



FEB 10 2017

Mr. Zachary Dranshoff
California Resources Production Corp
11109 River Run Blvd
Bakersfield, Ca 93311

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-8454
Project # 1163559**

Dear Mr. Dranshoff:

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 modification of two tanks.

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

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

Thank you for your cooperation in this matter.

Sincerely,

Arnaud Marjollet
Director of Permit Services

Enclosures

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

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Authority to Construct Application Review

Facility Name: California Resources Production Corp

Date: Jan 26, 2017

Mailing Address: 11109 River Run Blvd
Bakersfield, CA 93311

Engineer: Richard Edgehill
Lead Engineer: Richard Karrs

Contact Person: Zachary Dranshoff

Telephone: (661) 529-4368

Application #(s): S-8454-16-2 and '-17-2

Project #: 1163559

Deemed Complete: December 5, 2016

I. Proposal

California Resources Production Corp (CRPC) is applying for Authorities to Construct (ATC) permit(s) for the removal of the tank vapor control system (VCS) serving tanks S-8454-16 and '-17. The tanks will operate as fixed-roof tanks with a maximum True Vapor Pressure (TVP) limit of 0.4 psia.

Note that for Federal Major Modification calculations, uncontrolled emissions corresponding to operation of the tanks without the VCS are considered new emissions for the Federal Major Modification calculation as pre-project fugitive emissions are zero for Federal Major Modification purposes. Therefore, the project is a Federal Major Modification.

BACT and public notice are required. Offsets are not required.

CRPC operates under a Title V PTO. The project is a Federal Major Modification and therefore it is classified as a Title V Significant Modification pursuant to Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. CRPC must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC(s) issued with this project.

Current PTOs S-8484-16-1 and '-17-1 are included in **Attachment I**.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (2/18/16)

- Rule 2520 Federally Mandated Operating Permits (6/21/01)
- Rule 2530 Federally Enforceable Potential to Emit
- Rule 2410 Prevention of Significant Deterioration (Adopted 6/16/11, effective 11/26/12)
- Rule 4001 New Source Performance Standards,

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

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

- Rule 4101 Visible Emissions (04/20/05)
- 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
- 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 facility is located at Section 32, T12N, R 23W in CRPC's light oil western stationary source. The facility is not located within 1,000 feet of the outer boundary of any K-12 school, Therefore, pursuant to CH&SC 42301.6, California Health and Safety Code (School Notice), public notification is not required.

A location map is included in **Attachment II**.

IV. Process Description

The tanks and vessels at the tank battery receive production prior to custody transfer. The 500 bbl ('-16) and 1000 bbl ('-17) tanks in this project operate as crude oil storage and wash tanks, respectively. VOC emissions from the tanks are currently controlled by a shared vapor control system in accordance with S-

8484-17-1 permit conditions. The vapor control system collects vapors from the tanks and routes the uncondensed vapors to a VOC control device that reduces inlet VOC emissions by at least 95% by weight.

Proposed Modifications

The vapor control system will be removed and the tanks will be authorized to store liquids with a TVP \leq 0.4 psia.

V. Equipment Listing

Pre-Project Equipment Description:

S-8454-16-1: 500 BBL FIXED ROOF CRUDE OIL STORAGE TANK SERVED BY VAPOR CONTROL SYSTEM LISTED ON PERMIT S-8454-17

S-8454-17-1: 1000 BBL FIXED ROOF CRUDE OIL WASH TANK SERVED BY A VAPOR CONTROL SYSTEM SHARED WITH PERMIT S-8454-16

Proposed Modification:

S-8454-16-2: MODIFICATION OF 500 BBL FIXED ROOF CRUDE OIL STORAGE TANK SERVED BY VAPOR CONTROL SYSTEM LISTED ON PERMIT S-8454-17: REMOVE CONNECTION TO S-8454-17 VCS

S-8454-17-2: MODIFICATION OF 1000 BBL FIXED ROOF CRUDE OIL WASH TANK SERVED BY A VAPOR CONTROL SYSTEM SHARED WITH PERMIT S-8454-16: REMOVE VCS SYSTEM

Post Project Equipment Description:

S-8454-16-2: 500 BBL FIXED ROOF CRUDE OIL STORAGE TANK

S-8454-17-2: 1000 BBL FIXED ROOF CRUDE OIL WASH TANK

VI. Emission Control Technology Evaluation

The tank(s) 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 tanks emit only volatile organic compounds (VOCs),
- The tank paint conditions are good, the color is light.
- TVP of oil = 0.41 psia (Applicant)
- Tank temperature, 120° F (unheated)
- Facilities S-382, S-1216, S-1738, S-8282, and S-8454 constitute the same stationary source (PAS Facility Details Comments)

Permit Unit	tvp (psia)	Fluid throughput (bbl/day)	Oil Throughput (bbl/day)	Flashing Losses?
'-16	0.4	20		no
'-17	0.4	45	20	yes

B. Emission Factors

Pre-Project

Emissions are calculated using the EPA's "Protocol for Equipment Leak Emission Estimate," Table 2-4, Oil and Gas Production Operations Average Emission Factors.

Post-Project

Both the daily and annual PE's for each permit unit will be based on the results from the District's Microsoft Excel spreadsheets for Tank Emissions - Fixed Roof Crude Oil greater than 26° API located in **Attachment III**.

C. Calculations

1. Pre-Project Potential to Emit, (PE₁)

Permit unit	VOC - Daily PE1 (lb/day)	VOC- Annual PE1 (lb/Year)
S-8484-16-1	12.5	4,563
S-8484-17-1	12.5	4,563
Total		9,126

2. Post Project Potential to Emit, (PE₂)

The following table summarizes the post-project potential to emit for units included in this project.

