #: S-382-859-2	Last Updated
Facility: CALIFORNIA RESOURCES ELK HILLS, LLC	07/07/2016 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	1784.0	202.0	476.0	12133.0	3203.0
Daily Emis. Limit (lb/Day)	5.9	0.7	1.6	39.9	10.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.0
Quarterly Offset Amounts (lb/Qtr)					
Q1:					200.0
Q2:					201.0
Q3:					201.0
Q4:					201.0

Permit #: S-382-867-1	Last Updated
Facility: CALIFORNIA RESOURCES ELK HILLS, LLC	07/07/2016 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	264.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.7
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.0
Quarterly Offset Amounts (lb/Qtr)					
Q1:					324.0
Q2:					325.0
Q3:					325.0
Q4:					325.0

Permit #: S-382-868-1	Last Updated
Facility: CALIFORNIA RESOURCES ELK HILLS, LLC	07/07/2016 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	264.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.7
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.0
Quarterly Offset Amounts (lb/Qtr)					
Q1:					324.0
Q2:					325.0
Q3:					325.0
Q4:					325.0

Permit #: S-382-869-1	Last Updated
Facility: CALIFORNIA RESOURCES ELK HILLS, LLC	07/07/2016 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	264.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.7
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.0
Quarterly Offset Amounts (lb/Qtr)					
Q1:					324.0
Q2:					325.0
Q3:					325.0
Q4:					325.0

Permit #: S-382-870-1	Last Updated
Facility: CALIFORNIA RESOURCES ELK HILLS, LLC	07/07/2016 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	178.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.0
Quarterly Offset Amounts (lb/Qtr)					
Q1:					388.0
Q2:					389.0
Q3:					389.0
Q4:					389.0

Permit #: S-382-871-1	Last Updated
Facility: CALIFORNIA RESOURCES ELK HILLS, LLC	07/07/2016 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	178.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.0
Quarterly Offset Amounts (lb/Qtr)					
Q1:					388.0
Q2:					389.0
Q3:					389.0
Q4:					389.0

Permit #: S-382-872-1	Last Updated
Facility: CALIFORNIA RESOURCES ELK HILLS, LLC	07/07/2016 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	178.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.0
Quarterly Offset Amounts (lb/Qtr)					
Q1:					388.0
Q2:					389.0
Q3:					389.0
Q4:					389.0

Permit #: S-382-873-1	Last Updated
Facility: CALIFORNIA RESOURCES ELK HILLS, LLC	07/07/2016 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	178.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.0
Quarterly Offset Amounts (lb/Qtr)					
Q1:					388.0
Q2:					389.0
Q3:					389.0
Q4:					389.0

ATTACHMENT IV
BACT Guideline

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 7.2.7*

Last Update 11/27/2006

**Natural Gas Processing Plant - Valves, Connectors, and Compressor and Pump
Seals (Subject to Rule 4403) < or = 100 Million SCF/Day**

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 10,000 ppmv above background when measured per EPA Method 21, for all components, and an Inspection and Maintenance Program pursuant to District Rule 4409.	<p>1. Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of</p> <ul style="list-style-type: none"> • 100 ppmv above background (for Valves and Connectors) and • 500 ppmv (for Compressor and Pump Seals) when measured per EPA Method 21 from the potential source, and an Inspection and Maintenance Program pursuant to District Rule 4409. <p>2. Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 5,000 ppmv above background when measured EPA Method 21, for all components, and an Inspection and Maintenance Program pursuant to District Rule 4409.</p>	

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

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

ATTACHMENT V
BACT Analysis

Fugitive Emissions

BACT Guideline 7.2.7 for Natural Gas Processing Plant - Valves, Connectors, and Compressor and pump Seals (Subject to Rule 4409) \leq 100 MMscf/day

Top-Down Analysis for VOC Emissions

Step 1 - Identify All Possible Control Technologies

Achieved in Practice

Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 10,000 ppmv above background when measured as per EPA Method 21, for all components, and an Inspection and Maintenance Program pursuant to District Rule 4451.

Technologically Feasible

1) Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 100 ppmv above background (for valves and connectors) and ; 500 ppmv (for Compressors and Pump Seals) when measured as per EPA Method 21 from the potential source, and an Inspection and Maintenance Program pursuant to District Rule 4409.

2) Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 5000 ppmv above background when measured as per EPA Method 21, for all components and an Inspection and Maintenance Program pursuant to District Rule 4409.

Step 2 - Eliminate Technologically Infeasible Options

There is no technologically infeasible option.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1) Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 100 ppmv above background (for valves and connectors) and ; 500 ppmv (for Compressors and Pump Seals) when measured as per EPA Method 21 from the potential source, and an Inspection and Maintenance Program pursuant to District Rule 4409.

2) Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 5000 ppmv above background when measured as per EPA Method 21, for all components and an Inspection and Maintenance Program pursuant to District Rule 4409.

3) Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 10,000 ppmv above background when measured as per EPA Method 21, for all components, and an Inspection and Maintenance Program pursuant to District Rule 4451.

Step 4 - Cost Effectiveness Analysis

Since the applicant has chosen the most effective control technology listed in step 3 as a technologically feasible option; a cost effectiveness analysis is not required.

Step 5 - Select BACT

Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane , in excess of 100 ppmv above background (for valves and connectors) and; 500 ppmv (for Compressors and Pump Seals) when measured as per EPA Method 21 from the potential source, and an Inspection and Maintenance Program pursuant to District Rule 4409.

