San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

MAY 2 1 2015

Mr. Jerry Frost
California Resources Production Corp
9600 Ming Ave, Suite 300
Bakersfield, CA 93311

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-1326
Project # S-1150086

Dear Mr. Frost:

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 involves the installation of a new 500 bbl crude oil transportable Baker tank.

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. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,

Arnaud Marjollet
Director of Permit Services

Enclosures

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

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San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Transportable Crude Oil Baker Tank

Facility Name:	California Resources Production Corp	Date:	May 4, 2015
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	Bakersfield, CA 93311	Lead Engineer:	Joven Refuerzo
Contact Person:	Jerry Frost		
Telephone:	(661) 869-8000		
E-Mail:	Jerry.frost@crc.com		
Application #s:	S-1326-458-0		
Project #:	S-1150086		
Deemed Complete:	January 29, 2015		

I. Proposal

California Resources Production Corp has requested an Authority to Construct (ATC) permit for the installation of a new 500 bbl crude oil transportable Baker tank equipped with a PV valve.

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

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emission Standards For Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4623	Storage of Organic Liquids (5/19/05)
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 equipment is located at various locations within the Kern Front Field in the facility's Heavy Oil Central Stationary Source in Kern County.

The District has verified that the equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The primary business of California Resources Production Corp is oil and gas production. California Resources Production Corp operates a steam enhanced crude oil production facility in the Heavy Oil Central stationary source.

The tank receives production prior to custody transfer. The 500 bbl tank in this project operates as a stock tank.

V. Equipment Listing

Permit #	Equipment Description
S-1326-458-0	500 BBL FIXED ROOF ORGANIC LIQUID TRANSPORTABLE BAKER TANK WITH PV VALVE

VI. Emission Control Technology Evaluation

The tank 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 medium (per applicant)
- VOCs molecular weight, 100 lb/lbmol (District assumption)
- Tank temperature, 90° F (unheated)
- TVP of oil = 0.5 psia (per applicant)
- Tank throughput = 100 bbl/day (per applicant)

B. Emission Factors

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 less than

26° API located in Appendix A. The spreadsheet for tanks was developed using the equations for fixed-roof tanks from EPA AP-42, Chapter 7.1.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since this is a new emissions unit, the PE1 = 0

2. Post-Project Potential to Emit (PE2)

As shown in Appendix A,

Post-Project Potential to Emit		
Permit Unit	**Daily PE2 (lb-VOC/day)**	**Annual PE2 (lb-VOC/year)**
S-1326-458-0	5.9	2,161

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

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

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

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

Pursuant to District Rule 2201, the Post Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

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

5. Major Source Determination

Rule 2201 Major Source Determination

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

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

Rule 2201 Major Source Determination	
	VOC (lb/year)
Pre-Project SSPE (SSPE1)	> 20,000
Post Project SSPE (SSPE2)	> 20,000
Major Source Threshold	20,000
Major Source?	Yes

This source is an existing Major Source for VOC and will remain a Major Source for VOC.

Rule 2410 Major Source Determination

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

PSD Major Source Determination (tons/year)						
	NO_2	VOC	SO_2	CO	PM	PM_{10}
Estimated Facility PE before Project Increase	74.4	91.1	27.6	176.3	26.8	26.8
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	N	N	N	N	N	N

6. Baseline Emissions (BE)

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

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

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

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

otherwise,

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

S-1326-458-0

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

7. SB 288 Major Modification

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

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?
VOC	2,161	50,000	No

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

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.

Step 1

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

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/year)	Thresholds (lb/year)	Federal Major Modification?
VOC	2,161	0	Yes

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

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

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

- NO_2 (as a primary pollutant)
- SO_2 (as a primary pollutant)
- CO
- PM
- PM_{10}

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

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

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

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

I. Project Emissions Increase - New Major Source Determination

The post-project potentials to emit from all new and modified units are compared to the PSD major source thresholds to determine if the project constitutes a new major source subject to PSD requirements.

