



DEC 31 2015

Mr. Douglas Shaffer
California Resources Production Corp.
9600 Ming Avenue, Suite 300
Bakersfield, CA 93311

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-1738
Project # S-1153753

Dear Mr. Shaffer:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. California Resources proposes four crude oil tanks and a flare.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authority to Construct with a Certificate of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

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

Thank you for your cooperation in this matter.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM: sd/ya

Enclosures

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

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San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Four tanks with vapor recovery and a Coanda Effect Flare

Facility Name: California Resources Production Corp. Date: December 17, 2015

Mailing Address: 9600 Ming Avenue, Suite 300 Engineer: Steve Davidson
Bakersfield, CA 93311 Lead Engineer: Steve Leonard

Contact Person: Douglas Shaffer
Telephone: (661) 869-8237
Application #: S-1738-510-0, '-511-0, '-512-0, '-513-0, and '-514-0
Project #: S-1153753
Complete: November 20, 2015
Facility Name: California Resources Production Corp.

I. Proposal

Recently, California Resources Production Corporation (CRPC) acquired property from Century Exploration Resources that included Authorities to Construct (ATC) for four tanks (S-8349-7-1, '-8-0, '-9-0 and '-10-0) vented to a sales gas pipeline or a Coanda Effect flare (S-8349-11-0. CRPC submitted an Authority to Construct (ATC) application for re-issuance of these ATCs; CRPC has requested that Rule 4409 conditions be removed from the ATCs because the API gravity is less than 30° (see lab results Appendix E). The ATCs will be treated as new units.

CRPC has a Title V Permit. This modification can be classified as a Title V significant modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. CRPC must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410 Prevention of Significant Deterioration (Adopted 6/16/11)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards,

Subpart Kb (Amended 4/14/99) - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) is not applicable. This subpart does not apply to vessels with a design capacity $\leq 1,589.874 \text{ m}^3$ ($\leq 420,000$ gallons) used for petroleum or condensate stored, processed, or treated prior to custody transfer. The capacity of these tanks is $\leq 420,000$ gallons, and they store crude oil prior to custody transfer; therefore, this subpart does not apply to the tanks in this project.

Subpart OOOO (Adopted 8/16/2012) - Standards of Performance
for Crude Oil and Natural Gas Production, Transmission, and
Distribution.

| | |
|---|---|
| Rule 4002 | National Emissions Standards for Hazardous Air Pollutants (5/20/04) |
| Rule 4101 | Visible Emissions (04/20/05) |
| Rule 4102 | Nuisance (12/17/92) |
| Rule 4201 | Particulate Matter Concentration (12/17/92) |
| Rule 4301 | Fuel Burning Equipment (12/17/92) |
| Rule 4311 | Flares (06/18/2009) |
| Rule 4409 | Components at Light Crude Oil Production Facilities, Natural Gas Facilities, and Natural Gas Processing Facilities (4/20/05) –N/A the API gravity < 30° |
| Rule 4623 | Storage of Organic Liquids (05/19/05) |
| Rule 4801 | Sulfur Compounds (12/17/92) |
| CH&SC 41700 | Health Risk Assessment |
| CH&SC 42301.6 | School Notice |
| Public Resources Code 21000-21177: California Environmental Quality Act (CEQA) California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines | |

III. Project Location

The equipment is in CRPC's Western Kern County Light Oil Stationary Source, located within the Dulcich 28-1 Lease in the Lost Hills Area (Section 33, Township: 12N, Range 21W). The facility is not located within 1,000 feet of the outer boundary of any K-12 school. Therefore, pursuant to CH&SC 42301.6, California Health and Safety Code (School Notice), public notification is not required.

IV. Process Description

The tanks and vessels at the tank battery receive production prior to custody transfer.

VOC emissions from the tanks and separators are controlled by a shared vapor control system in accordance with S-1738-510-0 permit conditions. The vapor control system collects vapors and routes the uncondensed vapors to a gas sales pipeline or flare (S-1738-514-0) that reduces inlet VOC emissions by at least 99% by weight.

The project results in fugitive VOC emissions from the tanks, vessels, and vapor control components. 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 calculating emissions for a Federal major Source.

V. Equipment Listing

- S-1738-510-0: 400 BBL FIXED ROOF CRUDE OIL STORAGE TANK WITH TRUCK LOADOUT CONNECTED TO A VAPOR RECOVERY COMPRESSOR, TWO PHASE SEPARATOR VENTED TO SALES GAS PIPELINE OR FLARE S-1738-514-0
- S-1738-511-0: 400 BBL FIXED ROOF CRUDE OIL STORAGE TANK WITH TRUCK LOADOUT CONNECTED TO THE VAPOR RECOVERY SYSTEM LISTED ON S-1738-514-0
- S-1738-512-0: 400 BBL FIXED ROOF CRUDE OIL STORAGE TANK WITH TRUCK LOADOUT CONNECTED TO THE VAPOR RECOVERY SYSTEM LISTED ON S-1738-514-0
- S-1738-513-0: 400 BBL FIXED ROOF CRUDE OIL STORAGE TANK WITH TRUCK LOADOUT CONNECTED TO THE VAPOR RECOVERY SYSTEM LISTED ON S-1738-514-0
- S-1738-514-0: 4.92 MMBTU/HR COANDA EFFECT FLARE

VI. Emission Control Technology Evaluation

VOC emissions from the tanks and separators are controlled by a shared vapor control system in accordance with S-1738-510-0 permit conditions. The vapor control system collects vapors from and routes the uncondensed vapors to a gas sales pipeline or flare S-1738-514-0. Both are considered to reduce inlet VOC emissions by at least 99% by weight.

VII. General Calculations

A. Assumptions

- Facility will operate 24 hours per day, 7 days per week, and 52 weeks per year
- The percentage of VOCs of the total hydrocarbons is 100%.
- Each tank will have the same number of fugitive components.
- The fugitive components associated with vapor control system, and separators will be listed on tank 8349-7-0.
- The flare has no fugitive emission.
- The facility operates 24 hours per day, 7 days per week, and 52 weeks per year.
- Maximum flare gas flowrate will not exceed 100,000 scf/day
- The net real gas Btu value of the gas is 1179 BTU/scf

B. Emission Factors

- The fugitive emissions for all tanks are calculated using California Implementation Guidelines for Estimating Mass Emissions of fugitive Hydrocarbon Leaks at Petroleum Facilities, CAPCOA/CARB, February 1999 "revised screening" emissions factors.

| Flare Emission Factors | | |
|------------------------|----------------------------|----------------|
| Pollutant | Emission Factor (lb/MMBtu) | Source |
| NO _x | 0.068 | FYI 83 |
| SO _x | 0.00285 | Gas Analysis * |
| PM ₁₀ | 0.008 | FYI 83 |
| CO | 0.370 | FYI 83 |
| VOC | 0.063 | FYI 83 |

* Conservative factor = Gas analysis lists 0.21 grains/100 scf
see Appendix E

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since these are new emissions unit, PE1 = 0 for all pollutants for each unit.

2. Post Project Potential to Emit (PE2)

Post-project potential to emit is calculated based on the fugitive component counts. The following table summarizes the post-project potential to emit for units included in this project (see emissions calculations Appendix D).

Tanks and VRU:

| Permit Unit | VOC - Daily PE2 (lb./day) | VOC - Annual PE2 (lb./Year) |
|---------------------|---------------------------|-----------------------------|
| S-1738-510-0 (tank) | 0.2 | 73 |
| S-1738-511-0 (tank) | 0.2 | 73 |
| S-1738-512-0 (tank) | 0.2 | 73 |
| S-1738-513-0 (tank) | 0.2 | 73 |

Emissions from the Compressor & Scrubber:

| | | |
|--|-----|-----|
| S-1738-510-0 (vapor control compressor) | 0.4 | 146 |
| S-1738-510-0 (vapor control two phase separator) | 0.1 | 37 |

Summary:

| Post-Project Flare Potential to Emit (PE2) | | |
|--|---------------------------|-----------------------------|
| Permit Unit | VOC - Daily PE2 (lb./day) | VOC - Annual PE2 (lb./Year) |
| S-1738-510-0 (tank & vapor control) | 0.7 | 255 |
| S-1738-511-0 (tank) | 0.2 | 73 |
| S-1738-512-0 (tank) | 0.2 | 73 |
| S-1738-513-0 (tank) | 0.2 | 73 |

Flare (S-1738-514-0):

NO_x: (0.068 lb/MMBtu)(1179 BTU/scf)(100,000 scf/day) = 8.0 lb/day
(8.0 lb/day)(365 day/year) = 2920 lb/yr

SO_x: (0.00285 lb/MMBtu)(1179 BTU/scf)(100,000 scf/day) = 0.3 lb/day
(0.3 lb/day)(365 day/year) = 110 lb/yr

