



May 24, 2021

Ms. Charlotte Campbell
California Resources Production Corporation
900 Old River Rd
Bakersfield, CA 93311

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
Facility Number: S-8452
Project Number: S-1202811

Dear Ms. Campbell:

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. The project authorizes two tanks.

The notice of preliminary decision for this project has been posted on the District's website (www.valleyair.org). 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,

Brian Clements
Director of Permit Services

Enclosures

cc: Courtney Graham, CARB (w/enclosure) via email
cc: Laura Yannayon, EPA (w/enclosure) via EPS

Samir Sheikh
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San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Two Oilfield Storage Tanks

Facility Name: California Resources Production Corporation
Mailing Address: 11117 River Run Blvd
Bakersfield, CA 93311
Date: April 28, 2021
Engineer: Richard Edgehill
Lead Engineer: Leonard Scandura
5/11/21
Contact Person: Charlotte Campbell
Telephone: (661) 412-5469, (661) 477-1520 (cell)

E-Mail: Charlotte.Campbell@crc.com

Application #: S-8452-105-0 and '-106-0

Project #: S-1202811

Deemed Complete: August 21, 2020

I. Proposal

California Resources Production Corporation (CRC) has requested Authority to Construct (ATC) permits for two transportable 500 bbl fixed roof tanks. The project results in an increase in VOC emissions and is a Federal Major Modification.

BACT, offsets, and public notice are required.

CRC facility operates under 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. CRC must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (8/15/19)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (8/15/19)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4623	Storage of Organic Liquids (05/19/05)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

Rule 4623 Storage of Organic Liquids (05/19/05)
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 transportable tanks will be used in CRCs Mt. Poso properties in Section 9, T27S, R28E, HOCSS. The site 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.

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

IV. Process Description

The transportable tanks will be used at various locations for fluid storage.

V. Equipment Listing

Post-Project Equipment Description:

S-8452-105-0: 500 BBL FIXED ROOF CRUDE OIL TANK (BAKER STYLE) EQUIPPED WITH PVRV

S-8452-106-0: 500 BBL FIXED ROOF CRUDE OIL TANK (BAKER STYLE) EQUIPPED WITH PVRV

VI. Emission Control Technology Evaluation

The tanks will be equipped with a pressure-vacuum (PV) relief vent valve set to within 10% of the maximum allowable working pressure of the tank. The PV-valve will reduce VOC wind induced emissions from the tank vent.

VII. General Calculations

A. Assumptions

- Facility will operate 24 hours per day, 7 days per week, and 52 weeks per year.
- The tank will emit only volatile organic compounds (VOCs),
- TVP of oil = 0.05 psia (Applicant)
- Tank temperature, 129° F
- Flashing losses will occur and thus VOC emissions are dependent on throughput
- Crude oil throughput, 1,000 bbl/day (monthly daily average)

- VOCs molecular weight, 100 lb/lbmol
- Tank dimensions, 8 ft high, 21 ft diameter

B. Emission Factors

Emissions were calculated using SJVAPCD Tank Emission – Fixed Roof Crude Oil less than 26 API calculation spreadsheet. Please refer to **Attachment II** for tank emissions calculations.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

S-8452-105-0 and -106-0

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

2. Post-Project Potential to Emit (PE2)

PE2*		
Permit Unit	VOC lb/day	VOC lb/yr
S-8452-105-0	5.1	1,857
S-8452-106-0	5.1	1,857
Total	10.2	3,714

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

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

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

Facility-wide VOC emissions exceed both the offset threshold for VOC's (20,000 lb VOC/ yr) and the Major Source threshold for VOC's (20,000 lb VOC/ yr). No other pollutants are emitted by this project; therefore, SSPE1 calculations for these pollutants are not necessary.

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.

Facility is an existing Major Source for VOC's, and the facility-wide VOC emissions already exceed the offset threshold for VOC's. The Applicant is therefore not becoming a Major Source for VOC's as a result of this project. No other pollutants are emitted by this project; therefore, no SSPE2 calculations for these pollutants are necessary.

5. Major Source Determination

Rule 2201 Major Source Determination:

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

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

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

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀
Estimated Facility PE before Project Increase	XX	XX	XX	>250*	XXX	XX
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source?				Yes		

*SSPE Calculator

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.

S-8452-105-0 and '-106-0:

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

As calculated in the Calculation Section above:

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	0	50,000	No
SO _x	0	80,000	No
PM ₁₀	0	30,000	No
VOC	3,714	50,000	No

Since none of the SB 288 Major Modification Thresholds are surpassed with this project, this project does not constitute an SB 288 Major Modification and no further discussion is required.

8. Federal Major Modification / New Major Source

Federal Major Modification

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

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. In step 1, emission decreases can not cancel out the increases. Step 2 allows consideration of the project’s net emissions increase as described in 40 CFR 51.165 and the Federal Clean Air Act Section 182 (e), as applicable.

Step 1

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

$$\text{Emission Increase} = \text{PE2}$$

In conclusion, the project’s combined total emission increase is 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 *	0	0	No
VOC*	3,714	0	Yes
PM ₁₀	0	30,000	No
PM _{2.5}	0	20,000	No
SO _x	0	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 VOC emissions, this project constitutes a Federal Major Modification. Consequently, as discussed below in the offset section of this evaluation, pursuant to Section 7.4.2.1 of District Rule 2201, VOC Emission Reduction Credits (ERCs) used to satisfy the offset quantity required under District Rule 2201 must surplus at the time of use (ATC issuance). Separately, Federal Offset quantities are calculated below.

New Major Source

As demonstrated above, this facility is not becoming a Major Source as a result of this project, therefore, this facility is not a New Major Source pursuant to 40 CFR 51.165 a(1)(iv)(A)(3).

Federal Offset Quantity Calculation

The Federal offset quantity (FOQ) is only calculated for the pollutants for which a project is a Federal Major Modification or a New Major Source as determined above.

Pursuant to 40 CFR 51.165(a)(3)(ii)(J), the Federal offset quantity is the sum of the annual emission changes for all new and modified emission units in a project calculated as the potential to emit after the modification (PE2) minus the actual emissions (AE) for each emission unit times the applicable federal offset ratio.

$$FOQ = \sum(PE2 - AE) \times \text{Federal offset ratio}$$

Please note that, as described in 40 CFR 51.165(a)(1)(xii), actual emissions (AE), as of a particular date, shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a consecutive 24-month period which precedes the particular date and which is representative of normal source

operation. The reviewing authority shall allow the use of a different time period upon a determination that it is more representative of normal source operation.

Actual Emissions

Since this is a new unit, AE = 0

Therefore

FOQ = PE2 x Federal offset ratio

Federal Offset Ratio

According to the CAA 182(e), the federal offset ratio for VOC and NOx is 1.5 to 1 (due to extreme ozone non-attainment). Otherwise, the federal offset ratio for PM2.5, PM10, and SOx is 1.0 to 1.

Federal Offset Quantities (FOQ)

VOC		Federal Offset Ratio	1.5
Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)
S-8452-105-0	0	1,857	1,857
S-8452-106-0	0	1,857	1,857
∑(PE2 – AE) (lb/year):			3,714
Federal Offset Quantity (lb/year): ∑(PE2 – AE) x 1.5			5,571
Validated Federal Offset Quantity (tons/year): ∑(PE2 – AE) x 1.5 ÷ 2,000			2.8

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)

I. Project Location Relative to Class 1 Area

As demonstrated in the “PSD Major Source Determination” Section above, the facility was determined to be an existing PSD Major Source. Because the project is not located within 10 km (6.2 miles) of a Class 1 area – modeling of the emission

increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Project Emission Increase – Significance Determination

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

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

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)					
	NO₂	SO₂	CO	PM	PM₁₀
Total PE from New and Modified Units	0	0	0	0	0
PSD Significant Emission Increase Thresholds	40	40	100	25	15
PSD Significant Emission Increase?	No	No	No	No	No

As demonstrated above, because the post-project total potentials to emit from all new and modified emission units are below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District’s PAS emissions profile screen. The permit unit is new and therefore the QNEC = PE2/4 or 1,857/4 = 464.25 lb/qtr VOCs for each of ‘-105 and ‘-106.