ATTACHMENT VI
Title V Compliance Certification Form

ATTACHMENT VII
HRA

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Richard Edgehill – Permit Services
 From: Cheryl Lawler – Technical Services
 Date: July 14, 2016
 Facility Name: California Resources Elk Hills LLC
 Location: Elk Hills Light Oil Western Stationary Source
 Application #(s): S-382-858-2, 859-2, 867-1 thru 873-1
 Project #: S-1160507

A. RMR SUMMARY

RMR Summary				
Categories	Two Natural Gas ICEs (Units 858-2 & 859-2)	VOC Fugitives from Component Leaks (Units 867-1 thru 873-1)	Project Totals	Facility Totals
Prioritization Score	0.06	0.10	0.16	>1.0
Acute Hazard Index	0.00	0.11	0.11	0.86
Chronic Hazard Index	0.00	0.01	0.01	0.04
Maximum Individual Cancer Risk	1.45E-08	1.16E-06	1.17E-06	19.9E-06
T-BACT Required?	No	No ¹		
Special Permit Requirements?	Yes	Yes		

¹T-BACT is not required for these units, because each unit individually results in a Cancer Risk of less than 1 in a million.

Proposed Permit Requirements

To ensure that human health risks will not exceed District allowable levels; the following shall be included as requirements for:

Units 858-2 & 859-2

1. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction.
2. This unit shall not operate within 800 meters of the nearest receptor.

Units 867-1, 868-1, 869-1, 870-1, 871-1, 872-1, & 873-1

1. This unit shall not operate within 300 meters of the nearest receptor.

B. RMR REPORT

I. Project Description

Technical Services received a request on July 7, 2016, to perform a Risk Management Review for the modification of two IC engines and seven electrically-driven gas compressors. The modification will increase the maximum allowable leak limits for fugitive emissions. The project will only result in increases of VOC fugitive emissions.

II. Analysis

Toxic emissions for this project were calculated using District approved emission factors for VOC fugitives from oilfields, and input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015), risks from the project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines. The prioritization score for the facility is greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required. The AERMOD model was used, with the parameters outlined below and meteorological data for 2004-2008 from Missouri Triangle to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

Because the project units will be allowed to operate at various locations within the Elk Hills Light Oil Western Stationary Source (Elk Hills LOWSS), all the units were run at several locations within the boundaries of Elk Hills LOWSS in order to determine the worst case results. The location that resulted in the highest risks was used for this Risk Management Review. The following parameters were used for the review:

Analysis Parameters Units 858-2 & 859-2			
Source Type	Point	Location Type	Rural
Stack Height (m)	6.4	Closest Receptor (m)	800 ¹
Stack Diameter (m)	0.31	Type of Receptor	All Types
Stack Exit Velocity (m/s)	91.44	VOC Emission Rates (lbs)(both units combined)	0.18 hr 1606 yr
Stack Exit Temp. (°K)	755		
Analysis Parameters Units 867-1 thru 873-1			
Source Type	Area	Location Type	Rural
X-Length (m)	4.57	Closest Receptor (m)	300 ¹
Y-Length (m)	1.52	Type of Receptor	All Types
Release Height (m)	0.91	VOC Emission Rates (lbs)(all units combined)	1.08 hr 9385 yr

¹Receptor distances required and used in modeling for this project were taken from existing permit conditions for all of the units listed.

III. Conclusion

For all project units, the Acute and Chronic Indices are below 1.0, and the Cancer Risk factor associated with each unit is less than 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

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

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

IV. Attachments

- A. RMR Request Form
- B. Prioritization
- C. Project Summary
- D. Facilitywide Risks Summary

ATTACHMENT XIII
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-382-858-2

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES ELK HILLS, LLC
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKESFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF 1,480 BHP WAUKESHA MODEL 7042 NATURAL GAS-FIRED RICH-BURN IC ENGINE/COMPRESSOR WITH NON-SELECTIVE CATALYTIC REDUCTION, PCV VALVE, AND AIR/FUEL RATIO CONTROLLER OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382: ADD RULE 4409 EXEMPTION CONDITION AND CLARIFY LEAK REPORTING REQUIREMENT

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: VOC: 1st quarter - 200 lb, 2nd quarter - 201 lb, 3rd quarter - 201 lb, and 4th quarter - 201lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERCs specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers S-1779-1, S-2120-1, and S-3379-1 (VOC) (or certificate split(s) from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
5. This unit shall not operate within 800 meters of the nearest receptor. [District Rule 4102]

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

Arnaud Marjolle, Director of Permit Services
S-382-858-2 Jul 18 2016 3:39PM - EDGEHILR : Joint Inspection NOT Required

6. This unit shall not operate within 140 meters of the boundary of the Elk Hills Field region of facility S-382. [District Rule 4102]
7. This unit shall only operate within facility S-382. [District Rule 4102]
8. Operator shall notify the District by letter or fax at least 48-hours in advance of the re-location of this unit. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Operator shall maintain records of compressor skid location and dates spent at each location and make such records available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
10. This IC engine shall be equipped with a three-way catalyst and shall be fired on natural gas fuel only. [District Rule 2201] Federally Enforceable Through Title V Permit
11. This engine shall be equipped with either a positive crankcase ventilation (PCV) system that recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201] Federally Enforceable Through Title V Permit
13. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
14. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
15. The permittee shall install and operate a nonresettable fuel flow meter. The fuel meter shall be properly maintained in accordance with the manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit
16. This IC engine shall only be fired on Public Utility Commission (PUC) quality natural gas. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
17. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702] Federally Enforceable Through Title V Permit
18. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
19. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
20. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
21. The fuel consumption for this engine shall not exceed 93,489 MMscf/year based on a 12-month rolling average. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Emissions from this IC engine shall not exceed any of the following limits: 0.075 g-NOx/bhp-hr or 5 ppmv @ 15% O₂, 0.0085 g-SOx/bhp-hr, 0.02 g-PM₁₀/bhp-hr, 0.51 g-CO/bhp-hr or 56 ppmv @ 15% O₂, 0.13 g-VOC/bhp-hr or 25 ppmv @ 15% O₂. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
23. Sulfur content of the natural gas burned shall not exceed 0.75 grain/100 scf. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
24. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using screening value emissions factors of CARB/CAPCOA "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities" included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). Emissions shall be calculated after each quarterly inspection period as required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
25. This permit allows for leaking components as defined in this permit to be discovered and repaired within prescribed timeframes under District Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