PM₁₀: (0.008 lb/MMBtu)(1179 BTU/scf)(100,000 scf/day) = 0.9 lb/day
(0.9 lb/day)(365 day/year) = 329 lb/yr

CO: (0.370 lb/MMBtu)(1179 BTU/scf)(100,000 scf/day) = 43.6 lb/day
(43.6 lb/day)(365 day/year) = 15,914 lb/yr

VOC: (0.063 lb/MMBtu)(1179 BTU/scf)(100,000 scf/day) = 7.4 lb/day
(7.4 lb/day)(365 day/year) = 2701 lb/yr

| Post-Project Flare Potential to Emit (PE2) | | |
|--|--------------------------|----------------------------|
| | Daily Emissions (lb/day) | Annual Emissions (lb/year) |
| NO _x | 8.0 | 2920 |
| SO _x | 0.3 | 110 |
| PM ₁₀ | 0.9 | 329 |
| CO | 43.6 | 15,914 |
| VOC | 7.4 | 2701 |

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

PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

| SSPE1 (lb/year) ¹ | | | | | |
|------------------------------|-----------------|-----------------|------------------|-----------|-----------|
| Permit Unit | NO _x | SO _x | PM ₁₀ | CO | VOC |
| SSPE2 | 477,330 | 26,951 | 54,171 | 5,003,373 | 1,034,611 |

¹SSPE 2 from project S382, 1150872

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

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

| SSPE2 (lb/year) | | | | | |
|-----------------|-----------------|-----------------|------------------|-----------|-----------|
| Permit Unit | NO _x | SO _x | PM ₁₀ | CO | VOC |
| SSPE1 | 477,330 | 26,951 | 54,171 | 5,003,373 | 1,034,611 |
| S-1738-510-0 | 0 | 0 | 0 | 0 | 255 |
| S-1738-511-0 | 0 | 0 | 0 | 0 | 73 |
| S-1738-512-0 | 0 | 0 | 0 | 0 | 73 |
| S-1738-513-0 | 0 | 0 | 0 | 0 | 73 |
| S-1738-514-0 | 2920 | 110 | 392 | 15,914 | 2701 |
| SSPE2 | 480,250 | 27,061 | 54,563 | 5,019,287 | 1,037,786 |

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 | 477,330 | 26,951 | 54,171 | 54,171 | 5,003,373 | 1,034,611 |
| SSPE2 | 480,250 | 27,061 | 54,563 | 54,563 | 5,019,287 | 1,037,786 |
| Major Source Threshold | 20,000 | 140,000 | 140,000 | 200,000 | 200,000 | 20,000 |
| Major Source? | Yes | No | No | No | Yes | Yes |

Note: PM2.5 assumed to be equal to PM10

As seen in the table above, the facility is an existing Major Source for NO_x, CO, and VOC; however, is not nor becoming a Major Source for SO_x, PM₁₀, or PM_{2.5} emissions as a result of this project.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(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 | 238 | 517 | 13.5 | 2510 | 27 | 27 |
| PSD Major Source Thresholds | 250 | 250 | 250 | 250 | 250 | 250 |
| PSD Major Source ? (Y/N) | N | N | N | N | N | N |

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

6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

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

7. SB 288 Major Modification

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

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

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

| SB 288 Major Modification Thresholds | | | |
|--------------------------------------|-----------------------|---------------------|---|
| Pollutant | Project PE2 (lb/year) | Threshold (lb/year) | SB 288 Major Modification Calculation Required? |
| NO _x | 2920 | 50,000 | Yes |
| VOC | 2701 | 50,000 | Yes |

Since none of the SB 288 Major Modification Thresholds are surpassed with this project, this project does not constitute an SB 288 Major Modification.

8. Federal Major Modification

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

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

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

Step 1

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

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

| Federal Major Modification Thresholds for Emission Increases | | | |
|--|-----------------------------------|--------------------|-----------------------------|
| Pollutant | Total Emissions Increases (lb/yr) | Thresholds (lb/yr) | Federal Major Modification? |
| NO _x * | 2920 | 0 | Yes |
| VOC* | 2701 | 0 | Yes |
| PM ₁₀ | 392 | 30,000 | No |
| PM _{2.5} | 392 | 20,000 | No |
| SO _x | 110 | 80,000 | No |

*If there is any emission increases in NO_x or VOC, this project is a Federal Major Modification and no further analysis is required.

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

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

Rule 2410 applies to 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 a 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 | 0 | 8 | 0 | 0 |
| 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. Detailed QNEC calculations are included in Appendix D.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

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

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

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

As seen in Section VII.C.2 above, the applicant is proposing to install new tanks with vapor control with a PE less than 2 lbs/day of all criteria pollutants. However, the applicant has proposed to install a flare with a pe greater than 2 lb/day for NO_x, CO, and VOC. BACT is triggered for NO_x, VOC only since the PEs are greater than 2 lb/day. However, BACT is ALSO triggered for CO since the SSPE2 for CO is greater than 200,000 lb/year, as demonstrated in Section VII.C.5 above.

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

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

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

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

d. SB 288/Federal Major Modification

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

As discussed in Section VII.C.8 above, this project does constitute Federal Major Modification for NO_x and VOC emissions. Therefore, BACT is triggered for NO_x and VOC for the flare.

2. BACT Guideline

BACT Guideline 1.4.2, applies to the flare. [Waste gas Flare - Incinerating Produced Gas] (See **Appendix B**)

3. Top-Down BACT Analysis

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

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

NO_x: Coanda Effect Burner
VOC: Coanda Effect Burner

B. Offsets

1. Offset Applicability

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

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

| Offset Determination (lb/year) | | | | | |
|---------------------------------------|-----------------------|-----------------------|------------------------|-----------|------------|
| | NO_x | SO_x | PM₁₀ | CO | VOC |
| SSPE2 | 480,250 | 27,061 | 54,563 | 5,019,287 | 1,037,786 |
| Offset Thresholds | 20,000 | 54,750 | 29,200 | 200,000 | 20,000 |
| Offsets triggered? | Yes | No | Yes | Yes | Yes |

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for NO_x, PM₁₀, CO, and VOC. Therefore, offset calculations will be required for this project.

NO_x;

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

The facility is proposing to install a new flare (S-1738-514-0); therefore BE = 0. Also, this flare is only one emissions unit associated with this project emitting NO_x and there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

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

$$\begin{aligned} \text{PE2 (NO}_x\text{)} &= 2920 \text{ lb/year} \\ \text{BE (NO}_x\text{)} &= 0 \text{ lb/year} \\ \text{ICCE} &= 0 \text{ lb/year} \end{aligned}$$

The project is a Federal Major Modification and therefore the correct offset ratio for NO_x and VOCs is 1.5:1.

The amount of NO_x ERCs that need to be withdrawn is:

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([2920 - 0] + 0) \times 1.5 \\ &= 2920 \times 1.5 \\ &= 4380 \text{ lb NO}_x\text{/year} \end{aligned}$$

Calculating the appropriate quarterly emissions to be offset is as follows:

$$\begin{aligned} \text{Quarterly offsets required (lb/qtr)} &= (4380 \text{ lb NO}_x\text{/year}) \div (4 \text{ quarters/year}) \\ &= 1095 \text{ lb/qtr} \end{aligned}$$

Therefore the appropriate quarterly emissions to be offset are as follows:

| <u>1st Quarter</u> | <u>2nd Quarter</u> | <u>3rd Quarter</u> | <u>4th Quarter</u> | <u>Total Annual</u> |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---------------------|
| 1095 | 1095 | 1095 | 1095 | 4380 |

The applicant has stated that the facility plans to use ERC certificate S-4468-2 to offset the increases in NO_x emissions associated with this project. The above certificate has available quarterly NO_x credits as follows:

| | <u>1st Quarter</u> | <u>2nd Quarter</u> | <u>3rd Quarter</u> | <u>4th Quarter</u> |
|---------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| ERC #S-4468-2 | 2024 | 2871 | 6426 | 6775 |

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

Proposed Rule 2201 (offset) Conditions for Permit S-1738-514-0:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender NO_x emission reduction credits for the following quantity of emissions: 1st quarter - 1,095 lb, 2nd quarter - 1,095 lb, 3rd quarter - 1,095 lb, and fourth quarter – 1,095 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]

- ERC Certificate Number S-4468-2 (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]

PM10;

The quantity of offsets in pounds per year for PM₁₀ is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

The facility is proposing to install a new flare (S-1738-514-0); therefore BE = 0. Also, this flare is only one emissions unit associated with this project emitting PM₁₀ and there are no increases in cargo carrier emissions; therefore, offsets can be determined as follows:

Offsets Required (lb/year) = $([PE2 - BE] + ICCE) \times DOR$

PE2 (PM₁₀) = 392 lb/year

BE (PM₁₀) = 0 lb/year

ICCE = 0 lb/year

The offsets were generated 15 miles or more from the new emissions unit's Stationary Source, therefore an offset ratio of 1.5:1 applies, the amount of PM₁₀ ERCs that need to be withdrawn is:

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([329 - 0] + 0) \times 1.5 \\ &= 329 \times 1.5 \\ &= 494 \text{ lb PM}_{10}/\text{year} \end{aligned}$$

Calculating the appropriate quarterly emissions to be offset is as follows:

$$\begin{aligned} \text{Quarterly offsets required (lb/qtr)} &= (494 \text{ lb NO}_x/\text{year}) \div (4 \text{ quarters/year}) \\ &= 123.5 \text{ lb/qtr} \end{aligned}$$

As shown in the calculation above, the quarterly amount of offsets required for this project, when evenly distributed to each quarter, results in fractional pounds of offsets being required each quarter. Since offsets are required to be withdrawn as whole pounds, the quarterly amounts of offsets need to be adjusted to ensure the quarterly values sum to the total annual amount of offsets required.