S-8452-105 and ‘-106

QTR	QNEC
1	464
2	464
3	464
4	465

VIII. Compliance Determination

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

Pursuant to District Rule 2201, Section 4.1, 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 Adjusted Increase in Permitted Emissions (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 two new crude oil storage tanks each with a PE greater than 2 lb/day for VOC. BACT is triggered for VOC.

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 Sections VII.C.7 and VII.C.8 above, this project does constitute an SB 288 and/or Federal Major Modification for NO_x emissions. Therefore

BACT is triggered for VOC for all emissions units in the project for which there is an emission increase.

2. BACT Guidance

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

BACT Guideline 7.3.1, applies to Petroleum and Petrochemical Production – Fixed Roof Organic Liquid Storage or Processing Tank, < 5,000 bbl tank capacity (see **Attachment IV**)

3. Top-Down BACT Analysis

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

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

VOC: pressure and vacuum (PV) relief valve on tank vent set to within 10% of maximum allowable pressure

B. Offsets

1. Offset Applicability

Pursuant to District Rule 2201, Section 4.5, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

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

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	--	--	--	--	>20,000
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets calculations required?	No	No	No	No	Yes

2. Quantity of Offsets Required

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

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

Offsets Required (lb/year) = $(\Sigma[PE2 - BE] + ICCE) \times DOR$, 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 emissions unit; therefore BE = 0. Also, there is only one emissions unit associated with this project 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 (VOC) = 3,714 lb/year
 BE (VOC) = 0 lb/year
 ICCE = 0 lb/year

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

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

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([3,714 - 0] + 0) \times 1.5 \\ &= 3,714 \times 1.5 \\ &= 5,571 \text{ lb VOC/year} \end{aligned}$$

For each unit S-8452-105 and '-106 the offset requirement is

$$\text{Offsets Required (lb/year)} = 5,571/2 = 2786 \text{ lb VOC/yr}$$

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

$$\begin{aligned} \text{Quarterly offsets required (lb/qtr)} &= (5,571 \text{ lb VOC/year}) \div (4 \text{ quarters/year}) \\ &= 1,392.75 \text{ lb/qtr} \end{aligned}$$

$$\begin{aligned} \text{For each unit, Quarterly offsets required (lb/qtr)} &= 2,786/4 \\ &= 696.5 \text{ lb/qtr} \end{aligned}$$

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
0.0	Y	Y	Y	Y
0.25	Y	Y	Y	Y+1
0.5	Y	Y	Y+1	Y+1
0.75	Y	Y+1	Y+1	Y+1

District and Federal Offset Quantities

As discussed above, District offsets are triggered and required for VOC under NSR. In addition, as demonstrated above, this project does trigger Federal Major Modification requirements for VOC emissions.

Since District offsets and federal offsets are required, the facility must provide offset amounts equal to the greatest value between the District offset quantity and the federal offset quantity.

Comparison of District vs Federal VOC Offset Quantity			
	DOQ	FOQ	FOQ ≥ DOQ
VOC	5,571	5,571	Yes

As demonstrated above, the federal offset quantity required is equal to or greater than the District offset quantity. Therefore, pursuant to Section 7.4.1.2 of District Rule 2201, the facility must comply with the required federal offset quantities. In addition, emission reduction credits used to satisfy federal offset quantities for VOC must be creditable and surplus at the time of use (ATC issuance).

Surplus at the Time Of Use Emission Reduction Credits

The applicant has stated that the facility plans to use ERC certificates S-5003-1 and S-4470-1 to satisfy the federal offset quantities for VOC required for this project. Pursuant to the ERC surplus analysis in **Attachment VI**, the District has verified that the credits from the ERC certificate(s) provided by the applicant are sufficient to satisfy the federal offset quantities for VOC required for this project.

Required District and Federal Offset Quantities Summary

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>
1,392	1,393	1,393	1,393	5,571

For each unit

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
696	696	697	697	2,786

The applicant has stated that the facility plans completely deplete ERC S-1722-1 and use the remainder ERCs from ERC S-4470-1 to offset the increases in VOC emissions associated with this project.

The applicant has proposed to use the following ERCs which are not reserved for any other projects:

ERC Certificate S-1722-1 – Criteria Pollutant VOC					
		1 st Qtr. (lb/qtr)	2 nd Qtr. (lb/qtr)	3 rd Qtr. (lb/qtr)	4 th Qtr. (lb/qtr)
(A)	Current ERC Quantity	1,132	2,723	3,230	1,359
(B)	Percent Discount	39.6%	39.6%	39.6%	39.6%
(C) = (A) x [1 – (B)]	Surplus Value	684	1,645	1,951	821

ERC Certificate S-4470-1 – Criteria Pollutant VOC					
		1 st Qtr. (lb/qtr)	2 nd Qtr. (lb/qtr)	3 rd Qtr. (lb/qtr)	4 th Qtr. (lb/qtr)
(A)	Current ERC Quantity	55,150	63,829	66,405	61,718
(B)	Percent Discount	96.0%	96.0%	96.0%	96.0%
(C) = (A) x [1 – (B)]	Surplus Value	2,206	2,553	2,656	2,469

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

Proposed Rule 2201 (offset) Conditions for each ATC:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender surplus at the time of use VOC emission reduction credits for the following quantity of emissions: 1st quarter - 696 lb, 2nd quarter - 696 lb, 3rd quarter - 697 lb, and 4th quarter - 697 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]
- ERC Certificate Number S-1722-1 and S-4470-1 (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]

3. ERC Withdrawal Calculations

The applicant must identify the surplus at the time of use ERC Certificate(s) to be used to offset the increase of 5,202 lb/yr emissions for the project. As indicated in previous section, the applicant is proposing to use ERC certificates S-1722-1 and S-4470-1 to mitigate the increases of VOC emissions associated with this project. See **Attachment VII** for detailed ERC Withdrawal Calculations.

C. Public Notification

1. Applicability

Pursuant to District Rule 2201, Section 5.4, 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,
- d. Any project with an SSPE of greater than 20,000 lb/year for any pollutant, and/or
- e. Any project which results in a Title V significant permit modification

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

As demonstrated in Section VII.C.7 of this evaluation, this project is a Federal Major Modification. Therefore, public noticing is required for this project for Federal Major Modification purposes.

b. PE > 100 lb/day

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

c. Offset Threshold

Public notification is required if the pre-project Stationary Source Potential to Emit (SSPE1) is increased to a level exceeding the offset threshold levels. The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

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

As demonstrated 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				20,000 lb/year	No
SO _x				20,000 lb/year	No
PM ₁₀				20,000 lb/year	No
CO				20,000 lb/year	No
VOC	>20,000	>20,000	3,714	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 which is a Federal Major Modification. Therefore, public notice documents will be submitted to the

California Air Resources Board (CARB) and a public notice will be electronically published on the District's website prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

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

Proposed Rule 2201 (DEL) Conditions:

Crude oil throughput shall not exceed 1,000 barrels per day (monthly daily average). [District Rule 2201] Y

This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.05 psia under all storage conditions. [District Rules 2201 and 4623] Y

E. Compliance Assurance

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

1. Source Testing

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

2. Monitoring

Monitoring is not required to demonstrate compliance with Rule 2201.

3. Record Keeping

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

The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, API gravity and throughput. [District Rules 2201 and 4623] Y

All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 2520 and 4623] Y

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. There is no AAQ standard for VOC which is the only affected pollutant. Therefore, an AAQA is not required.