Permit Unit	VOC - Daily PE2 (lb/day)	VOC - Annual PE2 (lb/Year)
S-8484-16-2	1.8	642
S-8484-17-2	1.7	627
Total		1,269

$$\begin{aligned} \text{SSIPE (VOCs)} &= 1,269 - 9,126 \\ &= -7,857 \text{ lb VOCs/yr} \end{aligned}$$

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.

Applicant stipulates that the pre-project, 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.

As noted above, the applicant 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

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

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

Rule 2201 Major Source Determination (lb/year)						
	NO_x	SO_x	PM₁₀	PM_{2.5}	CO	VOC
SSPE1*	529,037	72,140	65,838	65,838	5,409,563	1,147,208
SSPE2	529,037	72,140	65,838	65,838	5,409,563	1,147,208 -7,857 1,139,351
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	No	Yes	Yes

Note: PM2.5 assumed to be equal to PM10

*1/1/17, District SSPE Calculator for facilities S-382, S-1216, S-1738, S-8282, and S-8454.

Rule 2410 Major Source Determination:

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

PSD Major Source Determination* (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Estimated Facility PE before Project Increase	265	574	36	2,705	33	33
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	Y	Y	N	Y	N	N

*1/1/17, District calculator for sources S-382, S-1216, S-1738, S-8282, and S-8454 (1/1/17)

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

6. Baseline Emissions (BE)

a. Annual BE

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

BE = Pre-project Potential to Emit for:

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

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.23

Since tanks S-8454-16 and '-17 have a vapor control system capable of reducing at least 95% emissions, they are considered Clean Emissions Units.

Therefore, the BE is equal to the pre-project potential to emit (PE1).

7. SB 288 Major Modification

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

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	0	50,000	No
SO _x	NA	80,000	No
PM ₁₀	NA	30,000	No
VOC	1,269	50,000	No

NA is not applicable

8. Federal Major Modification

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

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

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

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

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO _x	0	0	No
VOC	1,269	0	Yes
PM ₁₀	0	30,000	No
SO _x	0	80,000	No

Since there are new VOC emissions associated with removal of the vapor control system, this project constitutes a Federal Major Modification and no further analysis is required.

Federal Offset Quantities:

The Federal offset quantity is calculated only for the pollutants for which the project is a Federal Major Modification. 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) during the baseline period for each emission unit times the applicable federal offset ratio. There are no special calculations performed for units covered by an SLC.

Only pollutants for which the project is a Federal Major Modification have Federal offset quantities. The calculated Federal offset quantity, listed in the table below, is entered into the Major Modification tracking spreadsheet under the heading "Federal Offset Quantity"

VOCs		Federal Offset Ratio	
Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	1.5
			Emissions Change (lb/yr)
S-8454-16 and '-17	0	1,269	1,269
Net Emission Change (lb/year):			1,269
Federal Offset Quantity: (NEC * 1.5)			1,904

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)

- Hydrogen sulfide (H2S)
- Total reduced sulfur (including H2S)
- Reduced sulfur compounds

I. Project Location Relative to Class 1 Area

As demonstrated in the “PSD Major Source Determination” Section above, the facility was determined to be a existing PSD Major Source. Because the project is not located within 10 km (6.2 miles) of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Project Emission Increase – Significance Determination

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

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

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

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

10. Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - BE, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.
BE = Baseline Emissions (per Rule 2201) for each emissions unit, lb/qtr.

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

S-8454-16

$$\begin{aligned} PE2_{\text{quarterly}} &= PE2_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 642 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 160.5 \text{ lb VOC/qtr} \end{aligned}$$

$$\begin{aligned} BE_{\text{quarterly}} &= BE_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 4,563 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 1,140.75 \text{ lb VOC/qtr} \end{aligned}$$

$$\begin{aligned} QNEC &= 160.5 - 1,140.75 \\ &= -980.25 \text{ lb/qtr} \text{ (-980,-980,-980,-981)} \end{aligned}$$

S-8454-17

$$\begin{aligned} PE2_{\text{quarterly}} &= PE2_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 627 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 156.75 \text{ lb VOC/qtr} \end{aligned}$$

$$\begin{aligned} BE_{\text{quarterly}} &= BE_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 4,563 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 1,140.75 \text{ lb VOC/qtr} \end{aligned}$$

$$\begin{aligned} QNEC &= 156.75 - 1,140.75 \\ &= -984 \text{ lb/qtr} \end{aligned}$$

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

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

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

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

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

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

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

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

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

Where,

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

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

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

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

Where,

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

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

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

$$\text{AIPE} = \text{PE}_2 - (\text{PE}_1 * (\text{EF}_2 / \text{EF}_1))$$

EF1 = 0.05 (95% Control), EF2 = 0.9 (10% control w/PV vent)
EF2/EF1 = 1

S-8454-16:

$$\text{AIPE} = 1.8 - (12.5 * (1))$$

< 0.0 lb/day

S-8454-17:

$$\text{AIPE} = 1.7 - (12.5 * (1))$$

< 0.0 lb/day

As demonstrated above, the AIPE is not greater than 2.0 lb/day for VOCs. Therefore BACT is not triggered for modification purposes.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does constitute a Federal Major Modification for VOC emissions. Therefore BACT is triggered for VOC for all emissions units in the project for which there is an emission increase.

2. BACT Guideline

BACT Guideline 7.3.1 applies to tanks/vessels issued (see **Attachment V**).