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

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO_2	VOC	SO_2	CO	PM	PM_{10}
Total PE from New and Modified Units	0	1.1	0	0	0	0
PSD Significant Emission Increase Thresholds	250	250	250	250	250	250
PSD Significant Emission Increase?	N	N	N	N	N	N

As shown in the table above, the potential to emit for the project, by itself, does not exceed any PSD major source threshold. Therefore Rule 2410 is not applicable and no further analysis 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 - PE1, where:

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

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

$PE2_{quarterly} = PE2_{annual} \div 4$ quarters/year
$PE1_{quarterly} = PE1_{annual} \div 4$ quarters/year

Quarterly NEC [QNEC]			
Permit Unit	PE2 (lb-VOC/qtr)	PE1 (lb-VOC/qtr)	QNEC (lb-VOC/qtr)
S-1326-458-0	540	0	540

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 for the following*:

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 a Major Modification.

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

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

As seen in Section VII.C.2 above, the applicant is proposing to install a new stock tank with a PE greater than 2 lb/day for VOC. BACT is triggered since the PE is greater than 2 lbs/day.

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

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

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

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

d. SB 288/Federal Major Modification

As discussed in Section VII.C.7 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 crude oil stock tanks less than 5,000 bbl tank capacity. [Petroleum and Petrochemical Production - Fixed Roof Organic Liquid Storage or Processing Tank, < 5,000 bbl Tank capacity] (See Appendix B)

3. Top-Down BACT Analysis

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

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

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

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 following table compares the post-project facility-wide annual emissions in order to determine if offsets will be required for this project.

Offset Determination (lb/year)	
	VOC
Post Project SSPE (SSPE2)	> 20,000
Offset Threshold	20,000
Offsets triggered?	Yes

2. Quantity of Offsets Required

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

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

Offsets Required (lb/year) =(Σ[PE2 – BE] + ICCE) x DOR, for all new or modified emissions units in the project,

Where,
PE2 = Post Project Potential to Emit, (lb/year)
BE = Baseline Emissions, (lb/year)
ICCE = Increase in Cargo Carrier Emissions, (lb/year)
DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = Pre-project Potential to Emit for:

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

otherwise,

BE = Historic Actual Emissions (HAE)

There are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

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

Offset Requirement			
Permit Unit	PE2 (lb-VOC/year)	BE (lb-VOC/year)	PE2 – BE (lb-VOC/year)
S-1624-264-0	2,161	0	2,161

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

Quarterly Offset Requirement				
Pollutant	1st Qtr (lb/qtr)	2nd Qtr (lb/qtr)	3rd Qtr (lb/qtr)	4th Qtr (lb/qtr)
VOC	540	540	540	541

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

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

Offsets Required (lb/year) = [(2,161 – 0) x 1.5]
= 2,161 x 1.5
= 3,242 lb VOC/year

Offset Requirement x DOR = 1.5			
Permit Unit	PE2 (lb-VOC/year)	BE (lb-VOC/year)	PE2 – BE (lb-VOC/year)
S-1624-264-0	3,242	0	3,242

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

Quarterly Offset Requirement x DOR = 1.5				
Pollutant	1st Qtr (lb/qtr)	2nd Qtr (lb/qtr)	3rd Qtr (lb/qtr)	4th Qtr (lb/qtr)
VOC	810	810	811	811

The applicant has stated that the facility plans to use ERC certificates S-4348-1 to offset the increases in emissions associated with this project. The above certificate has available quarterly credits as follows:

Proposed VOC ERC Certificates				
ERC Certificate #	1st Qtr (lb/qtr)	2nd Qtr (lb/qtr)	3rd Qtr (lb/qtr)	4th Qtr (lb/qtr)
S-4348-1	0	2,138 – 908* = 1,230	3,271 – 901* = 2,370	7 – 7* = 0

* These values have been reserved for project S-1143925.

As shown above, there are not sufficient ERCs to cover the VOC offsets in the 1st and 4th Quarter. Per Rule 2201 Section 4.13.8, VOC ERCs from April through November (i.e. 2nd and 3rd Quarter) may be used to offset increases in any period of the year. Therefore, as seen above, the facility has sufficient credits to fully offset the quarterly VOC emissions increases associated with this project.