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Federal Major 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 project does constitute a Federal Major Modification, therefore this requirement is applicable. CRPC's Statewide Compliance Statement is included in **Attachment VIII**.

H. Alternate Siting Analysis

The current project occurs at an existing facility. Since the applicant proposes to increase the throughput of an existing tank, 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

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 Rule 2410 Major Source Determination. All post project emissions associated with this project are fugitive emissions; therefore, Rule 2410 does not apply.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this rule, and has received their Title V Operating Permit. The proposed modification is a Significant Modification to the Title V Permit pursuant to Section 3.20 of this rule. 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 Title V Compliance Certification form is included in **Attachment VIII**.

Rule 4001 New Source Performance Standards

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.

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

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 equipment is properly maintained and operated, compliance with visible emissions limits is expected under normal operating conditions.

Rule 4102 - Public Nuisance

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

CH&SC 41700 - California Health and Safety Code

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

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

The cancer risk for this project is shown below:

1. Summary

1.1 RMR

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
105-0	0.02	0.00	0.00	1.06E-08	No	No
106-0	0.02	0.00	0.00	1.07E-08	No	No
Project Totals	0.04	0.00	0.00	2.12E-08		
Facility Totals	>1	0.43 ¹	0.04 ¹	3.85E-06 ¹		

Notes:

1. Risk is accumulated in Oxy Risk Heavy Oil Stationary Source Spreadsheet for facilities S1326 and S8452 which are considered the same stationary source.
2. Risk for this project were associated with the NE Bakersfield Modeling Domain.

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 above the District’s thresholds for triggering T-BACT requirements.

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 tank will store crude oil with a TVP < 0.5 psia. Therefore, the vapor control requirements of the rule are not applicable. The tank is equipped with a P/V vent.

According to Section 4.4, tanks exclusively receiving and or storing organic liquids with a TVP less than 0.5 psia are exempt from this Rule except for complying with

Sections 6.2, 6.3.6, 6.4 and 7.2. These requirements are expressed as the following ATC conditions:

This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rules 2201 and 4623] Y

Permittee shall conduct True Vapor Pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rules 2201 and 4623] Y

As used in this permit, the term "source or type" shall mean liquids with similar characteristics. The operator shall maintain records of API gravity of petroleum liquids stored in this unit to determine which are from common source. [District Rule 2520, 9.3.2] Y

For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623, 6.4.4] Y

For other organic liquids, the true vapor pressure (TVP) shall be measured using Reid vapor pressure ASTM Method D323, and converting the RVP to TVP at the tank's maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance of the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulations for AB 2588", dated August 1989. As an alternative to using ASTM D 323, the TVP of crude oil with an API gravity range of greater than 26 degrees up to 30 degrees may be determined by using other equivalent test methods approved by APCO, ARB and EPA. [District Rule 4623, 6.4.3] Y

Compliance with the requirements of this rule is expected.

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

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

California Environmental Quality Act (CEQA)

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its

responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

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

Greenhouse Gas (GHG) Significance Determination

Oil and gas operations in Kern County must comply with the Kern County Zoning Ordinance – 2015 (C) Focused on Oil and Gas Local Permitting. In 2015, Kern County revised the Kern County Zoning Ordinance Focused on Oil and Gas Activities (Kern Oil and Gas Zoning Ordinance) in regards to future oil and gas exploration, and drilling and production of hydrocarbon resource projects occurring within Kern County.

Kern County served as lead agency for the revision to their ordinance under the California Environmental Quality Act (CEQA), and prepared an Environmental Impact Report (EIR) that was certified on November 9, 2015. The EIR evaluated and disclosed to the public the environmental impacts associated with the growth of oil and gas exploration in Kern County, and determined that such growth will result in significant GHG impacts in the San Joaquin Valley. As such, the EIR included mitigation measures for GHG.

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381). As a Responsible Agency, the District is limited to mitigating or avoiding impacts for which it has statutory authority. The District does not have statutory authority for regulating GHGs. The District has determined that the applicant is responsible for implementing GHG mitigation measures imposed in the EIR by the Kern County for the Kern County Zoning Ordinance.

District CEQA Findings

The proposed project is located in Kern County. It was approved by Kern County under its permitting process prior to March 25, 2020 and is thus subject to the Kern County Zoning Ordinance – 2015 (C) Focused on Oil and Gas Local

Permitting. The Kern County Zoning Ordinance was developed by the Kern County Planning Agency as a comprehensive set of goals, objectives, policies, and standards to guide development, expansion, and operation of oil and gas exploration within Kern County.

In 2015, Kern County revised their Kern County Zoning Ordinance in regards to exploration, drilling and production of hydrocarbon resources projects. Kern County, as the lead agency, is the agency that will enforce the mitigation measures identified in the EIR, including the mitigation requirements of the Oil and Gas ERA. As a responsible agency the District complies with CEQA by considering the EIR prepared by the Lead Agency, and by reaching its own conclusion on whether and how to approve the project involved (CCR §15096). The District has reviewed the EIR prepared by Kern County, the Lead Agency for the project, and finds it to be adequate. The District also prepared a full findings document. The full findings document, California Environmental Quality Act (CEQA) Statement of Findings for the Kern County Zoning Ordinance EIR contains the details of the District's findings regarding the Project. The District's implementation of the Kern Zoning Ordinance and its EIR applies to ATC applications received for any new/modified equipment used in oil/gas production in Kern County, including new wells, between November 5, 2015 and March 25, 2020. The full findings applies to the Project and the Project's related activity equipment(s) is covered under the Kern Zoning Ordinance. To reduce project related impacts on air quality, the District evaluates emission controls for the project such as Best Available Control Technology (BACT) under District Rule 2201 (New and Modified Stationary Source Review). In addition, the District is requiring the applicant to surrender emission reduction credits (ERC) for stationary source emissions above the offset threshold.

Thus, the District concludes that through a combination of project design elements, permit conditions, and the Oil and Gas ERA, the project will be fully mitigated to result in no net increase in emissions. Pursuant to CCR §15096, prior to project approval and issuance of ATCs the District prepared findings.

Indemnification Agreement/Letter of Credit Determination

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit is based on a case-by-case analysis of a particular project's potential for litigation risk, which in turn may be based on a project's potential to generate public concern, its potential for significant impacts, and the project proponent's ability to pay for the costs of litigation without a letter of credit, among other factors

The criteria pollutant emissions and toxic air contaminant emissions associated with the proposed project are not significant, and there is minimal potential for

public concern for this particular type of facility/operation. Therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC S-8452-105-0 and '-106-0 subject to the permit conditions on the attached draft ATC in **Attachment X**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-8452-105 and '-106	3020-05-C	21,000 gallons	\$165.00