26. A gas leak is defined as a reading in excess of 10,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. [District Rule 2201] Federally Enforceable Through Title V Permit
27. BACT Requirement Any leak greater than 500 ppmv for pump seals and compressor seals and 100 ppmv for valves and connectors, 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 Rule 4409 (adopted April 20, 2005). This requirement shall not apply to inaccessible or unsafe-to-access components as identified in the revised Operator Management Plan required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
28. VOC fugitive emissions from the components in gas service shall not exceed 2.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
29. VOC content of the non-condensable vapors shall not exceed 20% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Operator shall test and maintain records of VOC content of the non-condensable vapors no less than annually. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Except for complying with the applicable requirements of Sections 6.1 and 7.3 of Rule 4409, the requirements of Rule 4409 shall not apply to pressure relief devices, pumps and compressors equipped with a closed-vent system as defined in Section 3.0 of Rule 4409, components buried below ground, components exclusively handling liquid streams which have less than 10 wt % evaporation at 1500 deg C as determined by the test method specified in Section 6.3.3 of Rule 4409, components handling liquids with 90 vol % or greater water concentration if the components are located after initial oil/water separation, components at oil production facilities and gas production facilities exclusively handling gas/vapor or liquid with a VOC content of 10% by weight or less as determined by the test methods in Section 6.3.2 of Rule 4409, components exclusively in vacuum service, components handling commercial quality natural gas exclusively, and one-half inch nominal or less stainless steel tube fittings which have been demonstrated to the APCO to be leak-free based on initial inspection using the test method specified in Section 6.3.1 of Rule 4409. An operator claiming any of the above exemptions shall provide proof of the applicable criteria to the satisfaction of the APCO. [District Rule 4409] Federally Enforceable Through Title V Permit
32. If the IC engine is fired on PUC-regulated natural gas, the permittee shall retain on file, copies of all natural gas bills. [District Rule 2201] Federally Enforceable Through Title V Permit
33. If the engine is fired on any fuel gas other than PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the IC engine shall be determined using ASTM methods D1072, D3246, D4084, Double GC for H2S and mercaptans, or alternative test method with prior written approval from the APCO. [District Rule 2201] Federally Enforceable Through Title V Permit
34. If the engine is fired on any fuel gas other than PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Source testing to measure natural gas-combustion NOx, CO, and VOC emissions from this engine shall be conducted not less than once every 12 months. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
36. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702] Federally Enforceable Through Title V Permit
37. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

38. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702] Federally Enforceable Through Title V Permit
39. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
40. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
41. This operation shall comply with the requirements of District Rule 4409, as specified on facility wide permit S-382-0. [District Rule 4409] Federally Enforceable Through Title V Permit
42. The operator shall be in violation of District Rule 4409 if any District inspection demonstrates that one or more of the conditions in Section 5.1.4 of Rule 4409 exist at the facility. [District Rule 4409] Federally Enforceable Through Title V Permit
43. After compliance date in specified in Section 7.5 of Rule 4702, operator shall conduct annual fuel analysis using applicable test methods in Section 6.4. Records of the fuel analysis shall be kept and made available for District inspection upon request. [District Rule 4702] Federally Enforceable Through Title V Permit
44. This engine shall be operated and maintained in proper operating condition according to the manufacturer's specifications and the Rule 4702 Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702] Federally Enforceable Through Title V Permit
45. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit
46. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
47. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
48. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

49. Permittee shall comply with applicable monitoring, inspection, maintenance, recordkeeping, reporting, and leak requirements of 40 CFR Part 60 Subpart KKK and Rule 4409. [40 CFR Part 60 Subpart KKK, District Rule 2201, and District Rule 4409] Federally Enforceable Through Title V Permit
50. The results of the measurements taken with the District approved analyzer shall be retained on-site at all times. [District Rule 1081] Federally Enforceable Through Title V Permit
51. The owner/operator shall submit to the APCO for approval, and Inspection and Maintenance (I&M) plan that specifies all actions to be taken to satisfy all of the requirements of Rule 4702 Sections 5.8 and 6.5. [District Rule 4702] Federally Enforceable Through Title V Permit
52. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702] Federally Enforceable Through Title V Permit
53. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
54. The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, compliance source test results, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit
55. The permittee shall maintain records of annual natural gas consumption (in MMscf) based on a 12-month rolling basis. [District Rule 2201] Federally Enforceable Through Title V Permit
56. The VOC content by weight percent (wt. %) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases. [District Rule 1081] Federally Enforceable Through Title V Permit
57. Permittee shall comply with applicable monitoring, inspection, maintenance, recordkeeping, reporting, and leak requirements of Rule 4409. [District Rule 2201, and District Rule 4409] Federally Enforceable Through Title V Permit
58. 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 Rules 2201 and 4702] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-382-859-2

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES ELK HILLS, LLC
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKESFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF 1,480 BHP WAUKESHA MODEL 7042 NATURAL GAS-FIRED RICH-BURN IC ENGINE/COMPRESSOR WITH NON-SELECTIVE CATALYTIC REDUCTION, PCV VALVE, AND AIR/FUEL RATIO CONTROLLER OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382: ADD RULE 4409 EXEMPTION CONDITION AND CLARIFY LEAK REPORTING REQUIREMENT

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: VOC: 1st quarter - 200 lb, 2nd quarter - 201 lb, 3rd quarter - 201 lb, and 4th quarter - 201 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERCs specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers S-1779-1, S-2120-1, and S-3379-1 (VOC) (or certificate split(s) from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
5. This unit shall not operate within 800 meters of the nearest receptor. [District Rule 4102]

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

Arnaud Marjolle, Director of Permit Services
S-382-859-2 | Jul 18 2016 3:39PM -- EDGEHILR | Joint Inspection NOT Required