To adjust the quarterly amount of offsets required, the fractional amount of offsets required in each quarter will be summed and redistributed to each quarter based on the number of days in each quarter. The redistribution is based on the Quarter 1 having the fewest days and the Quarters 3 and 4 having the most days. The redistribution method is summarized in the following table:

| Redistribution of Required Quarterly Offsets (where X is the annual amount of offsets, and $X \div 4 = Y.z$) | | | | |
|---|-----------|-----------|-----------|-----------|
| Value of z | Quarter 1 | Quarter 2 | Quarter 3 | Quarter 4 |
| .0 | Y | Y | Y | Y |
| .25 | Y | Y | Y | Y+1 |
| .5 | Y | Y | Y+1 | Y+1 |
| .75 | Y | Y+1 | Y+1 | Y+1 |

Therefore the appropriate quarterly emissions to be offset are as follows:

| <u>1st Quarter</u> | <u>2nd Quarter</u> | <u>3rd Quarter</u> | <u>4th Quarter</u> | <u>Total Annual</u> |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---------------------|
| 123 | 123 | 124 | 124 | 494 |

The applicant has stated that the facility plans to use ERC certificate S-4097-4 to offset the increases in PM₁₀ emissions associated with this project. The above certificate has available quarterly PM₁₀ credits as follows:

| | <u>1st Quarter</u> | <u>2nd Quarter</u> | <u>3rd Quarter</u> | <u>4th Quarter</u> |
|---------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| ERC #S-4097-4 | 327 | 327 | 327 | 327 |

As seen above, the facility has sufficient credits to fully offset the quarterly PM₁₀ emissions increases associated with this project.

Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender PM₁₀ emission reduction credits for the following quantity of emissions: 1st quarter - 123 lb, 2nd quarter - 123 lb, 3rd quarter - 124 lb, and fourth quarter – 124 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]
- ERC Certificate Number S-4097-4 (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]

VOC;

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

The facility is proposing install three tanks (S-1738-511-0, '-512-0, '-513-0) each with VOC emissions of 0.2 lb/day. Per District policy APR 1130 – Increases in Maximum Daily Permitted Emissions of Less than 0.5 lb/day), emissions increases of 0.5 lb/day or less round to zero for NSR purposes.

The facility is proposing to install a tank with a vapor control system (S-1738-510-0) and a new flare (S-1738-514-0) both with VOC emissions greater than 0.5 lb/day. Both units are new; therefore BE = 0. Offsets can be determined as follows:

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

Tank S-1738-510

$$\begin{aligned}\text{PE2 (VOC)} &= 255 \text{ lb/year} \\ \text{BE (VOC)} &= 0 \text{ lb/year} \\ \text{ICCE} &= 0 \text{ lb/year}\end{aligned}$$

Flare S-1738-514

$$\begin{aligned}\text{PE2 (VOC)} &= 2701 \text{ lb/year} \\ \text{BE (VOC)} &= 0 \text{ lb/year} \\ \text{ICCE} &= 0 \text{ lb/year}\end{aligned}$$

The project is a Federal Major Modification and therefore the correct offset ratio for VOCs is 1.5:1.

Assuming an offset ratio of 1.5:1, the amount of VOC ERCs that need to be withdrawn is:

Tank S-1738-510-0

$$\begin{aligned}\text{Offsets Required (lb/year)} &= ([255 - 0] + 0) \times 1.5 \\ &= 255 \times 1.5 \\ &= 383 \text{ lb VOC /year}\end{aligned}$$

Calculating the appropriate quarterly emissions to be offset is as follows:

$$\begin{aligned}\text{Quarterly offsets required (lb/qtr)} &= (383 \text{ lb VOC/year}) \div (4 \text{ quarters/year}) \\ &= 95.75 \text{ lb/qtr}\end{aligned}$$

Flare S-1738-514-0

$$\begin{aligned}\text{Offsets Required (lb/year)} &= ([2701 - 0] + 0) \times 1.5 \\ &= 2701 \times 1.5 \\ &= 4052 \text{ lb VOC /year}\end{aligned}$$

Calculating the appropriate quarterly emissions to be offset is as follows:

$$\begin{aligned}\text{Quarterly offsets required (lb/qtr)} &= (4052 \text{ lb VOC /year}) \div (4 \text{ quarters/year}) \\ &= 1013 \text{ lb VOC /qtr}\end{aligned}$$

As shown in the calculation above, the quarterly amount of offsets required for this project, when evenly distributed to each quarter, results in fractional pounds of offsets being required each quarter. Since offsets are required to be withdrawn as whole pounds, the quarterly amounts of offsets need to be adjusted to ensure the quarterly values sum to the total annual amount of offsets required.

To adjust the quarterly amount of offsets required, the fractional amount of offsets required in each quarter will be summed and redistributed to each quarter based on the number of days in each quarter. The redistribution is based on the Quarter 1 having the fewest days and the Quarters 3 and 4 having the most days. The redistribution method is summarized in the following table:

| Redistribution of Required Quarterly Offsets | | | | |
|--|-----------|-----------|-----------|-----------|
| (where X is the annual amount of offsets, and $X \div 4 = Y.z$) | | | | |
| Value of z | Quarter 1 | Quarter 2 | Quarter 3 | Quarter 4 |
| .0 | Y | Y | Y | Y |
| .25 | Y | Y | Y | Y+1 |
| .5 | Y | Y | Y+1 | Y+1 |
| .75 | Y | Y+1 | Y+1 | Y+1 |

Therefore the appropriate quarterly emissions to be offset are as follows:

| <u>Permit Unit</u> | <u>1st Quarter</u> | <u>2nd Quarter</u> | <u>3rd Quarter</u> | <u>4th Quarter</u> | <u>Total Annual</u> |
|--------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---------------------|
| S-1738-510-0 | 95 | 96 | 96 | 96 | 383 |
| S-1738-514-0 | 1125 | 1125 | 1126 | 1126 | 4502 |
| Total | 1220 | 1221 | 1222 | 1222 | 4885 |

The applicant has stated that the facility plans to use ERC certificate S-1710-1 to offset the increases in VOC emissions associated with this project. The above certificate has available quarterly VOC credits as follows:

| | <u>1st Quarter</u> | <u>2nd Quarter</u> | <u>3rd Quarter</u> | <u>4th Quarter</u> |
|---------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| ERC #S-1710-1 | 1655 | 4021 | 5103 | 2114 |

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

S-1738-510-0 Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 95 lb, 2nd quarter - 96 lb, 3rd quarter - 96 lb, and fourth quarter - 96 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]

- ERC Certificate Number S-1710-1 (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]

S-1738-514-0 Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1125 lb, 2nd quarter - 1125 lb, 3rd quarter - 1126 lb, and fourth quarter – 1126 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]
- ERC Certificate Number S-1710-1 (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]

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

C. Public Notification

1. Applicability

Public noticing is required for:

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

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

b. PE > 100 lb/day

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

Therefore, public noticing for PE > 100 lb/day purposes is required.

c. Offset Threshold

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

| Offset Thresholds | | | | |
|-------------------|--------------------|--------------------|---------------------|----------------------------|
| Pollutant | SSPE1 (lb/year) | SSPE2 (lb/year) | Offset Threshold | Public Notice Required? |
| NO _x | 477,330 | 480,250 | 20,000 lb/year | No |
| SO _x | 26,951 | 27,061 | 54,750 lb/year | No |
| PM ₁₀ | 54,171 | 54,563 | 29,200 lb/year | No |
| CO | 5,003,373 | 5,019,287 | 200,000 lb/year | No |
| VOC | 1,034,611 | 1,037,786 | 20,000 lb/year | No |

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

d. SSIPE > 20,000 lb/year

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

| SSIPE Public Notice Thresholds | | | | | |
|---------------------------------------|----------------------------|----------------------------|----------------------------|--|------------------------------------|
| Pollutant | SSPE2 (lb/year) | SSPE1 (lb/year) | SSIPE (lb/year) | SSIPE Public Notice Threshold | Public Notice Required? |
| NO _x | 480,250 | 477,330 | 2,920 | 20,000 lb/year | No |
| SO _x | 27,061 | 26,951 | 110 | 20,000 lb/year | No |
| PM ₁₀ | 54,563 | 54,171 | 392 | 20,000 lb/year | No |
| CO | 5,019,287 | 5,003,373 | 15,914 | 20,000 lb/year | No |
| VOC | 1,037,786 | 1,034,611 | 3,175 | 20,000 lb/year | No |

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

e. Title V Significant Permit Modification

As shown in the Discussion of Rule 2520 below, this project constitutes a Title V significant modification. Therefore, public noticing for Title V significant modifications is required for this project.