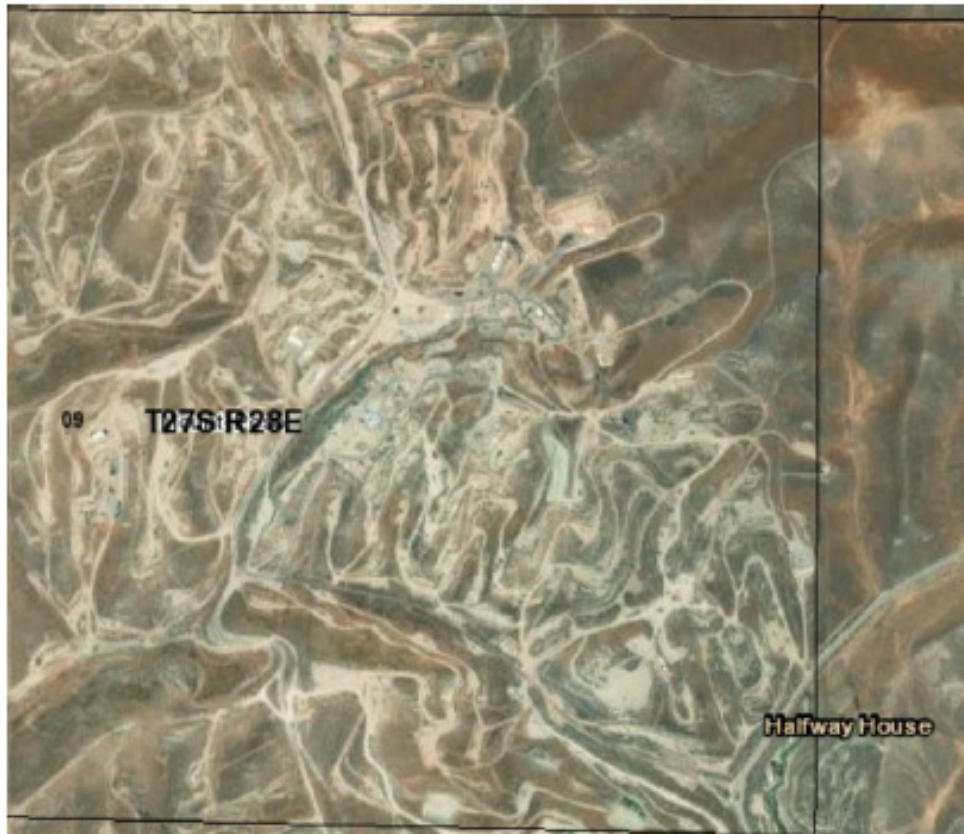
Attachments

- I. Location Map
- II. Tank Calculations
- III. Emissions Profile
- IV. BACT Guideline
- V. BACT Analysis
- VI. Surplus Analyses
- VII. ERC Calculations
- VIII: Statewide Compliance Statement and Title V Compliance Certification Form
- IX. HRA
- X. Draft ATC

ATTACHMENT I

Location Map

CRC - Poso Vedder Lease
Section 9, T27S, R28E
Portable Tanks to be used in Section 9



ATTACHMENT II
Tank Calculations


Tank Input Data		
permit number (S-xxxx-xx-xx)	S-8452-105,	
facility tank I.D.		
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1	
tank ROC vapor pressure (psia)	0.05	
liquid bulk storage temperature, T_b (°F)	129	
is this a constant-level tank? {yes, no}	no	
will flashing losses occur in this tank (only if first-line tank)? {yes, no}	no	
breather vent pressure setting range (psi)	0.06	
diameter of tank (feet)	21	
capacity of tank (bbl)	500	
conical or dome roof? {c, d}	c	
shell height of tank (feet)	8	
average liquid height (feet)	5	
are the roof and shell the same color? {yes, no}	yes	
For roof:		
color {1: Spec Al, 2: Diff Al, 3: Light, 4: Med, 5: Red, 6: White}	3	
condition {1: Good, 2: Poor}	1	
-----This row only used if shell is different color from roof-----	3	
-----This row only used if shell is different color from roof-----	1	
Liquid Input Data		
	A	B
maximum daily fluid throughput (bbl)		1,000
maximum annual fluid throughput (bbl)		365,000
-----This row only used if flashing losses occur in this tank-----		100
-----This row only used if flashing losses occur in this tank-----		36,500
molecular weight, M_w (lb/lb-mol)		100
Calculated Values		
	A	B
daily maximum ambient temperature, T_{ax} (°F)		76.8
daily minimum ambient temperature, T_{an} (°F)		54
daily total solar insolation factor, I (Btu/ft ² -day)		1666
atmospheric pressure, P_a (psia)		14.43
water vapor pressure at daily maximum liquid surface temperature (T_{lx}), P_{vx}	113.7	1.4078
water vapor pressure at daily minimum liquid surface temperature (T_{ln}), P_{vn}	103.7	1.0517
water vapor pressure at average liquid surface temperature (T_{la}), P_{va} (psia)	108.7	1.2153
roof outage, H_{ro} (feet)		0.2188
vapor space volume, V_v (cubic feet)		1114.85
paint factor, alpha		0.54
vapor density, w_v (lb/cubic foot)		0.0008
daily vapor temperature range, delta T_v (degrees Rankine)		41.61
vapor space expansion factor, K_e		0.0956

Results	lb/year	lb/day
Standing Storage Loss	32	0.09
Working Loss	1,825	5.00
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	1,857	5.1

Summary Table	
Permit Number	S-8452-105,
Facility Tank I.D.	---
Tank capacity (bbl)	500
Tank diameter (ft)	21
Tank shell height (ft)	8
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	1,000
Maximum Annual Fluid Throughput (bbl/year)	365,000
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N/A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	5.1
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	1,857

ATTACHMENT III Emissions Profiles

 SOUTHTNT1 PAS - [View Application Emissions: S-8452-105-0]

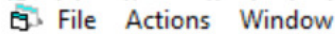
 File Actions Window

Permit #: S 8452-105 -0	Issued: //	Last Updated: 04/02/21			
	Implemented: //	EDGEHILR			
Facility: CALIFORNIA RESOURCES PRODUCTION CI		<input type="checkbox"/> Use PTO emissions	Equipment Prebaselined: <input type="checkbox"/> Yes <input type="checkbox"/> No		
PM2.5/PM10 %					
PM2.5 (lb/Yr)					
	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0	0	0	0	1857
Daily Emis. Limit (lb/Day):	0.0	0.0	0.0	0.0	5.1
Quarterly Net Emissions Change (lb/Qtr)	1: 0	0	0	0	464
	2: 0	0	0	0	464
	3: 0	0	0	0	464
	4: 0	0	0	0	465
Check if offsets are triggered but exemption applies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Offset Ratio:					1.50
Quarterly Offset Amounts (lb/Qtr)	1:				696
	2:				696
	3:				697
	4:				697
SLC ID (PTE):					
SLC ID (DEL):					

Facility SLC

Exit





Permit #: S 8452-106 -0	Issued: //	Last Updated: 04/02/21	
	Implemented: //	EDGEHILR	
Facility: CALIFORNIA RESOURCES PRODUCTION CI		<input type="checkbox"/> Use PTO emissions	Equipment Prebaselined: <input type="checkbox"/> Yes <input type="checkbox"/> No

PM2.5/PM10 %		NOX	SOX	PM10	CO	VOC
PM2.5 (lb/Yr)						
Potential to Emit (lb/Yr):		0	0	0	0	1857
Daily Emis. Limit (lb/Day):		0.0	0.0	0.0	0.0	5.1
Quarterly Net Emissions Change (lb/Qtr)	1:	0	0	0	0	464
	2:	0	0	0	0	464
	3:	0	0	0	0	464
	4:	0	0	0	0	465
Check if offsets are triggered but exemption applies		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Offset Ratio:						1.50
Quarterly Offset Amounts (lb/Qtr)	1:					696
	2:					696
	3:					697
	4:					697
SLC ID (PTE):						
SLC ID (DEL):						

Facility SLC

Exit

ATTACHMENT IV BACT Guideline

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 7.3.1*

Last Update: 10/1/2002

Petroleum and Petrochemical Production - Fixed Roof Organic Liquid Storage or Processing Tank, < 5,000 bbl Tank capacity **

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	PV-vent set to within 10% of maximum allowable pressure	99% control (Waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of noncondensable vapors to gas pipeline; reinjection to formation (if appropriate wells are available); or equal).	

** Converted from Determinations 7.1.11 (10/01/02).

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

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

ATTACHMENT V BACT Analysis

Top Down BACT Analysis

VOC emissions may occur when the produced fluids from the crude oil production wells enter the oil storage tanks.

Step 1 - Identify All Possible Control Technologies

BACT Guideline 7.3.1 lists the controls that are considered potentially applicable to fixed-roof organic liquid storage or processing tank <5,000 bbl tank capacity. The VOC control measures are summarized below.