6. This unit shall not operate within 140 meters of the boundary of the Elk Hills Field region of facility S-382. [District Rule 4102]
7. This unit shall only operate within facility S-382. [District Rule 4102]
8. Operator shall notify the District by letter or fax at least 48-hours in advance of the re-location of this unit. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Operator shall maintain records of compressor skid location and dates spent at each location and make such records available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
10. This IC engine shall be equipped with a three-way catalyst and shall be fired on natural gas fuel only. [District Rule 2201] Federally Enforceable Through Title V Permit
11. This engine shall be equipped with either a positive crankcase ventilation (PCV) system that recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201] Federally Enforceable Through Title V Permit
13. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
14. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
15. The permittee shall install and operate a nonresettable fuel flow meter. The fuel meter shall be properly maintained in accordance with the manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit
16. This IC engine shall only be fired on Public Utility Commission (PUC) quality natural gas. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
17. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702] Federally Enforceable Through Title V Permit
18. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
19. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
20. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
21. The fuel consumption for this engine shall not exceed 93,489 MMscf/year based on a 12-month rolling average. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Emissions from this IC engine shall not exceed any of the following limits: 0.075 g-NO_x/bhp-hr or 5 ppmv @ 15% O₂, 0.0085 g-SO_x/bhp-hr, 0.02 g-PM₁₀/bhp-hr, 0.51 g-CO/bhp-hr or 56 ppmv @ 15% O₂, 0.13 g-VOC/bhp-hr or 25 ppmv @ 15% O₂. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
23. Sulfur content of the natural gas burned shall not exceed 0.75 grain/100 scf. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
24. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using screening value emissions factors of CARB/CAPCOA "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities" included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). Emissions shall be calculated after each quarterly inspection period as required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
25. This permit allows for leaking components as defined in this permit to be discovered and repaired within prescribed timeframes under District Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

26. A gas leak is defined as a reading in excess of 10,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. [District Rule 2201] Federally Enforceable Through Title V Permit
27. BACT Requirement Any leak greater than 500 ppmv for pump seals and compressor seals and 100 ppmv for valves and connectors, 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 Rule 4409 (adopted April 20, 2005). This requirement shall not apply to inaccessible or unsafe-to-access components as identified in the revised Operator Management Plan required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
28. VOC fugitive emissions from the components in gas service shall not exceed 2.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
29. VOC content of the non-condensable vapors shall not exceed 20% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Operator shall test and maintain records of VOC content of the non-condensable vapors no less than annually. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Except for complying with the applicable requirements of Sections 6.1 and 7.3 of Rule 4409, the requirements of Rule 4409 shall not apply to pressure relief devices, pumps and compressors equipped with a closed-vent system as defined in Section 3.0 of Rule 4409, components buried below ground, components exclusively handling liquid streams which have less than 10 wt % evaporation at 1500 deg C as determined by the test method specified in Section 6.3.3 of Rule 4409, components handling liquids with 90 vol % or greater water concentration if the components are located after initial oil/water separation, components at oil production facilities and gas production facilities exclusively handling gas/vapor or liquid with a VOC content of 10% by weight or less as determined by the test methods in Section 6.3.2 of Rule 4409, components exclusively in vacuum service, components handling commercial quality natural gas exclusively, and one-half inch nominal or less stainless steel tube fittings which have been demonstrated to the APCO to be leak-free based on initial inspection using the test method specified in Section 6.3.1 of Rule 4409. An operator claiming any of the above exemptions shall provide proof of the applicable criteria to the satisfaction of the APCO. [District Rule 4409] Federally Enforceable Through Title V Permit
32. If the IC engine is fired on PUC-regulated natural gas, the permittee shall retain on file, copies of all natural gas bills. [District Rule 2201] Federally Enforceable Through Title V Permit
33. If the engine is fired on any fuel gas other than PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the IC engine shall be determined using ASTM methods D1072, D3246, D4084, Double GC for H2S and mercaptans, or alternative test method with prior written approval from the APCO. [District Rule 2201] Federally Enforceable Through Title V Permit
34. If the engine is fired on any fuel gas other than PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Source testing to measure natural gas-combustion NOx, CO, and VOC emissions from this engine shall be conducted not less than once every 12 months. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
36. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702] Federally Enforceable Through Title V Permit
37. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

38. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702] Federally Enforceable Through Title V Permit
39. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
40. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
41. This operation shall comply with the requirements of District Rule 4409, as specified on facility wide permit S-382-0. [District Rule 4409] Federally Enforceable Through Title V Permit
42. The operator shall be in violation of District Rule 4409 if any District inspection demonstrates that one or more of the conditions in Section 5.1.4 of Rule 4409 exist at the facility. [District Rule 4409] Federally Enforceable Through Title V Permit
43. After compliance date in specified in Section 7.5 of Rule 4702, operator shall conduct annual fuel analysis using applicable test methods in Section 6.4. Records of the fuel analysis shall be kept and made available for District inspection upon request. [District Rule 4702] Federally Enforceable Through Title V Permit
44. This engine shall be operated and maintained in proper operating condition according to the manufacturer's specifications and the Rule 4702 Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702] Federally Enforceable Through Title V Permit
45. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit
46. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
47. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
48. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

49. Permittee shall comply with applicable monitoring, inspection, maintenance, recordkeeping, reporting, and leak requirements of 40 CFR Part 60 Subpart KKK and Rule 4409. [40 CFR Part 60 Subpart KKK, District Rule 2201, and District Rule 4409] Federally Enforceable Through Title V Permit
50. The results of the measurements taken with the District approved analyzer shall be retained on-site at all times. [District Rule 1081] Federally Enforceable Through Title V Permit
51. The owner/operator shall submit to the APCO for approval, and Inspection and Maintenance (I&M) plan that specifies all actions to be taken to satisfy all of the requirements of Rule 4702 Sections 5.8 and 6.5. [District Rule 4702] Federally Enforceable Through Title V Permit
52. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702] Federally Enforceable Through Title V Permit
53. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
54. The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, compliance source test results, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit
55. The permittee shall maintain records of annual natural gas consumption (in MMscf) based on a 12-month rolling basis. [District Rule 2201] Federally Enforceable Through Title V Permit
56. The VOC content by weight percent (wt. %) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases. [District Rule 1081] Federally Enforceable Through Title V Permit
57. Permittee shall comply with applicable monitoring, inspection, maintenance, recordkeeping, reporting, and leak requirements of Rule 4409. [District Rule 2201, and District Rule 4409] Federally Enforceable Through Title V Permit
58. 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 Rules 2201 and 4702] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-382-867-1