2. Public Notice Action

As discussed above, public noticing is required for this project for a Title V Significant Permit Modification. 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 ATCs 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.

Tanks -- Proposed Rule 2201 (DEL) Conditions:

- VOC fugitive emissions from the components in gas service on the tank and tank vapor collection system shall not exceed X.X lb/day. [District Rule 2201] N

Flare -- Proposed Rule 2201 (DEL) Conditions:

- The flare shall not incinerate more than 100 Mscf/day of gas. [District Rules 2201 and 4311] N
- Emission rates from this unit shall not exceed any of the following limits: NO_x (as NO₂) - 0.068 lb/MMBtu; VOC (as methane) - 0.063 lb/MMBtu; CO - 0.37 lb/MMBtu or PM₁₀ - 0.008 lb/MMBtu. [District Rule 2201] N

- Gas sulfur content shall not exceed 1.0 gr/100 scf. [District Rules 2201 and 4801] N

E. Compliance Assurance

1. Source Testing

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

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

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

Tanks S-1737-510-0, '-511-0, '-511-0, and '-512-0

- The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 2201]
- {2490} All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 2201, and 4623] N

Flare S1738-5014-0:

- Permittee shall maintain accurate daily records of volume, type, higher heating value, and sulfur content and of gas flared. [District Rule 2201] N
- All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 2201] N

4. Reporting

No reporting is required to demonstrate compliance with 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. The District's Technical Services Division conducted the required analysis. Refer to **Appendix C** of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO_x, CO, and SO_x. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_x, CO, or SO_x.

The proposed location is in a non-attainment area for the state's PM₁₀ as well as federal and state PM_{2.5} thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM₁₀ and PM_{2.5}.

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Title I Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Section VIII above, this facility is a new major source and this project does constitute a Title I modification, therefore this requirement is applicable. Corporation XYZ's compliance certification is included in Appendix C.

H. Alternate Siting Analysis

The current project occurs at an existing oil facility. The applicant proposes to install oilfield tanks and a flare.

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

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII. C. 9. above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. A significant permit modification is defined as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

A minor permit modification is a permit modification that does not meet the definition of modification as given in Section 111 or Section 112 of the Federal Clean Air Act. Since this project involves the installation of a new emission unit that is subject to an NSPS requirement, the proposed project is considered to be a modification under the Federal Clean Air Act. As a result, the proposed project constitutes a Significant Modification to the Title V Permit.

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 shall not implement the changes requested until the final permit is issued.

Rule 4001 New Source Performance Standards (NSPS)

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

40 CFR Part 60, Subparts, K, Ka, and Kb could potentially apply to the storage tanks located at this facility. However, pursuant to 40 CFR 60.110 (b), 60.110(a) (b), and 60.110(b) (b), these subparts do not apply to storage vessels less than 10,000 bbls, used for petroleum or condensate, that is stored, processed, and/or treated at a drilling and production facility prior to custody transfer.

40 CFR Part 60, Subpart OOOO—Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution (constructed, reconstructed, or modified after 8/23/11) applies to single storage vessel, located in the oil and natural gas production segment, natural gas processing segment or natural gas transmission and storage segment. The subject tanks are subject to this subpart. However, Subpart OOOO has no standards for tanks with annual VOC emissions less than 6 tons per year. Therefore, the subject tanks are not an affected facility and subpart OOOO does not apply.

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

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

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

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

Rule 4101 Visible Emissions

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

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

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

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

Rule 4102 Nuisance

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

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

Discussion of T-BACT

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

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 20 in a million). As outlined by the HRA Summary in Appendix C of this report, the emissions increases for this project was determined to be less than significant.

Rule 4201 Particulate Matter Concentration

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

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

F-Factor for Flared Gas: 8,604 dscf/MMBtu at 60 °F

PM₁₀ Emission Factor: 0.026 lb-PM₁₀/MMBtu
 Percentage of PM as PM₁₀ in Exhaust: 100%
 Exhaust Oxygen (O₂) Concentration: 3%
 Excess Air Correction to F Factor = 20.9 ÷ (20.9 - 3) = 1.17

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

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

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

Rule 4301 Fuel Burning Equipment

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

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

| Rule 4301 Limits | | | |
|------------------|-------------------------|--------------------------|------------|
| Pollutant | Flare Emissions (lb/hr) | Rule 4301 Limits (lb/hr) | Compliant? |
| NO ₂ | 0.33 | 140 | Yes |
| SO ₂ | 0.01 | 200 | Yes |
| Total PM | 0.04 | 200 | Yes |

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

Rule 4311 Flares

The purpose of this rule is to limit the emissions of volatile organic compounds (VOC), oxides of nitrogen (NO_x), and sulfur oxides (SO_x) from the operation of flares. This rule is applicable to operations involving the use of flares.

Section 4.3, states: except for the recordkeeping requirements in Section 6.1.4 the requirements of this rule shall not apply to any stationary source that has the potential to emit, for all processes, less than ten (10.0) tons per year of VOC and less than ten (10.0) tons per

year of NOx. This facility's potential to emit is less than 10 tons per year of VOC and NOx. Therefore, only section 6.1.4 applies.

Section 6.1.4 requires operators claiming an exemption pursuant to Section 4.3 to record annual throughput, material usage, or other information necessary to demonstrate an exemption under that section.

Rule 4623 Storage of Organic Liquids

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

The affected tanks are served by a vapor control system that has a control efficiency of at least 95%. This rule also requires the tank and tank vapor control system to be maintained in a leak-free condition. Leak-free is defined in the rule as no readings on a portable VOC detection device greater than 10,000 ppmv above background and no dripping of organic liquid at a rate of more than 3 drops per minute.

Tank(s) S-1738-510-0, '-511-0, '-512-0, and '-513-0 are equipped with a vapor control system with a VOC control efficiency of 95%. No throughput/TVP records are required to be kept for fixed-roof tanks equipped with vapor control. Applicant has elected to participate in the voluntary tank preventive inspection, maintenance, and tank cleaning program. Tank cleaning will be conducted according to the requirements of Table 6.

Compliance with the requirements of this rule is expected.

Per SSP 2210 Organic Liquid Storage Tanks – Cleaning Requirements the following tank cleaning conditions will be added:

- Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623]
- This tank shall be degassed before commencing interior cleaning by following one of the following options: 1) exhausting VOCs contained in the tank vapor space to an APCO-approved vapor recovery system until the organic vapor concentration is 5,000 ppmv or less, or is 10 percent or less of the lower explosion limit (LEL), whichever is less, or 2) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable liquid until 90 percent or more of the maximum operating level of the tank is filled. Suitable liquids are organic liquids having a TVP of less than 0.5 psia, water, clean produced water, or produced water derived from crude oil having a TVP less than 0.5 psia, or 3) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable gas. Degassing

shall continue until the operator has achieved a vapor displacement equivalent to at least 2.3 times the tank capacity. Suitable gases are air, nitrogen, carbon dioxide, or natural gas containing less than 10 percent VOC by weight. [District Rule 4623]

- During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623]
- To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rule 4623]
- This tank shall be in compliance with the applicable requirements of District Rule 4623 at all times during draining, degassing, and refilling the tank with an organic liquid having a TVP of 0.5 psia or greater. [District Rule 4623]
- After a tank has been degassed pursuant to the requirements of this permit, vapor control requirements are not applicable until an organic liquid having a TVP of 0.5 psia or greater is placed, held, or stored in this tank. [District Rule 4623]
- While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623]
- Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623]
- During sludge removal, the operator shall control emissions from the sludge receiving vessel by operating an APCO-approved vapor control device that reduces emissions of organic vapors by at least 95%. [District Rule 4623]
- Permittee shall only transport removed sludge in closed, liquid leak-free containers. [District Rule 4623]
- Permittee shall store removed sludge, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rules 4623]

Per SSP 2215 Organic Liquid Storage Tanks – Voluntary Inspection and Maintenance Program the following conditions are to be placed on the tank's permit to reflect the requirements of the voluntary tank I&M program:

- Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within

five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 4623, Table 3]

- Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623, Table 3]
- Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 4623, Table 3]
- Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 4623, Table 3]
- Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rule 4623, Table 3]
- If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 4623, Table 3]
- Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 4623, Table 3]

Rule 4801 Sulfur Compounds

The rule limits sulfur compound emission (as SO_x) concentrations to no more than 2000 ppmv, measured at the point of discharge. The flare will be permitted below this emissions limit. Compliance is expected.