Technologically feasible:

99% control (waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of uncondensed vapors to gas pipeline or reinjection to formation (if appropriate wells are available).

Achieved in Practice:

PV relief valve set to within 10% of maximum allowable pressure.

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

1. 99% control (waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of uncondensed vapors to gas pipeline or reinjection to formation (if appropriate wells are available).
2. PV relief valve set to within 10% of maximum allowable pressure.

Step 4 - Cost Effectiveness Analysis

On October 21, 2010 (applicant email) applicant provided the capital cost for a vapor control system to address the technologically feasible control option is

TVR: Hybon Max Cap 300 mscfd
Cost Estimate
Equipment Cost \$144,000
Installation Cost \$366,000

Total installed cost: \$510,000

The annualized capital cost is

$AP = (P) \left\{ \frac{i(1+i)^n}{(1+i)^n - 1} \right\}$, where

AP = Equivalent Annual Capital Cost of Control Equip.

P = Present value of the control equipment, including installation cost.

i = interest rate (use 10% per policy)

n = equipment life (assume 10 years per policy)

$AP = (P) \left\{ \frac{(0.1)(1+0.1)^{10}}{(1+0.1)^{10} - 1} \right\}$

$AP = (P) \times (0.16274) = (\$510,000) (0.1627) = \$ 82,977/\text{year}$

For calculation of the amount of VOCs removed from each tank (emissions unit) with the vapor control system, 100% control is assumed. The VOCs removed annually are

$\text{Tons/yr} = 3,714 \text{ lb/yr} / 2000 \text{ lb/ton} = 1.86 \text{ tons/yr}$

$\text{Annualized cost} = \$ 82,977/\text{yr} / 1.86 \text{ tons/yr}$
 $= \$ 44,611/\text{ton}$

This exceeds the cost effectiveness threshold for VOCs of \$17,500/ton. Therefore, the vapor control system is not cost effective.

Step 5 - Select BACT

PV relief valve set to within 10% of maximum allowable pressure of the tank, or

99% control (waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of uncondensed vapors to gas pipeline or reinjection to formation (if appropriate wells are available).

ATTACHMENT VI
ERC Surplus Analysis

San Joaquin Valley Air Pollution Control District Surplus ERC Analysis

Facility Name: California Resources Elk Hills LLC	Date: April 28, 2021
Mailing Address: 900 Old River Rd Bakersfield, CA 93311	Engineer: Richard Edgehill
	Lead Engineer: Leonard Scandura 5/6/21
Contact Person: Juan Campos	
Telephone: (661) 529-4370	
ERC Certificate(s) #: S-1722-1	
Project #: S-382, 1211751	

I. Proposal

California Resources Elk Hills LLC has requested the District perform an analysis of the current surplus value of the following Emission Reduction Credit (ERC) certificate(s)

Proposed ERC Certificate(s)	
Certificate #	Criteria Pollutant
S-1722-11	VOC

This analysis establishes the surplus value of the ERC certificate(s) as of the date of this analysis. The current face value and surplus value of the ERC certificate(s) evaluated in this analysis is summarized in the following table(s):

Criteria Pollutant: VOC

ERC Certificate S-1722-1				
Pollutant	1 st Qtr. (lb/qtr)	2 nd Qtr. (lb/qtr)	3 rd Qtr. (lb/qtr)	4 th Qtr. (lb/qtr)
Current Value	1,132	2,723	3,230	1,359
Surplus Value	684	1,645	1,951	821

II. Individual ERC Certificate Analysis

ERC Certificate S-1722-1

A. ERC Background

Criteria Pollutant: VOC

ERC Certificate S-1722-1 is a certificate that was split out from parent ERC Certificate S-219-1. Original ERC Certificate S-219-1 was issued to California Resources Elk Hills LLC on 7/11/94 under project S-920066. The ERCs were generated from adding vapor recovery to forty seven 500 barrel crude oil storage tanks, twelve 1,000 barrel crude oil storage tanks, and five 2,000 barrel surge tanks.

Subsequent to the issuance of the ERC, and after a CARB audit that included this ERC, on 12/6/95 the District reissued the this ERC with reduced amounts, after deducting amounts that were determined to be non-surplus, i.e. required to keep the stationary source cumulative net emission change less than 150 lb/day. This resulted in an approximately 60% reduction in the amount of ERCs issued.

The following table summarizes the values of the original parent certificate and the current value of the subject certificate proposed to be utilized as a part of the current District analysis:

ERC Certificate S-1722-1				
Pollutant	1 st Qtr. (lb/qtr)	2 nd Qtr. (lb/qtr)	3 rd Qtr. (lb/qtr)	4 th Qtr. (lb/qtr)
Original Value of Parent Certificate S-219-1	41,361	97,399	115,895	49,704
Current Value of ERC Certificate S-1722-1	1,132	2,723	3,230	1,359

B. Applicable Rules and Regulations at Time of Original Banking Project

Based on the application review for the original ERC banking project, the following rules and regulations were evaluated to determine the surplus value of actual emission reductions of **VOCs** generated by the reduction project.

1. District Rules

Rule 2301 - Emission Reduction Credit Banking (12/17/92)

The application review for the original ERC banking project demonstrated that the ERC credit complied with District Rule 2301 requirements at the time it was issued.

Rule 411 Organic Liquid Storage (Kern County APCD)

The application review for the original ERC banking project demonstrated that the **crude**

oil storage tanks were in compliance with the Rules listed above at the time of the application. Therefore, the original VOC emission reductions were surplus of all applicable District Rule requirements.

2. Federal Rules and Regulations

There were no applicable federal rules or regulations identified that applied at the time of this original ERC banking action; therefore, no further discussion is required.

C. New or Modified Rule and Regulations Applicable to the Original Banking Project

All District and federal rules and regulations that have been adopted or amended since the date the original banking project was finalized will be evaluated below:

1. District Rules:

Rule 4623 Storage of Organic Liquids (5/19/05)

The requirements of Rule 4623 would have been applicable to the tanks modified with vapor control in the original ERC banking project. Rule 4623 was last amended by the District on May 19, 2005 and added to the District's SIP on September 13, 2005.

The ERC banking project calculated emissions for the tanks in two parts corresponding to Kern Co. APCD Rule 411 Exempt and Nonexempt Tanks. The HAE and AER calculations for project 920066 (prior to reduction of the ERC amount in December 1995) are shown below. Please note that the below calculations are solely to determine the surplus percentage of the subject ERC.

From 920066 ERC Banking Project

D. Actual Emissions Reductions:

Actual emissions reductions due to installation of a control device are calculated as:

$$\text{AER} = \text{HAE} \times \text{CE}$$

where $\text{CE}^1 = 0.99 - 0.75 = 0.24$ (Rule 411 exempt tanks)

where $\text{CE}^2 = 0.99 - 0.95 = 0.04$ (Rule 411 non-exempt tanks)

	<u>Rule 411 Exempt Tanks</u>				<u>Rule 411 Non-Exempt Tanks</u>			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
HAE	552317	755906	824319	589517	610151	821695	905690	659758
x CE ¹	132556	181417	197837	141484	*	*	*	*
x CE ²	*	*	*	*	24406	32868	36228	26390

Part 1: Twelve 1,000 barrel and five 2,000 barrel Kern Co. APCD Rule 411 non-exempt tanks were taken from 95% control to 99% control of 9.3 psia TVP oil.

The historical actual emissions (uncontrolled emissions reductions contributing to ERCs) from these tanks, as calculated below, were 2,997,294 lb/yr.