3. Top-Down BACT Analysis

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

VOC: PV-vent set to within 10% of maximum allowable pressure.

Proposed Rule 2201 BACT Condition:

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, labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 2201]

Note that the BACT Technologically Feasible requirement of vapor control was not found to be cost effective.

B. Offsets

1. Offset Applicability

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

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

Offset Determination (lb/year)					
	NO _x	SO _x	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 facility is an existing Major Source for VOCs and the SSPE2 is greater than the offset thresholds. Therefore offset calculations will be required for this project.

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

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

otherwise,

BE = HAE

As calculated in Section VII.C.6 above, the BEs from these units are equal to the PE1 since the units are Clean Emissions Units.

Also, there are no increases in cargo carrier emissions. Therefore offsets can be determined as follows:

Offsets Required (lb/year) = ([PE2 – BE] + ICCE) x DOR

PE2 (VOCs)= 1,269 lb/year
BE (VOCs) = 9,126 lb/year
ICCE = 0 lb/year

Offsets Required (lb/year) = ([1,269 – 9,126] + 0) x DOR
= <0 lb VOC/year

As demonstrated in the calculation above, the amount of offsets is zero. Therefore, offsets will not be required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:

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

New Major Sources are new facilities, which are also Major Sources. As shown in Section VII.C.5 above, the SSPE2 is not greater than the Major

Source threshold for any pollutant. Therefore, public noticing is not required for this project for new Major Source purposes.

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

As demonstrated in Sections VII.C.7 and VII.C.8, this project is a Federal Major Modification. Therefore, public noticing for SB 288 or Federal Major Modification purposes is required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project. Therefore public noticing is not required for this project for PE > 100 lb/day.

c. Offset Threshold

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

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

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

d. SSIPE > 20,000 lb/year

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

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	>20,000	>20,000	0	20,000 lb/year	No
SO _x	>54,750	>54,750	0	20,000 lb/year	No
PM ₁₀	>29,200	>29,200	0	20,000 lb/year	No
CO	>200,000	>200,000	0	20,000 lb/year	No
VOC	>20,000	>20,000	<0	20,000 lb/year	No

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

e. Title V Significant Permit Modification

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

2. Public Notice Action

As discussed above, public noticing is required for this project for NO_x emissions in excess of 100 lb/day. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

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

The permit DELs will be included as follows.

S-8454-16

- *This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.4 psia under all storage conditions. [District Rule 4623]*

- *Total fluid throughput shall not exceed 40 bbl/day based on a monthly average. [District Rule 2201]*
- *VOC emission rate from the tank shall not exceed 1.8 lb/day. [District Rule 2201]*

S-8454-17

- *This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.4 psia under all storage conditions. [District Rule 4623]*
- *Crude oil throughput shall not exceed 20 barrels per day based on a monthly average. [District Rule 2201]*
- *VOC emission rate from the tank shall not exceed 1.7 lb/day. [District Rule 2201]*

E. Compliance Assurance

1. Source Testing

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

1. Monitoring

No monitoring is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201.

2. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. A condition addressing this requirement is included on the S-1128 facility-wide permit.

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 are no AAQA standards for VOCs and 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 Title I Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Section VIII above, this facility is a new major source and this project does constitute a Title I modification, therefore this requirement is applicable. CRPC's compliance certification is included in **Attachment VII.**

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to authorize an organic liquid transfer operation.

Since the project will provide a 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

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

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. Section 3.29 defines a significant permit modification as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

The project is Federal Major Modification and therefore is also a Title V Significant Modification. 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 VII.**

District 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 could potentially apply to the tanks located at this facility. However, Subparts K, Ka and Kb do not apply to storage vessels less than 10,000 barrels used for petroleum or condensate that is stored, processed and/or treated at a drilling and production facility prior to transfer. Subpart OOOO has no standards for tanks with annual VOC emissions less than 6 tons per year.

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

District Rule 4101 Visible Emissions

District Rule 4101, Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringlemann 1 or equivalent to 20% opacity.

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

Rule 4102 Nuisance

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (**Attachment VIII**), 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:

HRA Summary		
Unit	Cancer Risk	T-BACT Required
S-8454-16 and '-17	0.002 per million	No

Discussion of T-BACT

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

Rule 4623, Storage of Organic Liquids

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. Therefore, the following conditions shall be placed on the ATC:

{2480} 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

{Modified 2910} Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank upon initial start-up, 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 Rule 2201 and 4623] Y

The permittee shall conduct API gravity testing upon initial start-up. [District Rules 4623] Y

{Modified 2911} The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. [District Rule 4623] Y

{Modified 2483} 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 Rules 2201 and 4623] Y

{Modified 2482} The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API

Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rules 2201 and 4623] Y

{Modified 2912} Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rules 2201 and 4623] 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.

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

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

District is a Responsible Agency

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 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 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 revised Kern County Zoning Ordinance establishes a written process (Conformity Review permit process or Minor Activity permit) by which oil and gas exploration projects involving site-specific operations can be evaluated to determine whether the

environmental effects of the operation were covered in the *Kern County Zoning Ordinance* EIR.

For stationary source emissions that are below the offset threshold, i.e. not required to surrender ERCs, and for non-stationary source emissions, Kern County entered into an Oil and Gas Emission Reduction Agreement (Oil and Gas ERA) with the District pursuant to the EIR. Per the Oil and Gas ERA, the applicant shall fully mitigate project emissions that are not required to be offset by District permit rules and regulations. Such mitigation can be achieved through any of the three options: (1) the applicants pay an air quality mitigation fee with each Oil and Gas Conformity Review permit issued by the Kern County, (2) the applicants may develop and propose to implement their own emission reduction projects instead of paying all or part of the mitigation fee, or (3) the applicants will be allowed to enter into an agreement directly with the District (if approved by Kern County) to develop an alternative fee schedule.