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES ELK HILLS, LLC
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKESFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SW 28 **TOWNSHIP:** 30S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 2500 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K143 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE: ADD RULE 4409 EXEMPTION CONDITION AND CLARIFY LEAK REPORTING REQUIREMENT

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: VOC: 1st quarter - 324 lb, 2nd quarter - 325 lb, 3rd quarter - 325 lb, and 4th quarter - 325 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERCs specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers S-1779-1, S-2120-1, and S-3379-1 (VOC) (or certificate split(s) from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

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Arnaud Marjollet, Director of Permit Services

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5. The equipment shall not be located within 1,000 feet of any K-12 school. [CH&SC 42301.6]
6. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
7. Units S-382-867, S-382-868, and S-382-869 may only operate within facility S-382. [District Rule 2201] Federally Enforceable Through Title V Permit
8. This unit may not operate within 300 meters (984 feet) of the nearest receptor. [District Rule 4102]
9. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
10. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using screening value emissions factors of CARB/CAPCOA "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities" included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). Emissions shall be calculated after each quarterly inspection period as required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
12. This operation shall comply with the requirements of District Rule 4409, as specified on facility wide permit S-382-0. [District Rule 4409] Federally Enforceable Through Title V Permit
13. The operator shall be in violation of District Rule 4409 if any District inspection demonstrates that one or more of the conditions in Section 5.1.4 of Rule 4409 exist at the facility. [District Rule 4409] Federally Enforceable Through Title V Permit
14. This permit allows for leaking components as defined in this permit to be discovered and repaired within prescribed timeframes under District Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
15. A gas leak is defined as a reading in excess of 10,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. [District Rule 2201] Federally Enforceable Through Title V Permit
16. BACT Requirement Any leak greater than 500 ppmv for pump seals and compressor seals and 100 ppmv for valves and connectors, 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 Rule 4409 (adopted April 20, 2005). This requirement shall not apply to inaccessible or unsafe-to-access components as identified in the revised Operator Management Plan required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
17. VOC fugitive emissions from the components in gas service shall not exceed 4.3 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
18. VOC content of the non-condensable vapors shall not exceed 20% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Operator shall test and maintain records of VOC content of the non-condensable vapors no less than annually. [District Rule 2201] Federally Enforceable Through Title V Permit
20. The VOC content by weight percent (wt. %) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Permittee shall comply with applicable monitoring, inspection, maintenance, recordkeeping, reporting, and leak requirements of 40 CFR Part 60 Subpart KKK and Rule 4409. [40 CFR Part 60 Subpart KKK, District Rule 2201, and District Rule 4409] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. Except for complying with the applicable requirements of Sections 6.1 and 7.3 of Rule 4409, the requirements of Rule 4409 shall not apply to pressure relief devices, pumps and compressors equipped with a closed-vent system as defined in Section 3.0 of Rule 4409, components buried below ground, components exclusively handling liquid streams which have less than 10 wt % evaporation at 1500 deg C as determined by the test method specified in Section 6.3.3 of Rule 4409, components handling liquids with 90 vol % or greater water concentration if the components are located after initial oil/water separation, components at oil production facilities and gas production facilities exclusively handling gas/vapor or liquid with a VOC content of 10% by weight or less as determined by the test methods in Section 6.3.2 of Rule 4409, components exclusively in vacuum service, components handling commercial quality natural gas exclusively, and one-half inch nominal or less stainless steel tube fittings which have been demonstrated to the APCO to be leak-free based on initial inspection using the test method specified in Section 6.3.1 of Rule 4409. An operator claiming any of the above exemptions shall provide proof of the applicable criteria to the satisfaction of the APCO. [District Rule 4409] Federally Enforceable Through Title V Permit
23. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-382-868-1

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES ELK HILLS, LLC
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKESFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SW 34 TOWNSHIP: 30S RANGE: 24E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 2500 HP OR GREATER ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K142
OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE:
ADD RULE 4409 EXEMPTION CONDITION AND CLARIFY LEAK REPORTING REQUIREMENT

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: VOC: 1st quarter - 324 lb, 2nd quarter - 325 lb, 3rd quarter - 325 lb, and 4th quarter - 325 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERCs specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers S-1779-1, S-2120-1, and S-3379-1 (VOC) (or certificate split(s) from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] 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.