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

Proposed Rule 2201 (offset) Conditions

- Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 540 lb, 2nd quarter - 540 lb, 3rd quarter - 540 lb, and fourth quarter - 541 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 04/21/11). [District Rule 2201]
- ERC Certificate Number S-4348-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

C. Public Notification

1. Applicability

Public noticing is required for:
a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
c. Any project which results in the offset thresholds being surpassed, and/or
d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.
e. Any project which results in a Title V significant permit modification

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

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

As demonstrated in VII.C.7 and VII.C.8, this project does constitute a Federal Major Modification for VOC; therefore, public noticing for Federal Major Modification purposes is required.

b. PE > 100 lb/day

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

c. Offset Threshold

The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

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

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

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	Σ Project PE2 (lb/year)	Σ Project PE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
VOC	2,161	0	2,161	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 Federal Major Modification for VOC emissions. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB), US Environmental Protection Agency (USEPA), and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC permit 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 permit and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

Proposed Rule 2201 (DEL) Conditions

- VOC emission rate from the tank shall not exceed 5.9 lb/day. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

The permittee will be required to perform periodic TVP testing for all tanks in this project using the latest EPA and CARB approved version of the Lawrence Berkeley National Laboratory "Test Method for Vapor Pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph" to validate non-applicability of Rule 4623. The testing shall be conducted once every 24 month period or every time when the source of liquid stored is changed.

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

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

- Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 2201]
- All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 2201]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

Section 4.14.1 of this Rule requires that an ambient air quality analysis (AAQA) 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. However, since this project involves only VOC and no ambient air quality standard exists for VOC, an AAQA is not required for this project.

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. The facility's compliance certification is included in Appendix C.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install a new 500 bbl crude oil transportable Baker tank.

Since the project will provide the produced crude oil 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

The prevention of significant deterioration (PSD) program is a construction permitting program for new major stationary sources and major modifications to existing major stationary sources located in areas classified as attainment or in areas that are unclassifiable for any criteria air pollutant.

As demonstrated above, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and 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."

Section 3.20.5 states that a minor permit modification is a permit modification that does not meet the definition of modification as given in Section 111 or Section 112 of the Federal Clean Air Act. Since this project is a Title I modification (i.e. Federal Major Modification), the proposed project is considered to be a modification under the Federal Clean Air Act. As a result, the proposed project constitutes a Significant Modification to the Title V Permit pursuant to Section 3.29.

As discussed above, the facility has applied for a Certificate of Conformity (COC) (see Appendix D); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility shall not implement the changes requested until the final permit is issued.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates the New Source Performance Standards from Part 60, Chapter 1, Title 40, Code of Federal Regulation (CFR).

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

Pursuant to 60.110b (b), Subpart Kb does not apply to a vessel with a design capacity less than or equal to 1,589.874 cubic meters (10,000 barrels) used for petroleum storage at a production facility prior to custody transfer. Since the vessel in this project has a capacity less than or equal to 1,589.874 cubic meters and are used at a production facility prior to custody transfer, Subpart Kb does not apply.

40 CFR Part 60 Subpart OOOO – Standards of Performance for Crude Oil and Natural Gas Production, Transmissions and Distribution

Subpart OOOO applies to single storage vessel, located in the oil and natural gas production segment, natural gas processing segment or natural gas transmission and storage segment constructed, reconstructed, or modified after 8/23/11. The tank in this project is subject to this subpart. However, Subpart OOOO has no standards for tanks with annual VOC emissions less than 6 tons per year[1]. The tank in this project will be equipped with vapor control that limits emissions to less than 6 tons/year. Therefore, the subject tank is not an affected facility and subpart OOOO does not apply.

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

[1] In determining the potential to emit the source can take into account emission limits from a legally and practically enforceable state rule, operating permit, or other mechanism (clarification discussed in EPA's letter to the American Petroleum Institute, September 28, 2012)

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

This rule incorporates NESHAPs from Part 61, Chapter 1, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter 1, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63. However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to petroleum storage.