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. 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 revision to the *Kern County Zoning Ordinance* went through an extensive public process that included a Notice of Preparation, a preparation of an EIR, scoping meetings, and public hearings. The process led to the certification of the final EIR and approval of the revised *Kern County Zoning Ordinance* in November 2015 by the Kern County Board of Supervisors. As mentioned above, the proposed project will be fully mitigated and will result in no net increase in emissions. In addition, the proposed project is not located at a facility of concern; 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. Recommendations

Compliance with all applicable rules and regulations is expected. Pending a successful EPA/NSR Public Noticing period, issue Authorities to Construct S-8454-16-2 and '-17-2 subject to the permit conditions on the attached draft Authority to Construct in **Attachment IX**.

X. Billing Information

Permit Number	Fee Schedule	Fee Description	Annual Fee
S-8454-16-2	3020-5-C	21,000 gallons	\$149
S-8454-17-2	3020-5-C	42,000gallons	\$149

Attachments

- I: Current PTOs
- II: Location Map
- III: Tank Emissions Calculations
- IV: Emissions Profiles
- V: BACT Guideline
- VI: BACT Analysis
- VII: Title V Compliance Certification Form and Statewide Compliance Statement
- VIII: HRA
- IX: Draft ATC

ATTACHMENT I
Current PTOs

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-8454-16-1

EXPIRATION DATE: 02/28/2018

SECTION: 32 TOWNSHIP: 12N RANGE: 23W

EQUIPMENT DESCRIPTION:

500 BBL FIXED ROOF CRUDE OIL STORAGE TANK SERVED BY VAPOR CONTROL SYSTEM LISTED ON PERMIT S-8454-17

PERMIT UNIT REQUIREMENTS

1. The tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in leak-free condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a gas pipeline distribution system, or an approved VOC destruction device that reduces the inlet VOC emissions by at least 95% by weight as determined by the test method specified in Section 6.4.7. [District Rule 4623] Federally Enforceable Through Title V Permit
2. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 4623] Federally Enforceable Through Title V Permit
3. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rule 4623] Federally Enforceable Through Title V Permit
4. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623] Federally Enforceable Through Title V Permit
5. VOC fugitive emissions from the components in gas service on tank shall not exceed 12.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Permittee shall maintain accurate component count and calculations for the tank according to EPA's "Protocol for Equipment Leak Emission Estimate," Table 2-4, Oil and Gas Production Operations Average Emission Factors. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rules 2201 and 4623, Table 3] Federally Enforceable Through Title V Permit
8. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rules 2201 and 4623, Table 3] Federally Enforceable Through Title V Permit

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

9. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rules 2201 and 4623, Table 3] Federally Enforceable Through Title V Permit
10. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rules 2201 and 4623, Table 3] Federally Enforceable Through Title V Permit
11. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rules 2201 and 4623, Table 3] Federally Enforceable Through Title V Permit
12. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rules 2201 and 4623, Table 3] Federally Enforceable Through Title V Permit
13. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rules 4623, Table 3] Federally Enforceable Through Title V Permit
14. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623] Federally Enforceable Through Title V Permit
15. This tank shall be degassed before commencing interior cleaning by following one of the following options: 1) exhausting VOCs contained in the tank vapor space to an APCO-approved vapor recovery system until the organic vapor concentration is 5,000 ppmv or less, or is 10 percent or less of the lower explosion limit (LEL), whichever is less, or 2) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable liquid until 90 percent or more of the maximum operating level of the tank is filled. Suitable liquids are organic liquids having a TVP of less than 0.5 psia, water, clean produced water, or produced water derived from crude oil having a TVP less than 0.5 psia, or 3) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable gas. Degassing shall continue until the operator has achieved a vapor displacement equivalent to at least 2.3 times the tank capacity. Suitable gases are air, nitrogen, carbon dioxide, or natural gas containing less than 10 percent VOC by weight. [District Rule 4623] Federally Enforceable Through Title V Permit
16. During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623] Federally Enforceable Through Title V Permit
17. To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rule 4623] Federally Enforceable Through Title V Permit
18. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

19. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623] Federally Enforceable Through Title V Permit
20. If the tank holds an organic liquid having a TVP of 1.5 psia or greater, then, during sludge removal, the operator shall control emissions from the sludge receiving vessel by operating an APCO-approved vapor control device that reduces emissions of organic vapors by at least 95%. [District Rule 4623] Federally Enforceable Through Title V Permit
21. If the tank holds an organic liquid having a TVP of 1.5 psia or greater, then operator shall only transport removed sludge in closed, liquid leak-free containers. [District Rule 4623] Federally Enforceable Through Title V Permit
22. If the tank holds an organic liquid having a TVP of 1.5 psia or greater, then operator shall store removed sludge, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
23. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2201 and 4623] Federally Enforceable Through Title V Permit
24. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
25. Formerly S-1738-441.