Rule 411 nonexempt tanks, HAE discounted by 95 to 99% VC eff
$610,151 + 821,695 + 905,690 + 659,758 = \underline{2,997,294}$ (HAE)
$24,406 + 32,868 + 36,228 + 26,390 = 119,892$ (AER, $0.04 \times 2,997,294$)

Rule 4623 Table 1 requires tanks of this size and TVP to install vapor control with 95% control. Therefore, no further discounting is necessary.

Part 2: Forty seven 500 barrel Kern Co. APCD d Rule 411 exempt fixed roof tanks were taken from 75% vapor control to 99% vapor control of 9.3 psia TVP oil. The historical actual emissions were 2,722,059 lb/yr (uncontrolled).

Table 1 requires tanks of this size and TVP to at least implement a floating roof tank (control of 95%). Therefore, discounting is necessary. The additional discounting for Rule 4623 is calculated in Section D of this analysis.

Part 2 (Rule 411 exempt tanks, HAE discounted by 0.24, 75% to 99% VC eff
$552,317 + 755,906 + 824,319 + 589,517 = \underline{2,722,059}$ (HAE)
$132,556 + 181,417 + 197,837 + 141,484 = 653,294$ (AER, $0.24 \times 2,722,059$)

2. Federal Rules and Regulations:

40 CFR Part 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced After July 23, 1984

Rule 4623 has broader applicability and in certain aspects establishes more effective standards than the NSPS contained in 40 CFR 60 Subparts Kb, for petroleum liquid storage vessels. Therefore, the emission reductions continue to be surplus of this subpart.

40 CFR Part 63 Subpart HH National Emission Standards for Hazardous Air Pollutants: Oil and Natural Gas Production Facilities

This subpart applies to Oil and Natural Gas Production equipment located at a major source of Hazardous Air Pollutants (HAP) emissions. Rule 4623 establishes VOC capture and control efficiency requirements in harmony with MACT standards established pursuant to 40 CFR Part 63 Subpart HH for oil and gas storage tanks.

Therefore, the emission reductions continue to be surplus of this subpart.

D. Surplus at Time of Use Adjustments to ERC Quantities

As demonstrated in the section above, rules and regulations applicable to permit unit(s) in the original banking project have been adopted or amended since the date the original banking project was finalized. The emissions limits from these new/modified rules and regulations will be compared to the pre and post-project emission limits of each permit unit included in the original banking project to determine any discounting of the original surplus value of emission reductions due to the new/modified rule or regulation.

The amount of ERCs issued from each permit unit in the original banking project, the percentage of that amount which was discounted due to a new/modified rule or regulation, and the current surplus value of the amount of ERCs from each permit unit is calculated in the table(s) below:

Note that because control efficiency is what is required by the rules, discounting is based on emission factors. Therefore, $EF = (1-CE)$

Surplus Value Calculations for Part 2 Tanks as discussed above		
(A) Emission Reductions from Part 2 tanks contributing to HAE in original banking action	2,722,059	lb/year
Pre-Project (EF1)	0.25	% Emitted
Post-Project (EF2)	0.01	% Emitted
Most Stringent Applicable Rule (EF _{Rule}): Rule 4623 Table 1	0.05	% Emitted
(B) Percent Discount*	83.3%	--
Surplus Reductions Contributing to ERC for Part 2 tanks (A) x [1 - (B)]	454,584	lb/year

*If $EF_{Rule} \leq EF2$, Percent Discount = 100%, or
 If $EF_{Rule} > EF1$, Percent Discount = 0%, otherwise,
 Percent discount = $(EF1 - EF_{Rule}) \times 100 \div (EF1 - EF2)$
 = $[(0.25 - 0.05)/(0.25 - 0.01)] \times 100$
 = 83.3%

Surplus reductions = $2,722,059 * (1 - 0.833)$
 = 454,584 lb/yr

Total Discount Percentage for ERC Certificate

The total percentage ERC [S-1722-1](#) is discounted by due to new and modified rules and regulations is summarized in the following table:

Total Percent Discount Summary for ERC Certificate S-1722-1			
Permit(s)	Amount of ERCs originally issued (lb/year)	Percent Discount	Surplus Value (lb/year)
Part 1	2997294	0%	2,997,294
Part 2	2722059	83.3%	454584
Total	5719353	--	3,451,878
Total Percent Discount*		39.6%	

* Total Percent Discount = [(Total Amount of ERCs Issued – Total Surplus Value) ÷ Total Amount of ERCs Issued] x 100

E. Surplus Value of ERC Certificate

The emissions continue to be Surplus of all District and Federal Rules and Regulations; therefore, no adjustments to the ERC values are necessary.

ERC Certificate S-1172-1 – Criteria Pollutant VOC					
		1 st Qtr. (lb/qtr)	2 nd Qtr. (lb/qtr)	3 rd Qtr. (lb/qtr)	4 th Qtr. (lb/qtr)
(A)	Current ERC Quantity	1,132	2,723	3,230	1,359
(B)	Percent Discount	39.6%	39.6%	39.6%	39.6%
(C) = (A) x [1 – (B)]	Surplus Value	684	1,645	1,951	821

San Joaquin Valley Air Pollution Control District Surplus ERC Analysis

ERC S-4470-1

Facility Name: California Resources Elk Hills LLC	Date: April 28, 2021
Mailing Address: 900 Old River Rd Bakersfield, CA 93311	Engineer: Richard Edgehill
	Lead Engineer: Leonard Scandura 5/6/21
Contact Person: Juan Campos	
Telephone: (661) 529-4370	
ERC Certificate #: S-4470-1	
Project #: S-382, 1211752	

I. Proposal

California Resources Elk Hills LLC has requested the District perform an analysis of the current surplus value of the following Emission Reduction Credit (ERC) certificate(s)

Proposed ERC Certificate(s)	
Certificate #	Criteria Pollutant
S-4470-1	VOC

This analysis establishes the surplus value of the ERC certificate(s) as of the date of this analysis. The current face value and surplus value of the ERC certificate(s) evaluated in this analysis is summarized in the following table(s):

Criteria Pollutant: VOC

ERC Certificate S-4470-1				
Pollutant	1 st Qtr. (lb/qtr)	2 nd Qtr. (lb/qtr)	3 rd Qtr. (lb/qtr)	4 th Qtr. (lb/qtr)
Current Value	55,150	63,829	66,405	61,718
Surplus Value	2,206	2,553	2,656	2,468

II. Individual ERC Certificate Analysis

ERC Certificate S-4470-1

A. ERC Background

Criteria Pollutant: VOC

ERC Certificate S-4470-1 is a certificate that was split out from parent ERC Certificate S-218-1. Original ERC Certificate S-218-1 was issued to Naval Petroleum Reserve #1 on May 3, 1994 under project S-930844. The ERCs were generated from replacing 58 crude oil tank settings comprising the Shallow Oil Zone (SOZ) oil gathering system with 13 new tank settings equipped with a vapor recovery system under Kern County APCD Authority to Construct 4091135 issued on May 15, 1981. The following table summarizes the values of the original parent certificate and the current value of the subject certificate proposed to be utilized as a part of the current District analysis:

ERC Certificate S-4470-1				
Pollutant	1 st Qtr. (lb/qtr)	2 nd Qtr. (lb/qtr)	3 rd Qtr. (lb/qtr)	4 th Qtr. (lb/qtr)
Original Value of Parent Certificate S-218-1	97,346	108,527	111,847	105,811
Current Value of ERC Certificate S-4470-1	55,150	63,829	66,405	61,718

B. Applicable Rules and Regulations at Time of Original Banking Project

Based on the application review for the original ERC banking project, the following rules and regulations were evaluated to determine the surplus value of actual emission reductions of VOCs generated by the reduction project.

1. District Rules

Rule 2301 - Emission Reduction Credit Banking (12/17/92)

The application review for the original ERC banking project demonstrated that the ERC credit complied with District Rule 2301 requirements at the time it was issued.