Rule 4101 Visible Emissions

District Rule 4101 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.

A permit condition will be listed on the permit as follows:

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

Therefore, compliance with the requirements of this rule is expected.

Rule 4102 Nuisance

Rule 4102 prohibits discharge of air contaminants that could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of this operation, provided the equipment is well maintained. Therefore, compliance with this rule is expected. The following condition will be listed on the permit:

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (Appendix E), 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		
Project	Cancer Risk	T-BACT Required
S-1133156	0.411 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.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 10 in a million). As outlined by the HRA Summary in Appendix E of this report, the emissions increases for this project was determined to be less than significant.

Rule 4623 Storage of Organic Liquids

The purpose of this rule is to limit volatile organic compound (VOC) emissions from the storage of organic liquids. This rule applies to any tank with a design capacity of 1,100 gallons or greater used to store organic liquid.

Section 4.4 allows tanks exclusively receiving and/or storing an organic liquid with a TVP less than 0.5 psia to comply only with the following requirements of this rule:

- TVP and API Gravity Testing provisions pursuant to Section 6.2,
- Recordkeeping provisions pursuant to Section 6.3.6,
- Test Methods provisions pursuant to Section 6.4, and
- Compliance schedules pursuant to Section 7.2.

The following conditions will be listed on the permit to maintain this exemption:

- 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 Rule 4623]
- Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 2080]

Section 6.3.6 requires an operator to submit the records of TVP and API gravity testing conducted in accordance with the requirements of Section 6.2 to the APCO within 45 days after the date of testing. The record shall include the tank identification number, PTO number,

type of stored organic liquid, TVP and API gravity of the stored organic liquid, test methods used, and a copy of the test results. An operator who uses the information in Appendix A to demonstrate the TVP and/or API gravity of the stored organic liquid shall submit information to the APCO within 45 days after the date that the type of organic liquid stored in the tank has been determined.

The following condition will be listed on the permit to ensure compliance:

- 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 Rule 2080]

Section 6.4 lists the following test methods to be used unless otherwise approved by the APCO and the United States Environmental Protection Agency (US EPA).

6.4.1 Analysis of halogenated exempt compounds shall be conducted using California Air Resources Board (ARB) Method 432.

6.4.2 The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287-92 (2000) 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 4057-95 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products".

6.4.3 Except for crude oil subject to Section 6.4.4, the TVP of any organic liquid shall be determined by measuring the Reid Vapor Pressure (RVP) using ASTM D 323-94 (Test Method for Vapor Pressure for Petroleum Products), and converting the RVP to TVP at the tank's maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance with the procedures in Appendix B. Appendix B is an excerpt from the oil and gas section of "ARB Technical Guidance Document to the Criteria and Guidelines Regulation for AB 2588", dated August 1989. As an alternative to using ASTM D 323-94, the TVP of crude oil with an API gravity range of greater than 26° up to 30° may be determined by using other equivalent test methods approved by APCO, ARB and US EPA.

6.4.4 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 US EPA, shall be used to determine the TVP of crude oil with an API gravity of 26° or less, or for any API gravity that is specified in this test method.

6.4.5 An operator may use the information in Appendix A to determine the TVP of the stored organic liquid in a tank provided the storage temperature listed in Appendix A is not exceeded at any time.

6.4.6 The control efficiency of any VOC destruction device, measured and calculated as carbon, shall be determined by US EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case US EPA Method 25a

may be used. US EPA Method 18 may be used in lieu of US EPA Method 25 or US EPA Method 25A provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of the known analytes/compounds to ensure that the VOC concentrations are neither under- or over-reported.

6.4.7 Analysis of halogenated exempt compounds shall be analyzed by ARB Method 422 "Exempt Halogenated VOCs in Gases September 12, 1990".

6.4.8 Measurements of a gas-leak concentration shall be determined by US EPA Method 21.

The following conditions will be listed on the permit to ensure compliance:

- 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 2080]
- 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 2080]

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (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 San Joaquin Valley Unified Air Pollution Control District (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.
- 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

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

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

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

Under District policy APR 2025, *CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation*, the District finds that the Cap-and-Trade is a regulation plan approved by ARB, consistent with AB32 emission reduction targets, and supported by a CEQA compliant environmental review document. As such, consistent with District Policy 2005, projects complying project complying with Cap-and-Trade requirements are determined to have a less than significant individual and cumulative impact for GHG emissions.