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

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

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 2025, *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 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 Blendstock 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)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue ATC S-1738-510-0, '-511-0, '-512-0, '-513-0, and '-514-0 subject to the permit conditions on the attached draft ATC in **Appendix G**.

X. Billing Information

| Annual Permit Fees | | | |
|--------------------|--------------|-----------------|------------|
| Permit Number | Fee Schedule | Fee Description | Annual Fee |
| S-1738-510-0 | 3020-05-B | 400 BBL | \$98.00 |
| S-1738-511-0 | 3020-05-B | 400 BBL | \$98.00 |
| S-1738-512-0 | 3020-05-B | 400 BBL | \$98.00 |
| S-1738-513-0 | 3020-05-B | 400 BBL | \$98.00 |
| S-1738-514-0 | 3020-05-F | 4.92 MMBtu/hr | \$637.00 |

Appendixes

- A: BACT Guideline
- B: BACT Analysis
- C: HRA Summary
- D: Quarterly Net Emissions Change
- E: Gas and Oil Analysis
- F: Compliance Certification
- G: Draft ATCs

APPENDIX A
BACT Guideline

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 1.4.2*

Last Update: 12/31/1998

Waste Gas Flare - Incinerating Produced Gas

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

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

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

APPENDIX B
BACT Analysis

Top Down BACT Analysis

NOx and VOC emissions may occur when the vapors from the tank are incinerated in the flare.

Step 1 - Identify All Possible Control Technologies

BACT Guideline 1.4.2 lists the controls that are considered potentially applicable to Waste Gas Flare - Incinerating Produced Gas. The control measures are summarized below.

Technologically feasible:

There are no Technologically feasible

Achieved in Practice:

Steam assisted

Air-assisted

Coanda effect burner (when steam unavailable)

Step 2 - Eliminate Technologically Infeasible Options

All of the above identified control options are technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

All of the technologies have the same control effectiveness

Step 4 - Cost Effectiveness Analysis

The applicant is proposing the most effective control technology – Coanda Effect burner . Therefore, a cost effectiveness analysis is not required.

Step 5 - Select BACT

Coanda Effect burner is BACT.

APPENDIX C
HRA Summary
&
AAQ Analysis

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Jessica Coria – Permit Services
 From: Steve Davidson – Technical Services
 Date: December 15, 2015
 Facility Name: California Resources Production Corp
 Location: LOW: Section 33, Township 12N, Range 21W
 Application #(s): S-1738-510-0 – '514-0
 Project #: S-1153753

A. RMR SUMMARY

| RMR Summary | | | | |
|--------------------------------|--------------------------|--|-------------------|--------------------|
| Categories | NG Flare (Unit 541-0) | Oil Storage Tanks Connected to Vapor Recovery (Units 510-0 through 513-0) | Project Totals | Facility Totals |
| Prioritization Score | 0.35 | 0.01 | 0.36 | >1.0 |
| Acute Hazard Index | N/A ¹ | N/A ¹ | N/A ¹ | 0.84 |
| Chronic Hazard Index | N/A ¹ | N/A ¹ | N/A ¹ | 0.03 |
| Maximum Individual Cancer Risk | N/A ¹ | N/A ¹ | N/A ¹ | 1.99E-05 |
| T-BACT Required? | No | No | | |
| Special Permit Conditions? | No | No | | |

¹The project passed on prioritization with a score less than 1; therefore, no further analysis was required.

B. RMR REPORT

I. Project Description

Technical Services received a request on November 30, 2015, to perform an Ambient Air Quality Analysis and a Risk Management Review for a 4.92 MMBtu/hr natural gas flare and four oil storage tanks vented to a vapor recovery system, previously permitted in Projects S8349, 1150241 and S8349, 1143962. This project was submitted due to a change in ownership and Facility ID#, with no changes to the existing equipment, unit locations, or receptors. The applicant requested to model out of CO offsets.

II. Analysis

The equipment was previously permitted under Project S8349, 1150241 (NG Flare) and Project 8349, 1143962 (Oilfield Storage Tanks, and Vapor Recovery System). The equipment was previously approved with a prioritization score of less than one. Since there were no changes to the permit parameters, no further analysis was required for this project. For further information regarding the prioritization analysis parameters, please reference the previous projects.

Technical Services performed modeling for criteria pollutant CO, as well as a RMR. For the modeling of CO emissions from the natural gas flare (Unit 514-0), the AERMOD model was used, with the parameters outlined below and meteorological data for 2007-2011 from Arvin to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. The emission rate used for CO modeling was 1.8 lb/hr CO.

The following parameters were used for the review:

| Analysis Parameters Unit 514-0 (NG Flare) | | | |
|--|--------|----------------------|-------------|
| Source Type | Point | Location Type | Rural |
| Stack Height (m) | 6.1 | Closest Receptor (m) | 305 |
| Effective Stack Diameter (m) | 0.1 | Type of Receptor | Residential |
| Stack Exit Velocity (m/s) | 3.73 | Max Hours per Year | 8760 |
| Stack Exit Temp. (°K) | 699.82 | Fuel Type | NG |
| Burner Rating (MMBtu/hr) | 4.92 | | |

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

| Unit 514: NG Flare | 1 Hour | 3 Hours | 8 Hours. | 24 Hours | Annual |
|--------------------|--------|---------|----------|----------|--------|
| CO | Pass | X | Pass | X | X |

*Results were taken from the attached PSD spreadsheet.

III. Conclusion

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

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

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

IV. Attachments

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

APPENDIX D
Emissions Calculations
and
Quarterly Net Emissions Change

CRPC
VRU & Sales Gas Compressor

Fugitive Emissions Using Screening Emission Factors

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

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

Percentage of components with $\geq 10,000$ ppmv leaks allowed? 0 %
 Weight percentage of VOC in the total organic compounds in gas (neglect non-organics)? 100 %
 Weight percentage of VOC in the total organic compounds in oil (neglect non-organics)? 100 %

| Equipment Type | Service | Component Count | Total allowable leaking components | Screening Value EF - TOC | | VOC emissions (lb/day) |
|------------------|------------------|-----------------|------------------------------------|-------------------------------|------------------------------------|------------------------|
| | | | | < 10,000 ppmv (lb/day/source) | $\geq 10,000$ ppmv (lb/day/source) | |
| Valves | Gas/Light Liquid | 30 | 0 | 1.852E-03 | 7.333E+00 | 0.06 |
| | Light Crude Oil | 0 | 0 | 1.005E-03 | 3.741E+00 | 0.00 |
| | Heavy Crude Oil | 0 | 0 | 7.408E-04 | N/A* | 0.00 |
| Pump Seals | Gas/Light Liquid | 4 | 0 | 5.270E-02 | 4.709E+00 | 0.21 |
| | Light Crude Oil | 0 | 0 | 1.402E-02 | 4.709E+00 | 0.00 |
| | Heavy Crude Oil | 0 | 0 | N/A | N/A | N/A |
| Others | Gas/Light Liquid | 5 | 0 | 7.778E-03 | 7.281E+00 | 0.04 |
| | Light Crude Oil | 0 | 0 | 6.931E-03 | 3.757E-01 | 0.00 |
| | Heavy Crude Oil | 0 | 0 | 3.016E-03 | N/A* | 0.00 |
| Connectors | Gas/Light Liquid | 100 | 0 | 6.349E-04 | 1.370E+00 | 0.06 |
| | Light Crude Oil | 0 | 0 | 5.291E-04 | 1.238E+00 | 0.00 |
| | Heavy Crude Oil | 0 | 0 | 4.233E-04 | 4.233E-04 | 0.00 |
| Flanges | Gas/Light Liquid | 20 | 0 | 1.482E-03 | 3.228E+00 | 0.03 |
| | Light Crude Oil | 0 | 0 | 1.270E-03 | 1.376E+01 | 0.00 |
| | Heavy Crude Oil | 0 | 0 | 1.217E-03 | N/A* | 0.00 |
| Open-ended Lines | Gas/Light Liquid | 0 | 0 | 1.270E-03 | 2.905E+00 | 0.00 |
| | Light Crude Oil | 0 | 0 | 9.524E-04 | 1.175E+00 | 0.00 |
| | Heavy Crude Oil | 0 | 0 | 7.937E-04 | 3.762E+00 | 0.00 |