2. Federal Rules and Regulations

There were no applicable federal rules or regulations identified that applied at the time of this original ERC banking action; therefore, no further discussion is required.

C. New or Modified Rule and Regulations Applicable to the Original Banking Project

All District and federal rules and regulations that have been adopted or amended since the date the original banking project was finalized will be evaluated below:

1. District Rules:

Rule 4623 Storage of Organic Liquids (5/19/05)

The requirements of Rules 4623 would have been applicable to the storage tanks modified in the original ERC banking project. The subject tanks all appeared to have a capacity of between 19,800 gal and 39,600 gal and stored liquids with a TVP > 1.5 psia. As such, these tanks would have been subject to the 95% vapor control requirements of Rule 4623, Table 1 (Group B).

Any adjustments to the surplus value of emission reductions from these units due to the requirements of this rule will be calculated in Section D of this analysis.

2. Federal Rules and Regulations:

There are no new or modified federal rules or regulations that would apply to the organic liquid storage tanks in the original ERC banking project. Therefore, the original VOC emission reductions continue to be surplus of District Rule requirements.

D. Surplus at Time of Use Adjustments to ERC Quantities

As demonstrated in the section above, rules and regulations applicable to permit unit(s) in the original banking project have been adopted or amended since the date the original banking project was finalized. The emissions limits from these new/modified rules and regulations will be compared to the pre and post-project emission limits of each permit unit included in the original banking project to determine any discounting of the original surplus value of emission reductions due to the new/modified rule or regulation.

The amount of ERCs issued from each permit unit in the original banking project, the percentage of that amount which was discounted due to a new/modified rule or regulation, and the current surplus value of the amount of ERCs from each permit unit is calculated in the table(s) below:

Surplus Value Calculations for ERC S-4470-1		
(A) Emission Reductions Contributing to ERC	247,102	lb/year
Pre-Project (EF1)	1	Uncontrolled
Post-Project (EF2)*	0.01	99% control
Most Stringent Applicable Rule (EF _{Rule}): Rule 4623, Table 1, TVP > 0.5 psia **	0.05	95% control
(B) Percent Discount***		--
Surplus Reductions Contributing to ERC (A) x [1- (B)]	0	lb/year

* Page 3 of original ERC evaluation stated emissions after the modification were 1% of the gas processed, i.e. 99% control.

**Rule 4623, Section 5.1.1 Table 1 Group B tanks between 19,800 and 39,600 gas storing

liquids with a TVP \geq 1.5 psia are required to have a vapor recovery system with 95% control.

***If $EF_{Rule} \leq EF2$, Percent Discount = 100%, or

If $EF_{Rule} > EF1$, Percent Discount = 0%, otherwise,

$(EF1 - EF_{Rule}) \times 100 \div (EF1 - EF2)$

$$\begin{aligned} \% \text{ discount} &= ((1 - 0.05)/(1 - 0.99)) * 100 \\ &= 96\% \end{aligned}$$

Total Discount Percentage for ERC Certificate

The total percentage ERC S-4470-1 is discounted by due to new and modified rules and regulations is summarized in the following table:

Total Percent Discount Summary for ERC Certificate S-4470-1			
Permit(s)	Amount of ERCs Issued (lb/year)	Percent Discount	Surplus Value (lb/year)
ERC S-4470-1	247,102	96%	9,884
Total	247,102		9,884
Total Percent Discount*		96%	

* Total Percent Discount = [(Total Amount of ERCs Issued – Total Surplus Value) ÷ Total Amount of ERCs Issued] x 100

E. Surplus Value of ERC Certificate

As shown in the previous section, the surplus at time of use value of this ERC certificate will be adjusted. The current face value of the ERC certificate, the percent the current value is discounted by based on the surplus analysis in the previous section, and the current calculated surplus value of the ERC certificate is shown in the table below:

ERC Certificate S-4470-1 – Criteria Pollutant VOC					
		1 st Qtr. (lb/qtr)	2 nd Qtr. (lb/qtr)	3 rd Qtr. (lb/qtr)	4 th Qtr. (lb/qtr)
(A)	Current ERC Quantity	55,150	63,829	66,405	61,718
(B)	Percent Discount	96%	96%	96%	96%
(C) = (A) x [1 – (B)]	Surplus Value	2,206	2,553	2,656	2,468

ATTACHMENT VII
ERC Withdrawal Calculations

ATC S-8452-105-0

		Q1 lb	Q2 lb	Q3 lb	Q4 lb	annual lb
surplus VOC offsets required (includes offset ratio)		696	696	697	697	2,786
% discount						
ERC S-1722-1 face value		1,132	2,723	3,230	1,359	8,444
ERC S-1722-1 surplus value	39.6%	684	1,645	1,951	821	5,100
Subtotal ERC S-1722-1 face value provided/withdrawn		1,132	1,152	1,154	1,154	4,592
Subtotal ERC S-1722-1 surplus value provided/withdrawn		684	696	697	697	2,774
surplus ERC shortfall in any quarter		12	-	-	-	
Allow 12 lb of surplus ERCs to be shifted from Q2 to Q1		(12)	12			
Total ERC S-1722-1 surplus value provided/withdrawn		684	708	697	697	2,786
Total ERC S-1722-1 face value provided		1,132	1,172	1,154	1,154	4,612
ERC S-1722-1 remaining face value to be re-issued as ERC S-XXXX-1		-	1,551	2,076	205	3,832

ATC S-8452-106-0

		Q1 lb	Q2 lb	Q3 lb	Q4 lb	annual lb
surplus VOC offsets required (includes offset ratio)		696	696	697	697	2,786
% discount						
ERC S-1722-1 face value		0	1,551	2,076	205	3,832
ERC S-1722-1 surplus value	39.6%	-	937	1,254	124	2,315
Subtotal ERC S-1722-1 face value provided/withdrawn		-	1,152	1,154	205	2,511
Subtotal ERC S-1722-1 surplus value provided/withdrawn		-	696	697	124	1,517
surplus ERC shortfall in any quarter		696	-	-	573	
Allow 241 lb of surplus ERCs to be shifted from Q2 to Q1		(241)	241			-
Allow 455 lb of surplus ERCs to be shifted from Q3 to Q1		(455)		455		
surplus ERC shortfall in any quarter		-	-	-	573	
Total ERC S-1722-1 surplus value provided/withdrawn		-	937	1,152	124	2,213
Total ERC S-1722-1 face value provided		-	1,551	1,907	205	3,663
ERC S-1722-1 remaining face value to be re-issued as S-XXXX-1		-	-	169	-	169

Additional ERC providing offsets	% discount					
ERC S-4470-1 face value		55,150	63,829	66,405	61,718	247,102
ERC S-4470-1 surplus value	96.0%	2,206	2,553	2,656	2,469	9,884
surplus value of ERC S-4470-1 required		-	-	-	573	
Additional face value of ERC S-4470-1 required		-	-	-	14,325	14,325
ERC S-4470-1 face value provided/withdrawn		-	-	-	14,325	14,325
Amount remaining to be reissued as S- XXXX-1		55,150	63,829	66,405	47,393	232,777

ATTACHMENT VIII

Title V Compliance Certification Form and Statewide Compliance Statement



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 Corporation		FACILITY ID: S-8452
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: California Resources Corporation		
3. Agent to the Owner: Charlotte Campbell		

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial applicable 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.
- For minor modifications, this application meets the criteria for use of minor permit modification procedures pursuant to District Rule 2520.