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

Facility Name: CALIFORNIA RESOURCES PRODUCTION CORP

Location: LIGHT OIL WESTERN

S-8454-16-1, Jan 18 2017 11:34AM - EDGEHILL

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-8454-17-1

EXPIRATION DATE: 02/28/2018

SECTION: SE32 TOWNSHIP: 12N RANGE: 23W

EQUIPMENT DESCRIPTION:

1000 BBL FIXED ROOF CRUDE OIL WASH TANK SERVED BY A VAPOR CONTROL SYSTEM SHARED WITH PERMIT S-8454-16

PERMIT UNIT REQUIREMENTS

1. The tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in leak-free condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a gas pipeline distribution system, or an approved VOC destruction device that reduces the inlet VOC emissions by at least 95% by weight as determined by the test method specified in Section 6.4.7. [District Rule 4623] Federally Enforceable Through Title V Permit
2. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 4623] Federally Enforceable Through Title V Permit
3. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rule 4623] Federally Enforceable Through Title V Permit
4. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623] Federally Enforceable Through Title V Permit
5. VOC fugitive emissions from the components in gas service on tank shall not exceed 12.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Permittee shall maintain accurate component count and emissions calculations for the tank and vapor recovery system according to EPA's "Protocol for Equipment Leak Emission Estimate," Table 2-4, Oil and Gas Production Operations Average Emission Factors. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Operator shall visually inspect the vapor recovery system, tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rules 2201 and 4623, Table 3] Federally Enforceable Through Title V Permit
8. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rules 2201 and 4623, Table 3] Federally Enforceable Through Title V Permit

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

9. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rules 2201 and 4623, Table 3] Federally Enforceable Through Title V Permit
10. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rules 2201 and 4623, Table 3] Federally Enforceable Through Title V Permit
11. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rules 2201 and 4623, Table 3] Federally Enforceable Through Title V Permit
12. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rules 2201 and 4623, Table 3] Federally Enforceable Through Title V Permit
13. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rules 4623, Table 3] Federally Enforceable Through Title V Permit
14. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623] Federally Enforceable Through Title V Permit
15. This tank shall be degassed before commencing interior cleaning by following one of the following options: 1) exhausting VOCs contained in the tank vapor space to an APCO-approved vapor recovery system until the organic vapor concentration is 5,000 ppmv or less, or is 10 percent or less of the lower explosion limit (LEL), whichever is less, or 2) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable liquid until 90 percent or more of the maximum operating level of the tank is filled. Suitable liquids are organic liquids having a TVP of less than 0.5 psia, water, clean produced water, or produced water derived from crude oil having a TVP less than 0.5 psia, or 3) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable gas. Degassing shall continue until the operator has achieved a vapor displacement equivalent to at least 2.3 times the tank capacity. Suitable gases are air, nitrogen, carbon dioxide, or natural gas containing less than 10 percent VOC by weight. [District Rule 4623] Federally Enforceable Through Title V Permit
16. During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623] Federally Enforceable Through Title V Permit
17. To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rule 4623] Federally Enforceable Through Title V Permit
18. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623] Federally Enforceable Through Title V Permit

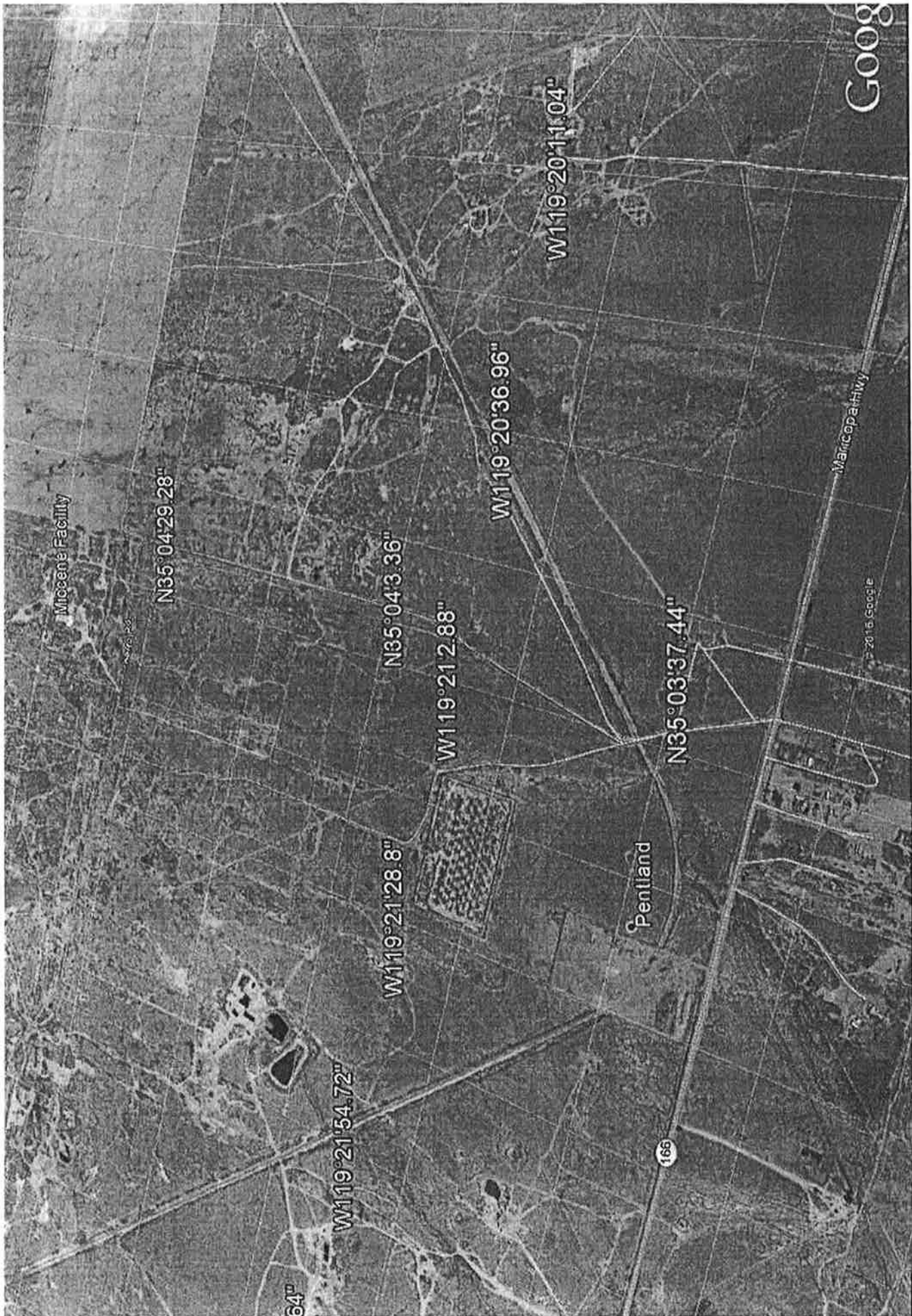
PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

19. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623] Federally Enforceable Through Title V Permit
20. If the tank holds an organic liquid having a TVP of 1.5 psia or greater, then, during sludge removal, the operator shall control emissions from the sludge receiving vessel by operating an APCO-approved vapor control device that reduces emissions of organic vapors by at least 95%. [District Rule 4623] Federally Enforceable Through Title V Permit
21. If the tank holds an organic liquid having a TVP of 1.5 psia or greater, then operator shall only transport removed sludge in closed, liquid leak-free containers. [District Rule 4623] Federally Enforceable Through Title V Permit
22. If the tank holds an organic liquid having a TVP of 1.5 psia or greater, then operator shall store removed sludge, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
23. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2201 and 4623] Federally Enforceable Through Title V Permit
24. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
25. Formerly S-1738-442.

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

ATTACHMENT II
Location Map



Moores Facility

N35°04'29.28"

N35°04'3.36"

W119°21'2.88"

W119°20'36.96"

W119°20'11.04"

N35°03'37.44"

W119°21'28.8"

W119°21'54.72"

Penland

Marcopattiwy

166

64'

Google

© 2016 Google



ATTACHMENT III
Tank Emissions Calculations

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-8454-16
facility tank I.D.	Stock Tanks
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.41
liquid bulk storage temperature, T_b (°F)	120
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)	15
capacity of tank (bbl)	500
conical or dome roof? {c, d}	c
shell height of tank (feet)	16
average liquid height (feet)	8
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)		20
maximum annual fluid throughput (bbl)		7,300
-----This row only used if flashing losses occur in this tank-----		0
-----This row only used if flashing losses occur in this tank-----		-
molecular weight, M_w (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, T_{ax} (°F)		77.65
daily minimum ambient temperature, T_{an} (°F)		53.15
daily total solar insulation factor, I (Btu/ft ² -day)		1648.9
atmospheric pressure, P_a (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (T_{lx}), P_{vx} (psia)	108.4	1.2243
water vapor pressure at daily minimum liquid surface temperature (T_{ln}), P_{vn} (psia)	97.6	0.8905
water vapor pressure at average liquid surface temperature (T_{la}), P_{va} (psia)	103.0	1.0486
roof outage, H_{ro} (feet)		0.1563
vapor space volume, V_v (cubic feet)		1441.33
paint factor, α		0.54
vapor density, W_v (lb/cubic foot)		0.0068
daily vapor temperature range, ΔT_v (degrees Rankine)		42.57
vapor space expansion factor, K_e		0.0960

Results	lb/year	lb/day
Standing Storage Loss	343	0.94
Working Loss	299	0.82
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	642	1.8

Summary Table	
Permit Number	S-8454-16
Facility Tank I.D.	Stock Tanks
Tank capacity (bbl)	500
Tank diameter (ft)	15
Tank shell height (ft)	16
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	20
Maximum Annual Fluid Throughput (bbl/year)	7,300
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N/A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	1.8
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	642

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-8454-17-1
facility tank I.D.	Wash Tank
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.41
liquid bulk storage temperature, Tb (°F)	120
is this a constant-level tank? {yes, no}	yes
will flashing losses occur in this tank (only if first-line tank)? {yes, no}	yes
breather vent pressure setting range (psi)	0.06
diameter of tank (feet)	21
capacity of tank (bbl)	1,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	16
average liquid height (feet)	10
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)		45
maximum annual fluid throughput (bbl)		16,425
maximum daily oil throughput (bbl)(used to calculate flashing loss)		20
maximum annual oil throughput (bbl)(used to calculate flashing loss)		7,300
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, T _{ax} (°F)		77.65
daily minimum ambient temperature, T _{an} (°F)		53.15
daily total solar insolation factor, I (Btu/ft ² -day)		1648.9
atmospheric pressure, P _a (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (T _{lx}), P _{vx} (psia)	108.4	1.2243
water vapor pressure at daily minimum liquid surface temperature (T _{ln}), P _{vn} (psia)	97.6	0.8905
water vapor pressure at average liquid surface temperature (T _{la}), P _{va} (psia)	103.0	1.0486
roof outage, H _{ro} (feet)		0.2188
vapor space volume, V _v (cubic feet)		2153.93
paint factor, alpha		0.54
vapor density, W _v (lb/cubic foot)		0.0068
daily vapor temperature range, delta T _v (degrees Rankine)		42.57
vapor space expansion factor, K _e		0.0960