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

Total VOC Emissions = 0.4 lb/day

CRPC
S-1153753, Individual Tanks

Fugitive Emissions Using Screening Emission Factors

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

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

Percentage of components with $\geq 10,000$ ppmv leaks allowed? 0 %
Weight percentage of VOC in the total organic compounds in gas (neglect non-organics)? 100 %
Weight percentage of VOC in the total organic compounds in oil (neglect non-organics)? 100 %

| Equipment Type | Service | Component Count | Total allowable leaking components | Screening Value EF - TOC | | VOC emissions (lb/day) |
|------------------|------------------|-----------------|------------------------------------|-------------------------------|------------------------------------|------------------------|
| | | | | < 10,000 ppmv (lb/day/source) | $\geq 10,000$ ppmv (lb/day/source) | |
| Valves | Gas/Light Liquid | 22 | 0 | 1.852E-03 | 7.333E+00 | 0.04 |
| | Light Crude Oil | 14 | 0 | 1.005E-03 | 3.741E+00 | 0.01 |
| | Heavy Crude Oil | 0 | 0 | 7.408E-04 | N/A* | 0.00 |
| Pump Seals | Gas/Light Liquid | 0 | 0 | 5.270E-02 | 4.709E+00 | 0.00 |
| | Light Crude Oil | 0 | 0 | 1.402E-02 | 4.709E+00 | 0.00 |
| | Heavy Crude Oil | 0 | 0 | N/A | N/A | N/A |
| Others | Gas/Light Liquid | 8 | 0 | 7.778E-03 | 7.281E+00 | 0.06 |
| | Light Crude Oil | 0 | 0 | 6.931E-03 | 3.757E-01 | 0.00 |
| | Heavy Crude Oil | 0 | 0 | 3.016E-03 | N/A* | 0.00 |
| Connectors | Gas/Light Liquid | 54 | 0 | 6.349E-04 | 1.370E+00 | 0.03 |
| | Light Crude Oil | 0 | 0 | 5.291E-04 | 1.238E+00 | 0.00 |
| | Heavy Crude Oil | 0 | 0 | 4.233E-04 | 4.233E-04 | 0.00 |
| Flanges | Gas/Light Liquid | 20 | 0 | 1.482E-03 | 3.228E+00 | 0.03 |
| | Light Crude Oil | 0 | 0 | 1.270E-03 | 1.376E+01 | 0.00 |
| | Heavy Crude Oil | 0 | 0 | 1.217E-03 | N/A* | 0.00 |
| Open-ended Lines | Gas/Light Liquid | 0 | 0 | 1.270E-03 | 2.905E+00 | 0.00 |
| | Light Crude Oil | 0 | 0 | 9.524E-04 | 1.175E+00 | 0.00 |
| | Heavy Crude Oil | 0 | 0 | 7.937E-04 | 3.762E+00 | 0.00 |

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

Total VOC Emissions = 0.2 lb/day

CRPC
2 phase Separator

Fugitive Emissions Using Screening Emission Factors

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

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

Percentage of components with $\geq 10,000$ ppmv leaks allowed? 0 %
 Weight percentage of VOC in the total organic compounds in gas (neglect non-organics)? 100 %
 Weight percentage of VOC in the total organic compounds in oil (neglect non-organics)? 100 %

| Equipment Type | Service | Component Count | Total allowable leaking components | Screening Value EF - TOC | | VOC emissions (lb/day) |
|------------------|------------------|-----------------|------------------------------------|-------------------------------|------------------------------------|------------------------|
| | | | | < 10,000 ppmv (lb/day/source) | $\geq 10,000$ ppmv (lb/day/source) | |
| Valves | Gas/Light Liquid | 15 | 0 | 1.852E-03 | 7.333E+00 | 0.03 |
| | Light Crude Oil | 2 | 0 | 1.005E-03 | 3.741E+00 | 0.00 |
| | Heavy Crude Oil | 0 | 0 | 7.408E-04 | N/A* | 0.00 |
| Pump Seals | Gas/Light Liquid | 0 | 0 | 5.270E-02 | 4.709E+00 | 0.00 |
| | Light Crude Oil | 0 | 0 | 1.402E-02 | 4.709E+00 | 0.00 |
| | Heavy Crude Oil | 0 | 0 | N/A | N/A | N/A |
| Others | Gas/Light Liquid | 4 | 0 | 7.778E-03 | 7.281E+00 | 0.03 |
| | Light Crude Oil | 2 | 0 | 6.931E-03 | 3.757E-01 | 0.01 |
| | Heavy Crude Oil | 4 | 0 | 3.016E-03 | N/A* | 0.01 |
| Connectors | Gas/Light Liquid | 24 | 0 | 6.349E-04 | 1.370E+00 | 0.02 |
| | Light Crude Oil | 16 | 0 | 5.291E-04 | 1.238E+00 | 0.01 |
| | Heavy Crude Oil | 12 | 0 | 4.233E-04 | 4.233E-04 | 0.01 |
| Flanges | Gas/Light Liquid | 4 | 0 | 1.482E-03 | 3.228E+00 | 0.01 |
| | Light Crude Oil | 4 | 0 | 1.270E-03 | 1.376E+01 | 0.01 |
| | Heavy Crude Oil | 8 | 0 | 1.217E-03 | N/A* | 0.01 |
| Open-ended Lines | Gas/Light Liquid | 0 | 0 | 1.270E-03 | 2.905E+00 | 0.00 |
| | Light Crude Oil | 0 | 0 | 9.524E-04 | 1.175E+00 | 0.00 |
| | Heavy Crude Oil | 0 | 0 | 7.937E-04 | 3.762E+00 | 0.00 |

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

Total VOC Emissions = 0.1 lb/day

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

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

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

$$PE2_{quarterly} = PE2_{annual} \div 4 \text{ quarters/year}$$

$$PE1_{quarterly} = PE1_{annual} \div 4 \text{ quarters/year}$$

| Tank S-1738-510-0 --Quarterly NEC [QNEC] | | | |
|---|----------------|----------------|-----------------|
| | PE2 (lb./qtr.) | PE1 (lb./qtr.) | QNEC (lb./qtr.) |
| NO _x | 0 | 0 | 0 |
| SO _x | 0 | 0 | 0 |
| PM ₁₀ | 0 | 0 | 0 |
| CO | 0 | 0 | 0 |
| VOC | 64 | 0 | 64 |

| Tank S-1738-511-0 through '-113-0 -- Quarterly NEC [QNEC] | | | |
|--|----------------|----------------|-----------------|
| | PE2 (lb./qtr.) | PE1 (lb./qtr.) | QNEC (lb./qtr.) |
| NO _x | 0 | 0 | 0 |
| SO _x | 0 | 0 | 0 |
| PM ₁₀ | 0 | 0 | 0 |
| CO | 0 | 0 | 0 |
| VOC | 18 | 0 | 18 |

| Flare S -1738-514-0: QNEC (lb/qtr) | | | |
|---|------|----|------|
| Pollutant | PE2 | BE | QNEC |
| NO _x | 730 | 0 | 730 |
| SO _x | 28 | 0 | 28 |
| PM ₁₀ | 82 | 0 | 82 |
| CO | 3979 | 0 | 3979 |
| VOC | 675 | 0 | 675 |

APPENDIX E
Gas and Oil Analysis



Oilfield Environmental & Compliance, Inc.