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



7/30/2020

Signature of Responsible Official

Date

Raymond Rodriguez

Name of Responsible Official (please print)

Director Environmental

Title of Responsible Official (please print)

Mt. Poso Vedder New Portable Tanks



September 8, 2020

San Joaquin Valley Air Pollution Control District
Attn: Leonard Scandura
Permit Services Manager
34969 Flyover Ct
Bakersfield, CA 93308

Subject: California Resources Corporation - Certification of Compliance

Dear Mr. Scandura:

Rule 2201 section 4.15.2 requires that an owner or operator proposing a federal major modification certify that all major stationary sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in California are either in compliance or on a schedule for compliance with all applicable emission limitations and standards. This letter certifies compliance for California Resources Corporation (CRC) and its affiliates.

CRC has Notices of Violation outstanding issued by your office. However, all issues associated with the Notices of Violation have been addressed. Affiliated companies of CRC own interests in or own and/or operate other major stationary sources in California. These major stationary sources are currently in compliance with applicable compliance schedules (if any) and substantially comply with all applicable laws and regulations.

This certification is made on information and belief and is based upon a review of CRC and affiliated company major stationary sources in the State of California by employees of CRC and its affiliates who have responsibility for compliance with environmental requirements.

This certification is as of the date of its execution.

Sincerely,

A handwritten signature in blue ink that reads "Raymond Rodriguez".

Raymond Rodriguez
Director Health, Safety and Environmental

ATTACHMENT IX
HRA

San Joaquin Valley Air Pollution Control District Risk Management Review

To: William Jones – Permit Services
 From: Will Worthley – Technical Services
 Date: October 6, 2020
 Facility Name: CALIFORNIA RESOURCES PRODUCTION CORP
 HEAVY OIL CENTRAL, Zone 10 32°18'09.21"W, 39°41'522.65
 Location: "N
 Zone 10 32°18'43.64 "W, 39°41'522.49"N
 Application #(s): S-8452-105-0, -106-0
 Project #: S-1202811

1. Summary

1.1 RMR

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
105-0	0.02	0.00	0.00	1.08E-08	No	No
106-0	0.02	0.00	0.00	1.07E-08	No	No
Project Totals	0.04	0.00	0.00	2.12E-08		
Facility Totals	>1	0.43 ¹	0.04 ¹	3.85E-06 ¹		

Notes:

- Risk is accumulated in Oxy Risk Heavy Oil Stationary Source Spreadsheet for facilities S1326 and S8452 which are considered the same stationary source.
- Risk for this project were associated with the NE Bakersfield Modeling Domain.

1.2 Proposed Permit Requirements

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

Unit # 105-0 & 106-0

- No special requirements.

2. Project Description

Technical Services received a request on August 20, 2020 to perform a Risk Management Review (RMR) for the following:

- Unit -105-0: 500 BBL FIXED ROOF CRUDE OIL TANK EQUIPPED WITH PVRV
- Unit -106-0: 500 BBL FIXED ROOF CRUDE OIL TANK EQUIPPED WITH PVRV

3. RMR Report

3.1 Analysis

The District performed an analysis pursuant to the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015) to determine the possible cancer and non-cancer health impact to the nearest resident or worksite. This policy requires that an assessment be performed on a unit by unit basis, project basis, and on a facility-wide basis. If a preliminary prioritization analysis demonstrates that:

- A unit's prioritization score is less than the District's significance threshold and;
- The project's prioritization score is less than the District's significance threshold and;
- The facility's total prioritization score is less than the District's significance threshold

Then, generally no further analysis is required.

The District's significant prioritization score threshold is defined as being equal to or greater than 1.0. If a preliminary analysis demonstrates that either the unit(s) or the project's or the facility's total prioritization score is greater than the District threshold, a screening or a refined assessment is required

If a refined assessment is greater than one in a million but less than 20 in one million for carcinogenic impacts (Cancer Risk) and less than 1.0 for the Acute and Chronic hazard indices (Non-Carcinogenic) on a unit by unit basis, project basis and on a facility-wide basis the proposed application is considered less than significant. For units that exceed a cancer risk of 1 in one million, Toxic Best Available Control Technology (TBACT) must be implemented.

Toxic emissions for this project were calculated using the following methods:

- Toxic emissions from Oilfield Fugitives were calculated using emission factors derived from 1991 source tests of central valley sites.

These emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy, risks from the proposed unit's toxic emissions were prioritized using the procedure in the 2016 CAPCOA Facility Prioritization Guidelines. The prioritization score for this proposed facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required.

The AERMOD model was used, with the parameters outlined below and meteorological data for 2013-2017 from Bakersfield (rural dispersion coefficient selected) to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Source Process Rates					
Unit ID	Process ID	Process Material	Process Units	Hourly Process Rate	Annual Process Rate
105	1	VOC	LB	0.3	2801
106	1	VOC	LB	0.3	2801

Circular Area Source Parameters				
Unit ID	Unit Description	Release Height (m)	Radius (m)	Area (m ²)
105	500 BBL tank	2.44	3.2	32.2
106	500 BBL tank	2.44	3.2	32.2

4. AAQA Report

No AAQA was ran as the only pollutant emitted is VOCs which do not have an ambient air quality standard.

5. Conclusion

5.1 RMR

The cumulative acute and chronic indices for this facility, including this project, are below 1.0; and the cumulative cancer risk for this facility, including this project, is less than 20 in a million. In addition, the cancer risk for each unit in this project is less than 1.0 in a million. In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).

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

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.

6. Attachments

- A. Modeling request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Prioritization score w/ toxic emissions summary
- D. Facility Summary

ATTACHMENT X
Draft ATCs

*San Joaquin Valley
Air Pollution Control District*

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-8452-105-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP
MAILING ADDRESS: 900 OLD RIVER RD
BAKERSFIELD, CA 93311

LOCATION: HEAVY OIL CENTRAL

EQUIPMENT DESCRIPTION:
500 BBL FIXED ROOF CRUDE OIL TANK (BAKER STYLE) EQUIPPED WITH PVRV

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 surplus at time of use VOC emission reduction credits for the following quantity of emissions: 1st quarter - 696 lb, 2nd quarter - 696 lb, 3rd quarter - 697 lb, and 4th quarter - 697 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number S-1722-1 and S-4470-1 (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
5. The tank shall be equipped with a fixed roof with no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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Samir Sheikh, Executive Director / AP/CO

6. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings and properly maintained in good operating order in accordance with the manufacturer's instructions. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
7. Crude oil throughput shall not exceed 1,000 barrels per day (monthly daily average). [District Rule 2201] Federally Enforceable Through Title V Permit
8. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.05 psia under all storage conditions. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
9. Permittee shall conduct True Vapor Pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
10. As used in this permit, the term "source or type" shall mean liquids with similar characteristics. The operator shall maintain records of API gravity of petroleum liquids stored in this unit to determine which are from common source. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
11. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623, 6.4.4] Federally Enforceable Through Title V Permit
12. For other organic liquids, the true vapor pressure (TVP) shall be measured using Reid vapor pressure ASTM Method D323, and converting the RVP to TVP at the tank's maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance of the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulations for AB 2588", dated August 1989. As an alternative to using ASTM D 323, the TVP of crude oil with an API gravity range of greater than 26 degrees up to 30 degrees may be determined by using other equivalent test methods approved by APCO, ARB and EPA. [District Rule 4623, 6.4.3] Federally Enforceable Through Title V Permit
13. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, API gravity and throughput. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
14. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 2520 and 4623] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-8452-106-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP
MAILING ADDRESS: 900 OLD RIVER RD
BAKERSFIELD, CA 93311

LOCATION: HEAVY OIL CENTRAL

SECTION: 9 TOWNSHIP: 27S RANGE: 28E

EQUIPMENT DESCRIPTION:
500 BBL FIXED ROOF CRUDE OIL TANK (BAKER STYLE) EQUIPPED WITH PVRV

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 surplus at time of use VOC emission reduction credits for the following quantity of emissions: 1st quarter - 696 lb, 2nd quarter - 696 lb, 3rd quarter - 697 lb, and 4th quarter - 697 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number S-1722-1 and S-4470-1 (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
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