Sayed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services

S-382-868-1; Jul 18 2016 3:39PM - EDGEHILR : Joint Inspection NOT Required

5. The equipment shall not be located within 1,000 feet of any K-12 school. [CH&SC 42301.6]
6. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
7. Units S-382-867, S-382-868, and S-382-869 may only operate within facility S-382. [District Rule 2201] Federally Enforceable Through Title V Permit
8. This unit may not operate within 300 meters (984 feet) of the nearest receptor. [District Rule 4102]
9. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
10. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using screening value emissions factors of CARB/CAPCOA "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities" included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). Emissions shall be calculated after each quarterly inspection period as required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
12. This operation shall comply with the requirements of District Rule 4409, as specified on facility wide permit S-382-0. [District Rule 4409] Federally Enforceable Through Title V Permit
13. This permit allows for leaking components as defined in this permit to be discovered and repaired within prescribed timeframes under District Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
14. The operator shall be in violation of District Rule 4409 if any District inspection demonstrates that one or more of the conditions in Section 5.1.4 of Rule 4409 exist at the facility. [District Rule 4409] Federally Enforceable Through Title V Permit
15. A gas leak is defined as a reading in excess of 10,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. [District Rule 2201] Federally Enforceable Through Title V Permit
16. BACT Requirement Any leak greater than 500 ppmv for pump seals and compressor seals and 100 ppmv for valves and connectors, 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 Rule 4409 (adopted April 20, 2005). This requirement shall not apply to inaccessible or unsafe-to-access components as identified in the revised Operator Management Plan required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
17. VOC fugitive emissions from the components in gas service shall not exceed 4.3 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
18. VOC content of the non-condensable vapors shall not exceed 20% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Operator shall test and maintain records of VOC content of the non-condensable vapors no less than annually. [District Rule 2201] Federally Enforceable Through Title V Permit
20. The VOC content by weight percent (wt. %) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Permittee shall comply with applicable monitoring, inspection, maintenance, recordkeeping, reporting, and leak requirements of 40 CFR Part 60 Subpart KKK and Rule 4409. [40 CFR Part 60 Subpart KKK, District Rule 2201, and District Rule 4409] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. Except for complying with the applicable requirements of Sections 6.1 and 7.3 of Rule 4409, the requirements of Rule 4409 shall not apply to pressure relief devices, pumps and compressors equipped with a closed-vent system as defined in Section 3.0 of Rule 4409, components buried below ground, components exclusively handling liquid streams which have less than 10 wt % evaporation at 1500 deg C as determined by the test method specified in Section 6.3.3 of Rule 4409, components handling liquids with 90 vol % or greater water concentration if the components are located after initial oil/water separation, components at oil production facilities and gas production facilities exclusively handling gas/vapor or liquid with a VOC content of 10% by weight or less as determined by the test methods in Section 6.3.2 of Rule 4409, components exclusively in vacuum service, components handling commercial quality natural gas exclusively, and one-half inch nominal or less stainless steel tube fittings which have been demonstrated to the APCO to be leak-free based on initial inspection using the test method specified in Section 6.3.1 of Rule 4409. An operator claiming any of the above exemptions shall provide proof of the applicable criteria to the satisfaction of the APCO. [District Rule 4409] Federally Enforceable Through Title V Permit
23. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-382-869-1

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES ELK HILLS, LLC
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKESFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SW 10 **TOWNSHIP:** 31S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 2500 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K144 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE: ADD RULE 4409 EXEMPTION CONDITION AND CLARIFY LEAK REPORTING REQUIREMENT

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: VOC: 1st quarter - 422 lb, 2nd quarter - 422 lb, 3rd quarter - 422 lb, and 4th quarter - 423 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERCs specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers S-1779-1, S-2120-1, and S-3379-1 (VOC) (or certificate split(s) from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] 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

Arnaud Marjollet, Director of Permit Services

S-382-869-1 : Jul 18 2016 3:39PM - EDGEHILR : Joint Inspection NOT Required

5. The equipment shall not be located within 1,000 feet of any K-12 school. [CH&SC 42301.6]
6. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
7. Units S-382-867, S-382-868, and S-382-869 may only operate within facility S-382. [District Rule 2201]
8. This unit may not operate within 300 meters (984 feet) of the nearest receptor. [District Rule 4102]
9. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
10. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using screening value emissions factors of CARB/CAPCOA "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities" included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). Emissions shall be calculated after each quarterly inspection period as required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
12. This permit allows for leaking components as defined in this permit to be discovered and repaired within prescribed timeframes under District Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
13. This operation shall comply with the requirements of District Rule 4409, as specified on facility wide permit S-382-0. [District Rule 4409] Federally Enforceable Through Title V Permit
14. The operator shall be in violation of District Rule 4409 if any District inspection demonstrates that one or more of the conditions in Section 5.1.4 of Rule 4409 exist at the facility. [District Rule 4409] Federally Enforceable Through Title V Permit
15. A gas leak is defined as a reading in excess of 10,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. [District Rule 2201] Federally Enforceable Through Title V Permit
16. BACT Requirement Any leak greater than 500 ppmv for pump seals and compressor seals and 100 ppmv for valves and connectors, 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 Rule 4409 (adopted April 20, 2005). This requirement shall not apply to inaccessible or unsafe-to-access components as identified in the revised Operator Management Plan required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
17. VOC fugitive emissions from the components in gas service shall not exceed 4.3 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
18. VOC content of the non-condensable vapors shall not exceed 20% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Operator shall test and maintain records of VOC content of the non-condensable vapors no less than annually. [District Rule 2201] Federally Enforceable Through Title V Permit
20. The VOC content by weight percent (wt. %) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Permittee shall comply with applicable monitoring, inspection, maintenance, recordkeeping, reporting, and leak requirements of 40 CFR Part 60 Subpart KKK and Rule 4409. [40 CFR Part 60 Subpart KKK, District Rule 2201, and District Rule 4409] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. Except for complying with the applicable requirements of Sections 6.1 and 7.3 of Rule 4409, the requirements of Rule 4409 shall not apply to pressure relief devices, pumps and compressors equipped with a closed-vent system as defined in Section 3.0 of Rule 4409, components buried below ground, components exclusively handling liquid streams which have less than 10 wt % evaporation at 1500 deg C as determined by the test method specified in Section 6.3.3 of Rule 4409, components handling liquids with 90 vol % or greater water concentration if the components are located after initial oil/water separation, components at oil production facilities and gas production facilities exclusively handling gas/vapor or liquid with a VOC content of 10% by weight or less as determined by the test methods in Section 6.3.2 of Rule 4409, components exclusively in vacuum service, components handling commercial quality natural gas exclusively, and one-half inch nominal or less stainless steel tube fittings which have been demonstrated to the APCO to be leak-free based on initial inspection using the test method specified in Section 6.3.1 of Rule 4409. An operator claiming any of the above exemptions shall provide proof of the applicable criteria to the satisfaction of the APCO. [District Rule 4409] Federally Enforceable Through Title V Permit
23. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-382-870-1

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES ELK HILLS, LLC
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKESFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SW 34 **TOWNSHIP:** 30S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K138 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE: ADD RULE 4409 EXEMPTION CONDITION AND CLARIFY LEAK REPORTING REQUIREMENT