307 Roemer Way, Suite 300, Santa Maria, Ca 93454

101 Adkisson Way, Taft, Ca 93268

Phone: 805-922-4772 / 661-762-9143

AR@oecusa.com

Date: 8/10/15

Employee Name: Brandon Gunster

Client Name: CRC

Project / Site Name: 2015 TUP Testing / Dulchich Well

Roundtrip Drive Time: 25 min

Roundtrip Drive Mileage: 18 miles

Start Field Time: 1130

Stop Field Time: 1225

Start Field Mileage: 114029

Stop Field Mileage: 114029

Consumables:

(1) HOST Chamber

Decription / Comment:

Admin Use:

Name:

Initials:

Date:

Total Drive Time:

Total Field Time:

Total Drive Mileage:

Total Field Mileage:

TICKET NO. 4287



SAMPLE RECEIPT

Rev. 01/15/11

CLIENT: CRC

OEC ID #: 15063403

Temp: 6 °C
Acceptable Range: 0°C to 6°C

COC RECEIVED

DATE/TIME: 8-10-15 @ 1525

RECEIPT LOGIN

DATE/TIME: 8-10-15 @ 1535

REFRIGERATOR(s): 5

| SAMPLE TRANSPORT, RECEIPT, CONDITION & PRESERVATION: | | | Yes | No | N/A | (*) PROBLEM CHAIN FORM NEEDED |
|--|---|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|--|
| <input checked="" type="checkbox"/> OEC Courier/Sampler | COC document(s) received with samples | <input checked="" type="checkbox"/> | <input type="checkbox"/> | * | <input type="checkbox"/> | Custody Seals (circle): Present / <u>Absent</u> |
| <input type="checkbox"/> Delivery (Other than OEC Courier) | Correct containers for analysis requested | <input checked="" type="checkbox"/> | <input type="checkbox"/> | * | <input type="checkbox"/> | Samples / Coolers |
| <input checked="" type="checkbox"/> Samples Received on Ice | Container(s) intact and in good condition | <input checked="" type="checkbox"/> | <input type="checkbox"/> | * | <input type="checkbox"/> | Intact / Broken* |
| <input type="checkbox"/> Samples Received Outside Temp. Range* | Container label(s) consistent with COC | <input checked="" type="checkbox"/> | <input type="checkbox"/> | * | <input type="checkbox"/> | Method of Shipment & Tracking # (if applicable): |
| <input type="checkbox"/> Samples Direct from field (Outside Temp) | OEC preservative added (**note std ID) | <input type="checkbox"/> | ** | <input type="checkbox"/> | <input checked="" type="checkbox"/> | (**) OEC Preservative ID: |
| <input type="checkbox"/> After-Hours Outside Drop-off [Brought Inside] | Proper preservation on sample label(s) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Dissolved Metals Filtration: (Date/Init/Preserve ID) |
| (Initials/Date/Time): | VOA containers free of headspace | <input type="checkbox"/> | <input type="checkbox"/> | * | <input checked="" type="checkbox"/> | |
| | Tedlar Bags free of condensation | <input type="checkbox"/> | <input type="checkbox"/> | * | <input checked="" type="checkbox"/> | |

| CONTAINERS, COC CHANGES AND/OR CORRECTIONS | | | | CHANGES AUTHORIZED BY: | | | |
|--|-------------------------------------|-----------------------|--------------|------------------------|----------|-----------------------|--|
| OEC ID | Client ID ***If blank, refer to CoC | Container Description | Preservative | ResCl /pH | Matrix | Date/Time Sampled *** | Comments / Remarks / Condition Notes, Etc. |
| <u>1A-B</u> <u>12A-B</u> | | <u>2-meson jars</u> | <u>---</u> | <u>-</u> | <u>D</u> | | |
| <u>1C</u> | | <u>Host chamber</u> | <u>-</u> | <u>-</u> | <u>G</u> | | <u>OEC-0317</u> |
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RECEIPT LOGIN BY: [Signature]

RECEIPT REVIEWED BY: EVH



Oilfield Environmental and Compliance

307 Roemer Way, Santa Maria CA 93454

phone: (805) 922-4772 fax: (805) 925-3376

www.oecusa.com

Rev 062012

101 Adkisson Way, Taft, CA 93268

phone: (661) 762-9143

CHAIN OF CUSTODY

Page 1 of 1

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|---|--|--|--|--|------|---------|-------------------|--------------------|------------|------------------|--|-----------------------|--|--|--|--|--|--|-----------------------------------|-----------------------------------|
| Company: California Resources Corporation | | | | Project Name#: 2015 TVP Testing-Light Oil | | | | | | | | | | | | | | | | |
| Address: 9600 Ming Ave | | | | Site: Dulchich Well | | | | | | | | | | | | | | | | |
| City/State/ZIP: Bakersfield, CA. 93309 | | | | Analysis Requested | | | | | | | | Special Instructions: | | | | | | | | |
| Phone: (661) 869-8237 E-mail: william.shaffer@crc.com | | | | API* | HOST | RVP/TVP | | | | | | | | | | | * API Gravity will determine VP Method | | | |
| Report To: Doug Shaffer Sampler: Brandon Ganster | | | | | | | | | | | | | | | | | | | < 26.0 API Gravity HOST VP method | |
| Report Format(s): Fax- <input type="checkbox"/> PDF(std)- <input type="checkbox"/> Col/LUFT EDF- <input type="checkbox"/> EDD- <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | > 26.1 API Gravity RVP/TVP (CARB) |
| Turnaround Time 20 Days- <input type="checkbox"/> 5 Days(std)- <input type="checkbox"/> 3 Day- <input checked="" type="checkbox"/> 2 Day- <input type="checkbox"/> 1 Day- <input type="checkbox"/> ASAP- <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | c.c. jennifer.hart@crc.com |
| NOTE: Samples received after 4:00pm will be considered received as the next business day | | | | | | | | | | | | | | | | | | | | |
| OEC Sample ID | | | | | | | Date/Time Sampled | Matrix** (see key) | # of Cont. | Client Sample ID | | | | | | | | | | |
| 1508403-1A | | | | | | | 08/10/15 @ 1215 | P | 3 | Dulchich Well | | | | | | | | | 92°F | |
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|-------------------------------------|--|---|------------------------------------|
| Relinquished By: <i>[Signature]</i> | Date: <u>8/10/15</u> Time: <u>1:30</u> | ** Matrix Key AQ = aqueous DW = drinking water F = Filter GW = Ground Water P = product / oil PW = product water S = solid / sediment SW = surface water WP = wipe WW = waste water | Comments/PO#: Ticket # <u>4287</u> |
| Received By: <i>[Signature]</i> | Date: <u>8/10/15</u> Time: <u>1:31</u> | | WO# _____ |
| Relinquished By: <i>[Signature]</i> | Date: <u>8/10/15</u> Time: <u>1525</u> | | P: _____ |
| Received By: <i>[Signature]</i> | Date: <u>8-10-15</u> Time: <u>1525</u> | | O: _____ |
| Relinquished By: | Date: _____ Time: _____ | | E: _____ |
| Received By: | Date: _____ Time: _____ | | T: _____ |

Oilfield Environmental and Compliance, INC.



Douglas Shaffer
California Resources Corporation
9600 Ming Ave Suite 300
Bakersfield, CA 93311

14 August 2015

RE: 2015 API/TVP/HOST

Work Order: 1503403

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on 10-Aug-15 15:25 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in cursive script that reads "Marissa Censullo".

Marissa L. Censullo

Project Manager



Oilfield Environmental and Compliance, INC.

| | | |
|--|---|------------------------------|
| California Resources Corporation 9600 Ming Ave Suite 300 Bakersfield CA, 93311 | Project: 2015 API/TVP/HOST Project Number: Dulchich Well - Light Oil Project Manager: Douglas Shaffer | Reported: 14-Aug-15 15:00 |
|--|---|------------------------------|

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---------------|---------------|---------|-----------------|-----------------|
| Dulchich Well | 1503403-01 | Product | 10-Aug-15 12:15 | 10-Aug-15 15:25 |

Oilfield Environmental and Compliance

307 Roemer Way, Suite 300, Santa Maria, CA 93454

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Oilfield Environmental and Compliance, INC.

| | | |
|--|---|------------------------------|
| California Resources Corporation 9600 Ming Ave Suite 300 Bakersfield CA, 93311 | Project: 2015 API/TVP/HOST Project Number: Dulchich Well - Light Oil Project Manager: Douglas Shaffer | Reported: 14-Aug-15 15:00 |
|--|---|------------------------------|

Dulchich Well
1503403-01 (Product)

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------|--------|-----------------|-------|----------|-------|----------|----------|--------|-------|
|---------|--------|-----------------|-------|----------|-------|----------|----------|--------|-------|

Oilfield Environmental and Compliance

ASTM/GPA/UOP/CARB Method

| | | | | | | | | | |
|-------------|------|-----|------|---|---------|-----------|-----------|-----------|--|
| API gravity | 27.7 | 0.1 | °API | 1 | B5H0236 | 11-Aug-15 | 11-Aug-15 | ASTM D287 | |
|-------------|------|-----|------|---|---------|-----------|-----------|-----------|--|

Vapor Pressure

| | | | | | | | | | |
|---------------------------|------------|------|------|---|---------|-----------|-----------|------------|--|
| Reid Vapor Pressure (RVP) | 5.5 | 0.05 | psi | 1 | B5H0384 | 14-Aug-15 | 14-Aug-15 | ASTM D323 | |
| True Vapor Pressure (TVP) | 4.8 @ 92°F | 0.1 | psia | " | " | " | " | CARB Calc. | |