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

1. Group 1: Large industrial facilities

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

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

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

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

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

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

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue Authority to Construct permit S-1326-458-0 subject to the permit conditions on the attached draft Authority to Construct permit in Appendix F.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1326-458-0	3020-05-C	21,000 gallons	$135

Appendices

A: Tank Emission Calculations
B: BACT Guideline 7.3.1 and Top Down BACT Analysis
C: Compliance Certification
D: Certificate of Conformity
E: Health Risk Assessment Analysis
F: Draft Authority to Construct Permit

APPENDIX A

Tank Emission Calculations

The project results in a VOC emission increase of 2,161 lbs/yr as shown below.

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1326-X-0
facility tank I.D.	–
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	90
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)	18
capacity of tank (bbl)	500
conical or dome roof? **{c, d}**	c
shell height of tank (feet)	11
average liquid height (feet)	7
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)	4
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)		100
maximum annual fluid throughput (bbl)		36,500
-----This row only used if flashing losses occur in this tank-----		100
-----This row only used if flashing losses occur in this tank-----		36,500
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (ps	93.4	0.7850
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (ps	82.6	0.5580
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	88.0	0.6612
roof outage, Hro (feet)		0.1875
vapor space volume, Vv (cubic feet)		1065.59
paint factor, alpha		0.68
vapor density, Wv (lb/cubic foot)		0.0085
daily vapor temperature range, delta Tv (degrees Rankine)		49.04
vapor space expansion factor, Ke		0.1016

Results	lb/year	lb/day
Standing Storage Loss	336	0.92
Working Loss	1,825	5.00
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**2,161**	**5.9**

Summary Table	
Permit Number	S-1326-X-0
Facility Tank I.D.	--
Tank capacity (bbl)	500
Tank diameter (ft)	18
Tank shell height (ft)	11
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	100
Maximum Annual Fluid Throughput (bbl/year)	36,500
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	5.9
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	2,161

APPENDIX B

BACT Guideline 7.3.1 and Top Down BACT Analysis

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 s 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**

Top-Down BACT Analysis for Permit Unit S-1326-458-0

BACT is triggered for VOC.

Top-Down BACT Analysis for VOC Emissions

Step 1 - Identify All Control Technologies

The SJVUAPCD BACT Clearinghouse Guideline 7.3.1, Petroleum and Petrochemical Production – Fixed Roof Organic Liquid Storage or Processing Tank, < 5,000 bbl Tank capacity, (2nd quarter 2015), identifies BACT for VOC as:

1) 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. (Technologically Feasible)
2) PV-vent set to within 10% of maximum allowable pressure (Achieved in Practice)

Step 2 - Eliminate Technologically Infeasible Options

All options listed above are technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Rank	Control Technology	Achieved in Practice
1	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.	N
2	PV-vent set to within 10% of maximum allowable pressure	Y

Step 4 - Cost Effectiveness Analysis

<u>Option 1: 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. (Technologically Feasible)</u>

The following cost information for a vapor control system to address the technologically feasible control option was provided by vendors to the applicant. The cost information was dated December 2012.

Capital Cost

Tank Vapor Recovery Unit rated at 0.1 MMscf/day = $276,050
Flare rated at 0.2 MMscf/day = $42,250
Total = $276,050 + $42,250 = $318,300

Annualized Capital Cost

Pursuant to District Policy APR 1305, section X (11/09/99), the capital cost for the purchase of the system will be spread over the expected life of the system using the capital recovery equation. The expected life of the entire system will be estimated at 10 years. A 10% interest rate is assumed in the equation and the assumption will be made that the equipment has no salvage value at the end of the ten-year cycle.