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: VOC: 1st quarter - 505 lb, 2nd quarter - 505 lb, 3rd quarter - 506 lb, and 4th quarter - 506 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERCs specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers S-1779-1, S-2120-1, and S-3379-1 (VOC) (or certificate split(s) from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] 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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Arnaud Marjollet, Director of Permit Services

S-382-870-1 : Jul 18 2016 3:39PM -- EDGEHILR : Joint Inspection NOT Required

5. The equipment shall not be located within 1,000 feet of any K-12 school. [CH&SC 42301.6]
6. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
7. Units S-382-870, S-382-871, S-382-872, S-382-873, and S-382-874 may only operate within facility S-382. [District Rule 2201] Federally Enforceable Through Title V Permit
8. This unit may not operate within 300 meters (984 feet) of the nearest receptor. [District Rule 4102]
9. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
10. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using screening value emissions factors of CARB/CAPCOA "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities" included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). Emissions shall be calculated after each quarterly inspection period as required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
12. This permit allows for leaking components as defined in this permit to be discovered and repaired within prescribed timeframes under District Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
13. This operation shall comply with the requirements of District Rule 4409, as specified on facility wide permit S-382-0. [District Rule 4409] Federally Enforceable Through Title V Permit
14. The operator shall be in violation of District Rule 4409 if any District inspection demonstrates that one or more of the conditions in Section 5.1.4 of Rule 4409 exist at the facility. [District Rule 4409] Federally Enforceable Through Title V Permit
15. A gas leak is defined as a reading in excess of 10,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. [District Rule 2201] Federally Enforceable Through Title V Permit
16. BACT Requirement Any leak greater than 500 ppmv for pump seals and compressor seals and 100 ppmv for valves and connectors, 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 Rule 4409 (adopted April 20, 2005). This requirement shall not apply to inaccessible or unsafe-to-access components as identified in the revised Operator Management Plan required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
17. VOC fugitive emissions from the components in gas service shall not exceed 4.3 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
18. VOC content of the non-condensable vapors shall not exceed 20% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Operator shall test and maintain records of VOC content of the non-condensable vapors no less than annually. [District Rule 2201] Federally Enforceable Through Title V Permit
20. The VOC content by weight percent (wt. %) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Permittee shall comply with applicable monitoring, inspection, maintenance, recordkeeping, reporting, and leak requirements of 40 CFR Part 60 Subpart KKK and Rule 4409. [40 CFR Part 60 Subpart KKK, District Rule 2201, and District Rule 4409] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. Except for complying with the applicable requirements of Sections 6.1 and 7.3 of Rule 4409, the requirements of Rule 4409 shall not apply to pressure relief devices, pumps and compressors equipped with a closed-vent system as defined in Section 3.0 of Rule 4409, components buried below ground, components exclusively handling liquid streams which have less than 10 wt % evaporation at 1500 deg C as determined by the test method specified in Section 6.3.3 of Rule 4409, components handling liquids with 90 vol % or greater water concentration if the components are located after initial oil/water separation, components at oil production facilities and gas production facilities exclusively handling gas/vapor or liquid with a VOC content of 10% by weight or less as determined by the test methods in Section 6.3.2 of Rule 4409, components exclusively in vacuum service, components handling commercial quality natural gas exclusively, and one-half inch nominal or less stainless steel tube fittings which have been demonstrated to the APCO to be leak-free based on initial inspection using the test method specified in Section 6.3.1 of Rule 4409. An operator claiming any of the above exemptions shall provide proof of the applicable criteria to the satisfaction of the APCO. [District Rule 4409] Federally Enforceable Through Title V Permit
23. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-382-871-1

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES ELK HILLS, LLC
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKESFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SW 34 **TOWNSHIP:** 30S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K139 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE: ADD RULE 4409 EXEMPTION CONDITION AND CLARIFY LEAK REPORTING REQUIREMENT

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: VOC: 1st quarter - 505 lb, 2nd quarter - 505 lb, 3rd quarter - 506 lb, and 4th quarter - 506 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERCs specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers S-1779-1, S-2120-1, and S-3379-1 (VOC) (or certificate split(s) from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] 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

Arnaud Marjollet, Director of Permit Services

S-382-871-1: Jul 18 2016 3:39PM - EDGEHILR : Joint Inspection NOT Required

5. The equipment shall not be located within 1,000 feet of any K-12 school. [CH&SC 42301.6]
6. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
7. Units S-382-870, S-382-871, S-382-872, S-382-873, and S-382-874 may only operate within facility S-382. [District Rule 2201] Federally Enforceable Through Title V Permit
8. This unit may not operate within 300 meters (984 feet) of the nearest receptor. [District Rule 4102]
9. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
10. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using screening value emissions factors of CARB/CAPCOA "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities" included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). Emissions shall be calculated after each quarterly inspection period as required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
12. This operation shall comply with the requirements of District Rule 4409, as specified on facility wide permit S-382-0. [District Rule 4409] Federally Enforceable Through Title V Permit
13. This permit allows for leaking components as defined in this permit to be discovered and repaired within prescribed timeframes under District Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
14. The operator shall be in violation of District Rule 4409 if any District inspection demonstrates that one or more of the conditions in Section 5.1.4 of Rule 4409 exist at the facility. [District Rule 4409] Federally Enforceable Through Title V Permit
15. A gas leak is defined as a reading in excess of 10,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. [District Rule 2201] Federally Enforceable Through Title V Permit
16. BACT Requirement Any leak greater than 500 ppmv for pump seals and compressor seals and 100 ppmv for valves and connectors, 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 Rule 4409 (adopted April 20, 2005). This requirement shall not apply to inaccessible or unsafe-to-access components as identified in the revised Operator Management Plan required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
17. VOC fugitive emissions from the components in gas service shall not exceed 4.3 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
18. VOC content of the non-condensable vapors shall not exceed 20% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Operator shall test and maintain records of VOC content of the non-condensable vapors no less than annually. [District Rule 2201] Federally Enforceable Through Title V Permit
20. The VOC content by weight percent (wt. %) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Permittee shall comply with applicable monitoring, inspection, maintenance, recordkeeping, reporting, and leak requirements of 40 CFR Part 60 Subpart KKK and Rule 4409. [40 CFR Part 60 Subpart KKK, District Rule 2201, and District Rule 4409] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. Except for complying with the applicable requirements of Sections 6.1 and 7.3 of Rule 4409, the requirements of Rule 4409 shall not apply to pressure relief devices, pumps and compressors equipped with a closed-vent system as defined in Section 3.0 of Rule 4409, components buried below ground, components exclusively handling liquid streams which have less than 10 wt % evaporation at 1500 deg C as determined by the test method specified in Section 6.3.3 of Rule 4409, components handling liquids with 90 vol % or greater water concentration if the components are located after initial oil/water separation, components at oil production facilities and gas production facilities exclusively handling gas/vapor or liquid with a VOC content of 10% by weight or less as determined by the test methods in Section 6.3.2 of Rule 4409, components exclusively in vacuum service, components handling commercial quality natural gas exclusively, and one-half inch nominal or less stainless steel tube fittings which have been demonstrated to the APCO to be leak-free based on initial inspection using the test method specified in Section 6.3.1 of Rule 4409. An operator claiming any of the above exemptions shall provide proof of the applicable criteria to the satisfaction of the APCO. [District Rule 4409] Federally Enforceable Through Title V Permit
23. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-382-872-1