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| | | |
|--|---|------------------------------|
| California Resources Corporation 9600 Ming Ave Suite 300 Bakersfield CA, 93311 | Project: 2015 API/TVP/HOST Project Number: Dulchich Well - Light Oil Project Manager: Douglas Shaffer | Reported: 14-Aug-15 15:00 |
|--|---|------------------------------|

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|
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|--|---|------------------------------|
| California Resources Corporation 9600 Ming Ave Suite 300 Bakersfield CA, 93311 | Project: 2015 API/TVP/HOST Project Number: Dulchich Well - Light Oil Project Manager: Douglas Shaffer | Reported: 14-Aug-15 15:00 |
|--|---|------------------------------|

Notes and Definitions

- TVP 4.8 @ 92°F
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

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FAX: (805) 925-3376

APPENDIX F
Compliance Certification

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

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE AMENDMENT
 MINOR PERMIT MODIFICATION

| | |
|--|---------------------|
| COMPANY NAME: California Resources Production Corporation | FACILITY ID: S-1738 |
| 1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility | |
| 2. Owner's Name: | |
| 3. Agent to the Owner: | |

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

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

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

Nick Goodman
Signature of Responsible Official

19 Nov 2015
Date

Nick Goodman
Name of Responsible Official (please print)

Operations Manager, Central Valley Operations
Title of Responsible Official (please print)

Dulchich Transfer of Ownership

APPENDIX G
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1738-510-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.
MAILING ADDRESS: 9600 MING AVENUE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY
CA

EQUIPMENT DESCRIPTION:
400 BBL FIXED ROOF CRUDE OIL STORAGE TANK WITH TRUCK LOADOUT CONNECTED TO A VAPOR RECOVERY COMPRESSOR, TWO PHASE SEPARATOR VENTED TO SALES GAS PIPELINE OR FLARE S-1738-514-0

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. ATCs S-1738-511-0, '-512-0, '-513-0, and '-514-0 shall be implemented concurrent with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 95 lb, 2nd quarter - 96 lb, 3rd quarter - 96 lb, and fourth quarter - 96 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] Federally Enforceable Through Title V Permit
5. ERC Certificate Number S-1710-1 (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

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

DRAFT
Arnaud Marjolle, Director of Permit Services

S-1738-510-0 Dec 20 2015 8:00AM - DAVIDSOS Joint Inspection NOT Required

6. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. 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
8. The tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in leak-free condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a gas pipeline distribution system, or an approved VOC destruction device that reduces the inlet VOC emissions by at least 95% by weight as determined by the test method specified in Section 6.4.7. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
9. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
10. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
11. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
12. VOC fugitive emissions from the components in gas service on the tank and tank vapor collection system shall not exceed 0.7 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623 or 2080] Federally Enforceable Through Title V Permit
14. This tank shall be degassed before commencing interior cleaning by following one of the following options: 1) exhausting VOCs contained in the tank vapor space to an APCO-approved vapor recovery system until the organic vapor concentration is 5,000 ppmv or less, or is 10 percent or less of the lower explosion limit (LEL), whichever is less, or 2) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable liquid until 90 percent or more of the maximum operating level of the tank is filled. Suitable liquids are organic liquids having a TVP of less than 0.5 psia, water, clean produced water, or produced water derived from crude oil having a TVP less than 0.5 psia, or 3) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable gas. Degassing shall continue until the operator has achieved a vapor displacement equivalent to at least 2.3 times the tank capacity. Suitable gases are air, nitrogen, carbon dioxide, or natural gas containing less than 10 percent VOC by weight. [District Rule 4623] Federally Enforceable Through Title V Permit
15. During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
16. To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
17. This tank shall be in compliance with the applicable requirements of District Rule 4623 at all times during draining, degassing, and refilling the tank with an organic liquid having a TVP of 0.5 psia or greater. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

18. After a tank has been degassed pursuant to the requirements of this permit, vapor control requirements are not applicable until an organic liquid having a TVP of 0.5 psia or greater is placed, held, or stored in this tank. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
19. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
20. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
21. During sludge removal, the operator shall control emissions from the sludge receiving vessel by operating an APCO-approved vapor control device that reduces emissions of organic vapors by at least 95%. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
22. Permittee shall only transport removed sludge in closed, liquid leak-free containers. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
23. Permittee shall store removed sludge, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
24. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
25. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
26. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
27. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
28. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
29. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

30. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
31. The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 2201] Federally Enforceable Through Title V Permit

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1738-511-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.
MAILING ADDRESS: 9600 MING AVENUE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY
CA

EQUIPMENT DESCRIPTION:
400 BBL FIXED ROOF CRUDE OIL STORAGE TANK WITH TRUCK LOADOUT CONNECTED TO THE VAPOR RECOVERY SYSTEM LISTED ON S-1738-514-0

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. ATC S-1738-510-0 shall be implemented concurrent with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. 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
6. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

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Arnaud Marjolle, Director of Permit Services

S-1738-511-0 Dec 17 2015 1:26PM - DAVIDSOS - Joint Inspection NOT Required

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

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CONDITIONS CONTINUE ON NEXT PAGE

19. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
20. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
21. The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 1070] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1738-512-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.
MAILING ADDRESS: 9600 MING AVENUE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY
CA

EQUIPMENT DESCRIPTION:
400 BBL FIXED ROOF CRUDE OIL STORAGE TANK WITH TRUCK LOADOUT CONNECTED TO THE VAPOR RECOVERY SYSTEM LISTED ON S-1738-514-0

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. ATC S-1738-510-0 shall be implemented concurrent with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. 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
6. Under normal operation the tank shall only vent to the vapor recovery system listed on S-8349-7. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
7. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

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Arnaud Marjolle, Director of Permit Services
S-1738-512-0 Dec 17 2018 1:26PM - DAVIDSOS : Joint Inspection NOT Required

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

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CONDITIONS CONTINUE ON NEXT PAGE

20. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
21. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
22. The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 1070] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1738-513-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.
MAILING ADDRESS: 9600 MING AVENUE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY
CA

EQUIPMENT DESCRIPTION:
400 BBL FIXED ROOF CRUDE OIL STORAGE TANK WITH TRUCK LOADOUT CONNECTED TO THE VAPOR RECOVERY SYSTEM LISTED ON S-1738-514-0

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. ATC S-1738-510-0 shall be implemented concurrent with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. 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
6. Under normal operation the tank shall only vent to the vapor recovery system listed on S-8349-7. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
7. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

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Arnaud Marjolle, Director of Permit Services

S-1738-513-0 Dec 17 2015 1:26PM - DAV:DSOS : Joint Inspection NOT Required

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

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CONDITIONS CONTINUE ON NEXT PAGE

20. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
21. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
22. The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 1070] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1738-514-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.
MAILING ADDRESS: 9600 MING AVENUE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY
CA

EQUIPMENT DESCRIPTION:
4.92 MMBTU/HR COANDA EFFECT FLARE

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 NOX emission reduction credits for the following quantity of emissions: 1st quarter - 1,095 lb, 2nd quarter - 1,095 lb, 3rd quarter - 1,095 lb, and fourth quarter - 1,095 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] Federally Enforceable Through Title V Permit
4. ERC Certificate Number S-4468-2 (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

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

Amaud Marjolle, Director of Permit Services

S-1738-514-0 Dec 29 2015 8 12AM -- DAVIDOSOS Joint Inspection NOT Required

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 123 lb, 2nd quarter - 123 lb, 3rd quarter - 124 lb, and fourth quarter - 124 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] Federally Enforceable Through Title V Permit
6. ERC Certificate Number S-4097-4 (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
7. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1125 lb, 2nd quarter - 1125 lb, 3rd quarter - 1126 lb, and fourth quarter - 1126 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] Federally Enforceable Through Title V Permit
8. ERC Certificate Number S-1710-1 (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
9. ATC S-1738-510-0 shall be implemented concurrent with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
10. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
11. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
12. 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 4401]
13. Flare shall be equipped with a non-resettable, totalizing flare gas volume flow meter. [District Rules 2201]
14. The flare shall be equipped with a continuous pilot. [District Rule 2201]
15. The flare shall not incinerate more than 100.0 Mscf/day of gas [District Rules 2201 and 4311]
16. Emission rates from this unit shall not exceed any of the following limits: NOx (as NO2) - 0.068 lb/MMBtu; VOC (as methane) - 0.063 lb/MMBtu; CO - 0.37 lb/MMBtu or PM10 - 0.008 lb/MMBtu. [District Rule 2201]
17. Gas sulfur content shall not exceed 1.0 gr/100 scf. [District Rules 2201 and 4801]
18. Permittee shall maintain accurate daily records of volume, type, higher heating value, and sulfur content and of gas flared [District Rule 2201]
19. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request [District Rule 2201]

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