$A = [P \times i(I+1)^n]/[(I+1)^n-1]$

Where: A = Annual Cost
P = Present Value
I = Interest Rate (10%)
N = Equipment Life (10 years)

$A = \$318,300 \times [0.1(1.1)^{10}]/[(1.1)^{10}-1]$
= **$51,802/year**

Maintenance and Operation Annual Costs

Maintenance = $12,000 ($1000/mo per contract)
Electricity = $7,200 (Vapor Recovery Unit)
Total = $12,000 + $7,200 = $19,200

Total Annual Costs

Total Annual Costs = Annualized Capital Cost + Maintenance and Operation Annual Costs
Total Annual Costs = $(51,802 + 19,200)/year
Total Annual Costs = $71,002/year

Emission Reductions

Annual Emission Reduction = Uncontrolled Emissions x 0.99
= 2,161 lb-VOC/year x 0.99
= 2,139 lb-VOC/year
= 1.07 tons-VOC/year

Cost Effectiveness

Cost Effectiveness = Total Annual Costs ÷ Annual Emission Reduction

Cost Effectiveness = $71,002/year ÷ 1.07 tons-VOC/year
= $66,376/ton-VOC

The analysis demonstrates that the annualized capital cost of the required vapor recovery unit and maintenance and operation costs results in a cost effectiveness which exceeds the District's Guideline of $17,500/ton-VOC. Therefore, this option is not cost effective and is being removed from consideration.

Option 2: PV-vent set to within 10% of maximum allowable pressure (Achieved in Practice)

The applicant has proposed this option; therefore a cost analysis is not required.

Step 5 - Select BACT

Pursuant to the above Top-Down BACT Analysis, BACT for the crude oil storage tank must be satisfied with the following:

VOC: PV-vent set to within 10% of maximum allowable pressure (Achieved in Practice)

The applicant has proposed a tank equipped with a PV-vent set to within 10% of maximum allowable pressure. Therefore, the BACT requirements are satisfied.

APPENDIX C

Compliance Certification

January 12, 2015

Mr. Leonard Scandura
Permit Services Manager
San Joaquin Valley Unified
Air Pollution Control District
34946 Flyover Ct.
Bakersfield, CA 93308

Subject: **Federal Major Modification Statewide Compliance Certification S-1326 ATC Application – Add Portable Organic Liquid Storage Tank (Kern Front Facility)**

Dear Mr. Scandura:

I hereby certify that all major Stationary Sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in California, which are subject to emission limitations, are in compliance or on a schedule for compliance with all applicable emission limitations and standards.

Signature

Dewayne Smith

Name

Surface Operations Manager

Title

APPENDIX D

Certificate of Conformity

San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

[X] SIGNIFICANT PERMIT MODIFICATION
[ ] MINOR PERMIT MODIFICATION
[ ] ADMINISTRATIVE AMENDMENT

COMPANY NAME: California Resources Production Corporation	FACILITY ID: S – 1326
1. Type of Organization:[X] Corporation [ ] Sole Ownership [ ] Government [ ] Partnership [ ] Utility	
2. Owner's Name:	
3. Agent to the Owner: Jerry Frost	

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

(X) 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).

(X) 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.

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

(X) 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:

Dewayne Smith — 1-13-15

Signature of Responsible Official — Date

Dewayne Smith

Name of Responsible Official (please print)

Surface Operations Manager

Title of Responsible Official (please print)

APPENDIX E

Health Risk Assessment Analysis

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	Stanley Tom– Permit Services
From:	Kyle Melching – Technical Services
Date:	April 30, 2015
Facility Name:	Vintage Petroleum
Location:	Various Locations Kern Front Oilfield
Application #(s):	S-1326-458-0
Project #:	S-1150086

A. RMR SUMMARY

RMR Summary			
Categories	**500 BBL TRANSPORTABLE TANK (Unit 458-0)**	**Project Totals**	**Facility Totals**
Prioritization Score	0.5	0.5	>1
Acute Hazard Index	0.06	0.06	0.42
Chronic Hazard Index	0.00	0.00	0.04
Maximum Individual Cancer Risk	**4.11E-07**	4.11E-07	7.9E-06
T-BACT Required?	**No**		
Special Permit Conditions?	**Yes**		

Proposed Permit Conditions

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

Unit # 458-0

1. The transportable oil tank may only operate within the Kern Front Oilfield.

I. Project Description

Technical Services received a request on April 21, 2015, to perform an Ambient Air Quality Analysis and Risk Management Review to install a 500 BBL fixed roof organic liquid transportable baker tank with PV valve. The new tank is proposed to operate anywhere within the Kern Front Oilfield. A worst case operation location within the NE Bakersfield modeling domain has been selected to determine the unit's maximum potential risk within with in the Kern Front Oilfield.