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES ELK HILLS, LLC
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKESFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SW 34 **TOWNSHIP:** 30S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K140 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE: ADD RULE 4409 EXEMPTION CONDITION AND CLARIFY LEAK REPORTING REQUIREMENT

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: VOC: 1st quarter - 505 lb, 2nd quarter - 505 lb, 3rd quarter - 506 lb, and 4th quarter - 506 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERCs specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers S-1779-1, S-2120-1, and S-3379-1 (VOC) (or certificate split(s) from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services

S-382-872-1 : Jul 18 2016 3:39PM - EDGEHILR : Joint Inspection NOT Required

5. The equipment shall not be located within 1,000 feet of any K-12 school. [CH&SC 42301.6]
6. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
7. Units S-382-870, S-382-871, S-382-872, S-382-873, and S-382-874 may only operate within facility S-382. [District Rule 2201] Federally Enforceable Through Title V Permit
8. This unit may not operate within 300 meters (984 feet) of the nearest receptor. [District Rule 4102]
9. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
10. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using screening value emissions factors of CARB/CAPCOA "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities" included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). Emissions shall be calculated after each quarterly inspection period as required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
12. This operation shall comply with the requirements of District Rule 4409, as specified on facility wide permit S-382-0. [District Rule 4409] Federally Enforceable Through Title V Permit
13. This permit allows for leaking components as defined in this permit to be discovered and repaired within prescribed timeframes under District Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
14. The operator shall be in violation of District Rule 4409 if any District inspection demonstrates that one or more of the conditions in Section 5.1.4 of Rule 4409 exist at the facility. [District Rule 4409] Federally Enforceable Through Title V Permit
15. A gas leak is defined as a reading in excess of 10,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. [District Rule 2201] Federally Enforceable Through Title V Permit
16. BACT Requirement Any leak greater than 500 ppmv for pump seals and compressor seals and 100 ppmv for valves and connectors, 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 Rule 4409 (adopted April 20, 2005). This requirement shall not apply to inaccessible or unsafe-to-access components as identified in the revised Operator Management Plan required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
17. VOC fugitive emissions from the components in gas service shall not exceed 4.3 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
18. VOC content of the non-condensable vapors shall not exceed 20% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Operator shall test and maintain records of VOC content of the non-condensable vapors no less than annually. [District Rule 2201] Federally Enforceable Through Title V Permit
20. The VOC content by weight percent (wt. %) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases. [District Rule 1081] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Except for complying with the applicable requirements of Sections 6.1 and 7.3 of Rule 4409, the requirements of Rule 4409 shall not apply to pressure relief devices, pumps and compressors equipped with a closed-vent system as defined in Section 3.0 of Rule 4409, components buried below ground, components exclusively handling liquid streams which have less than 10 wt % evaporation at 1500 deg C as determined by the test method specified in Section 6.3.3 of Rule 4409, components handling liquids with 90 vol % or greater water concentration if the components are located after initial oil/water separation, components at oil production facilities and gas production facilities exclusively handling gas/vapor or liquid with a VOC content of 10% by weight or less as determined by the test methods in Section 6.3.2 of Rule 4409, components exclusively in vacuum service, components handling commercial quality natural gas exclusively, and one-half inch nominal or less stainless steel tube fittings which have been demonstrated to the APCO to be leak-free based on initial inspection using the test method specified in Section 6.3.1 of Rule 4409. An operator claiming any of the above exemptions shall provide proof of the applicable criteria to the satisfaction of the APCO. [District Rule 4409] Federally Enforceable Through Title V Permit
22. Permittee shall comply with applicable monitoring, inspection, maintenance, recordkeeping, reporting, and leak requirements of 40 CFR Part 60 Subpart KKK and Rule 4409. [40 CFR Part 60 Subpart KKK, District Rule 2201, and District Rule 4409] Federally Enforceable Through Title V Permit
23. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-382-873-1

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES ELK HILLS, LLC
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKESFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SW 34 **TOWNSHIP:** 30S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 3250 HP ELECTRIC MOTOR DRIVEN NATURAL GAS COMPRESSOR K141 OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN S-382 LIGHT OIL WESTERN STATIONARY SOURCE: ADD RULE 4409 EXEMPTION CONDITION AND CLARIFY LEAK REPORTING REQUIREMENT

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: VOC: 1st quarter - 505 lb, 2nd quarter - 505 lb, 3rd quarter - 506 lb, and 4th quarter - 506 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERCs specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
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Seyed Sadredin, Executive Director, APCO

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Arnaud Marjolle, Director of Permit Services

S-382-873-1: Jul 18 2016 3:39PM - EDGEHILR : Joint Inspection NOT Required

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