Results	lb/year	lb/day
Standing Storage Loss	512	1.40
Working Loss	N/A	N/A
Flashing Loss	115	0.31
Total Uncontrolled Tank VOC Emissions	627	1.7

Summary Table	
Permit Number	S-8454-17-1
Facility Tank I.D.	Wash Tank
Tank capacity (bbl)	1,000
Tank diameter (ft)	21
Tank shell height (ft)	16
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	45
Maximum Annual Fluid Throughput (bbl/year)	16,425
Maximum Daily Oil Throughput (bbl/day)	20
Maximum Annual Oil Throughput (bbl/year)	7,300
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	1.7
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	627

ATTACHMENT IV Emissions Profiles

Permit #: S-8454-16-2	Last Updated
Facility: CALIFORNIA RESOURCES PRODUCTION	01/19/2017 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	642.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	1.8
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-980.0
Q2:	0.0	0.0	0.0	0.0	-980.0
Q3:	0.0	0.0	0.0	0.0	-980.0
Q4:	0.0	0.0	0.0	0.0	-981.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-8454-17-2	Last Updated
Facility: CALIFORNIA RESOURCES PRODUCTION	01/19/2017 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	627.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	1.7
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-984.0
Q2:	0.0	0.0	0.0	0.0	-984.0
Q3:	0.0	0.0	0.0	0.0	-984.0
Q4:	0.0	0.0	0.0	0.0	-984.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

ATTACHMENT V
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 VI BACT Analysis

Top Down BACT Analysis

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

None of the above listed technologies are technologically infeasible.

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

The tanks are currently equipped with vapor control and therefore the cost effectiveness analysis does not include the capital cost for replacement of the system as it already exists. Instead, due to the old age of the VCS and strong likelihood of equipment failure, the cost effectiveness analysis addresses only the cost of maintenance of the current VCS which the applicant has estimated to be \$15,720/yr. The detailed cost basis for this estimate is provided below.

Quarterly Monitoring:

- (1) Senior Technician @ \$75/hr * 2 hr min = \$150.
 - (2) Technician @ \$60/hr * 2 hr min = \$120.
 - (3) Vehicle @ \$20/hr * 2 hr min = \$40.
 - (4) Service Vehicle @ \$30/hr * 2 hr min = \$60.
 - (5) Equipment @ \$20/day * 2 crew = \$40.
- Total Quarterly Monitoring = \$410.00
Annual Monitoring = \$410.00 x 4 = \$1,640

Quarterly Maintenance:

- (1) Electric motor repairs = \$1,375 (for various service call outs)
 - (2) Preventative maintenance, Scheduled = \$265
 - (3) Compressor repairs = \$1,675 (for various service call outs)
 - (4) Trouble shooting = \$205 (various vibration concern call outs)
- Quarterly Maintenance = \$3,520
Annual Maintenance = \$3,520 x 4 = \$14,080

Reducing post-project emissions (1269 lb/yr, 0.63 ton/yr) by 99% with vapor control results in a cost effectiveness of

$$\begin{aligned} \text{Cost effectiveness} &= \$15,720/[0.63 \text{ ton} \times 0.99] \\ &= \$25,204/\text{ton} > \$17,500/\text{ton}. \end{aligned}$$

This value 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.

ATTACHMENT VII
Title V Compliance Certification and
Statewide Compliance Statement

CERTIFICATION

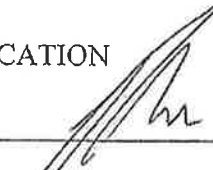
California Resources Production Corporation (CRPC) hereby certifies as follows:

1. CRPC owns or operates certain major stationary sources in the State of California. Such sources are comprised of a vast number of emission points. As used in this certification, the term "major stationary source" shall, with respect to CRPC stationary sources in the SJVUAPCD, have the meaning ascribed thereto in SJVUAPCD Rule 2201, Section 3.23, and shall, with respect to all of CRPC's other stationary sources in the State of California, have the meaning ascribed thereto in section 302(J) of the Clean Air Act (42 U.S.C. Section 7602 (J)).
2. Subject to paragraphs 3 and 4 below, all major stationary sources owned or operated by CRPC in the State of California are either in compliance, or on an approved schedule of compliance, with all applicable emission limitations and standards under the Clean Air Act and all of the State Implementation Plan approved by the Environmental Protection Agency.
3. This certification is made on information and belief and is based upon a review of CRPC's major stationary sources in the State of California by those employees of CRPC who have operational responsibility for compliance. In conducting such reviews, CRPC and its employees have acted in good faith and have exercised best efforts to identify any exceedance of the emission limitations and standards referred to in paragraph 2 thereof.
4. This certification shall speak as of the time and date of its execution.