II. Analysis

Toxic emissions from the project were calculated using a District approved spreadsheet for Oilfield Equipment Fugitive - District, along with increased VOC fugitive emission rates calculated and supplied by the processing engineer. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905-1, March 2, 2001), risks from the project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEART's database. The prioritization score for the project was less than 1.0 (see RMR Summary Table); however, the facility's total prioritization score was greater than 1.0. Therefore, a refined Health Risk Assessment was required and performed for the project. This analysis uses guidance for Vintage Production projects operating within designated fields. The guidance and total risk by receptor can be found under facility S-1326. AERMOD was used with source parameters outlined below and concatenated 5-year meteorological data from Bakersfield to determine maximum dispersion factors at the nearest residential and business receptors. The dispersion factors were input into the HARP model to calculate the Chronic and Acute Hazard Indices and the Carcinogenic Risk.

The following parameters were used for the review:

Analysis Parameters (Unit 457-0)			
Source Type	Circle Area	**Location Type**	Rural
Release Height (m)	3.35	**Receptor Distance**	30
Tank Diameter (m)	0.91	**VOC Emissions (lb/hr)**	0.25
		VOC Emissions (lb/Yr)	2,D161

An AAQA for this project was requested; however, AAQA only review the impact of the criteria pollutants NO_x, SO_x, CO, & PM_{10}. Since the project only proposes a VOC increase an AAQA is not required for this project.

III. Conclusions

The acute and chronic indices are below 1.0; and the maximum individual cancer risk associated with the project is **4.11E-07**, which is less than the 1 in a million threshold. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

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

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

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. HARP Risk Results
E. Facility Summary

APPENDIX F

Draft Authority to Construct Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1326-458-0

ISSUANCE DATE: DRAFT

DRAFT

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

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:
500 BBL FIXED ROOF ORGANIC LIQUID TRANSPORTABLE BAKER TANK WITH PV VALVE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 540 lb, 2nd quarter - 540 lb, 3rd quarter - 540 lb, and fourth quarter - 541 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 04/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number S-4348-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
5. This tank shall only operate within the Kern Front Oilfield. [District Rule 4102]
6. Crude oil throughput shall not exceed 100 barrels per 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

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Arnaud Marjollet, Director of Permit Services
S-1326-458-0 : May 19 2015 2:53PM -- TOMS : Joint Inspection NOT Required

7. 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] Federally Enforceable Through Title V Permit

8. VOC emission rate from the tank shall not exceed 5.9 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

9. True vapor pressure and API gravity of liquids introduced, stored or held in the tank shall be measured within 60 days of startup and 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 lieu of testing each uncontrolled fixed roof tank, operator may conduct a TVP testing of a representative tank provided that a representative testing plan (meeting the requirements of sections 6.2.1.1.1 through 6.2.1.1.5 of District Rule 4623) received and approved by APCO. [District Rules 2201 and 2080] 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 API gravity testing. [District Rules 2201 and 2080] Federally Enforceable Through Title V Permit

11. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rules 2201 and 2080] Federally Enforceable Through Title V Permit

12. 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 2080] Federally Enforceable Through Title V Permit

13. Operator shall submit the records of TVP and API gravity testing to the District within 45 days after the date of testing. The record shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the stored organic liquid, test methods used, and a copy of the test results. [District Rules 2201 and 2080] Federally Enforceable Through Title V Permit

14. Permittee shall maintain records of daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201 and 2080] Federally Enforceable Through Title V Permit

15. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

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