CERTIFICATION

By: _____

Title: _____


VP Health, Safety & Environment

Date: _____

3 Jan 2016

Time: _____

12:00 PM



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



TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

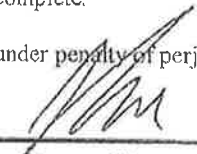
- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE AMENDMENT
 MINOR PERMIT MODIFICATION

COMPANY NAME: California Resources Production Corporation		FACILITY ID: S-8454
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility		
2. Owner's Name:		
3. Agent to the Owner:		

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

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

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



 Signature of Responsible Official

3 Jan 2016

 Date

Jim Robinson

 Name of Responsible Official (please print)

VP Health, Safety & Environment

 Title of Responsible Official (please print)

RE: Removal of TVR at Miocene Lease

ATTACHMENT VIII
HRA

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Richard Edgehill – Permit Services
 From: Yu Vu – Technical Services
 Date: January 13, 2017
 Facility Name: California Resources Production Corp.
 Location: Section 32, T21N, R23W
 Application #(s): S-8454-16-2 and -17-2
 Project #: S-1163559

A. RMR SUMMARY

RMR Summary				
Categories	Oilfield Tank (Unit 16-2)	Oilfield Tank (Unit 17-2)	Project Totals	Facility Totals*
Prioritization Score	0.00	0.00	0.01	>1
Acute Hazard Index	6.97E-03	3.35E-03	1.03E-02	8.66E-01
Chronic Hazard Index	5.11E-05	2.48E-05	7.59E-05	3.66E-02
Maximum Individual Cancer Risk	1.18E-08	5.71E-09	1.75E-08	1.99E-05
T-BACT Required?	No	No		
Special Permit Requirements?	No	No		

*Please see the Oxy Risk-Light Oil Western Stationary Source 11-16-16.xlsx spreadsheet in the S-382 project folder for more details.

Proposed Permit Requirements

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

Unit # 16-2 and 17-2

No special requirements are required.

B. RMR REPORT

I. Project Description

Technical Services received a request on January 3, 2017, to perform a Risk Management Review for a proposed modification to a crude oil storage tank (16-2) and a crude oil wash tank (17-2). The applicant is proposing to remove the vapor control systems serving the two tanks. The tanks will now operate as fixed-roof tanks with a maximum true vapor pressure limit of 0.5 psia. Although the project triggers public noticing, an ambient air quality was not performed because the only pollutant associated with this project is VOC and at the time of this analysis, there is no VOC standard by which the project can be evaluated against.

II. Analysis

Toxic emissions for this proposed unit were calculated using District approved emission factors for oilfield fugitives, and input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 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 2004-2008 from Fellows 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:

Analysis Parameters Unit 16-2			
Source Type	Circular Area	Location Type	Rural
Radius of Circular Area Source (m)	2.286	Closest Receptor (m)	~2,100
		Type of Receptor	Residential
Release Height (m)	4.877	Pollutant Type	VOC
Emission Rate (lb VOC/hr)	0.52	Emission Rate (lb VOC/yr)	4,524

Analysis Parameters Unit 17-2			
Source Type	Circular Area	Location Type	Rural
Radius of Circular Area Source (m)	3.2	Closest Receptor (m)	~2,100
		Type of Receptor	Residential
Release Height (m)	4.877	Pollutant Type	VOC
Emission Rate (lb VOC/hr)	0.25	Emission Rate (lb VOC/yr)	2,197

III. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk factor associated with the 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).**

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

IV. Attachments

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

ATTACHMENT IX
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-8454-16-2

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN

SECTION: 32 **TOWNSHIP:** 12N **RANGE:** 23W

EQUIPMENT DESCRIPTION:

MODIFICATION OF 500 BBL FIXED ROOF CRUDE OIL STORAGE TANK SERVED BY VAPOR CONTROL SYSTEM LISTED ON PERMIT S-8454-17: REMOVE CONNECTION TO S-8454-17 VCS

CONDITIONS

1. 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. 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. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.4 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
4. Total fluid throughput shall not exceed 40 bbl/day based on a monthly average. [District Rule 2201] Federally Enforceable Through Title V Permit
5. VOC emission rate from the tank shall not exceed 1.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank, or representative tank as provided in District Rule 4623, 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 Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

Arnaud Marjolle, Director of Permit Services

S-8454-16-2 Jan 26 2017 1:43PM - EDGEHILR : Joint Inspection NOT Required

7. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
8. 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] Federally Enforceable Through Title V Permit
9. Instead of testing each uncontrolled fixed roof tank, the permittee may conduct a TVP test of the organic liquid stored in a representative tank. [District Rule 4623] Federally Enforceable Through Title V Permit
10. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
11. 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, labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623] Federally Enforceable Through Title V Permit
12. The permittee shall keep accurate records of tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test result each organic liquid stored in the tank, including its storage temperature, [District Rule 4623] Federally Enforceable Through Title V Permit

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-8454-17-2

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN

SECTION: SE32 TOWNSHIP: 12N RANGE: 23W

EQUIPMENT DESCRIPTION:

MODIFICATION OF 1000 BBL FIXED ROOF CRUDE OIL WASH TANK SERVED BY A VAPOR CONTROL SYSTEM
SHARED WITH PERMIT S-8454-16: REMOVE VCS SYSTEM

CONDITIONS

1. 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. 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. Tank shall operate at constant level. [District Rule 2201] Federally Enforceable Through Title V Permit
4. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.4 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
5. Crude oil throughput shall not exceed 20 barrels per day based on a monthly average. [District Rule 2201] Federally Enforceable Through Title V Permit
6. VOC emission rate from the tank shall not exceed 1.7 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

Arnaud Marjolle, Director of Permit Services

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7. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank, or representative tank as provided in District Rule 4623, 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 Rule 4623] Federally Enforceable Through Title V Permit
8. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
9. 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] Federally Enforceable Through Title V Permit
10. Instead of testing each uncontrolled fixed roof tank, the permittee may conduct a TVP test of the organic liquid stored in a representative tank. [District Rule 4623] Federally Enforceable Through Title V Permit
11. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
12. 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, labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623] Federally Enforceable Through Title V Permit
13. The permittee shall keep accurate records of tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test result each organic liquid stored in the tank, including its storage temperature, [District Rule 4623] Federally Enforceable Through Title V Permit

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