

January 17, 2023

Melinda Palmer  
Kern Oil & Refining Co.  
7724 E Panama Ln  
Bakersfield, CA 93307

**Re: Notice of Preliminary Decision - Authority to Construct**  
**Facility Number: S-37**  
**Project Number: S-1220184**

Dear Ms. Palmer:

Enclosed for your review and comment is the District's analysis of Kern Oil & Refining Co.'s application for Authorities to Construct (ATCs) for the replacement of a 3,600 bbl organic liquid storage tank (S-37-42-4) with a new 5,000 bbl organic liquid storage tank (S-37-175-0) connected to the vapor recovery system associated with permit unit S-37-8-37, at 7724 E Panama Ln in Bakersfield.

The notice of preliminary decision for this project has been posted on the District's website ([www.valleyair.org](http://www.valleyair.org)). After addressing all comments made during the 30-day public notice and 45-day EPA notice comment periods, the District intends to issue the ATCs. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Dakota Ballard of Permit Services at (559) 230-5865.

Sincerely,



Brian Clements  
Director of Permit Services

BC:dhb

Enclosures

cc: Courtney Graham, CARB (w/ enclosure) via email  
cc: Gerardo Rios, EPA (w/ enclosure) via email  
cc: David B Nielsen P.E., Kern Oil & Refining Co. via email

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# San Joaquin Valley Air Pollution Control District

## Authority to Construct Application Review

### Petroleum Organic Liquids Storage Tank

Facility Name: Kern Oil & Refining Co. Date: January 10, 2022  
Mailing Address: 7724 E Panama Ln Engineer: Dakota Ballard  
Bakersfield, CA 93307 Lead Engineer: Brian Clerico  
Contact Person: Melinda Palmer  
Telephone: (661) 845-0761  
E-Mail: mpalmer@kernoil.com  
Application #(s): S-37-8-37 & '-175-0  
Project #: S-1220184  
Deemed Complete: February 24, 2022

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## I. Proposal

Kern Oil & Refining Co. (Kern Oil) has requested an Authority to Construct (ATC) permit for the replacement of an existing 3,600 barrel fixed roof organic liquid storage tank T-3300 (S-37-42-4) with a new 5,000 barrel fixed roof organic liquid storage tank that will be designated as T-5013 (S-37-175-0). The new tank will be connected to the existing vapor recovery system (VRS) permitted under S-37-8. The draft ATC(s) are included in Appendix A.

Kern Oil received their renewed Title V Permit on December 27, 2017. 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. Kern Oil must apply to administratively amend their Title V permit.

The base permit for the modification to S-37-8 will be ATC S-37-8-36<sup>1</sup>. To ensure compliance with this assumption, the following condition will be applied to S-37-8-37:

- Authority to Construct (ATC) S-37-8-36 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201]

## II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (8/15/19)  
Rule 2410 Prevention of Significant Deterioration (6/16/11)

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<sup>1</sup> Kern Oil has submitted an application (S-1223835) for a Title V administrative amendment to incorporate ATC S-37-8-36 into its Title V operating permit. Construction was commenced for this permit unit prior to June 30, 2022.

Rule 2520                    Federally Mandated Operating Permits (8/15/19)  
Rule 4001                    New Source Performance Standards (4/14/99)  
Rule 4002                    National Emissions 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 (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 new tank will be located within the Kern Oil Facility at 7724 E Panama Ln in Bakersfield. 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**

Kern Oil operates a petroleum refining operation engaged in the production of gasoline and various petroleum distillates like including diesel fuel. Kern Oil is proposing to replace the existing 3,600 barrel fixed roof organic liquid storage tank (T-3300) at this facility with a new 5,000 barrel fixed roof tank that will be connected to a VRS. Vapors from the VRS are recycled and processed within the refinery fuel gas system and combusted in various specified process heaters, boilers, and IC engines. None of the combustion equipment is being modified in this project.

### **V. Equipment Listing**

S-37-175-0: 5,000 BBL ORGANIC LIQUID STORAGE TANK (#5013) SERVED BY SHARED VAPOR RECOVERY SYSTEM LISTED ON PERMIT S-37-8

#### Pre-Project Equipment Description:

As noted above, ATC S-37-8-36 will be implemented and incorporated into the Title V PTO prior to or concurrent with ATC S-37-8-37.

S-37-8-36<sup>2</sup>: ORGANIC LIQUID LOADING AREAS AND REFINERY VAPOR RECOVERY SYSTEM SERVING TANK S-37-150, AND '-171 THRU '-173 AND INCLUDING COMPRESSOR(S), LOADING RACKS (RACKS A, F, K, L, N) WITH 10 PRODUCT LINES AND 9 VAPOR RETURN LINES

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<sup>2</sup>Permit unit S-37-8 has an outstanding ATC S-37-8-36 for adding units '-44 and '-171 through '-173 to the vapor control system associated with it. The Post-Project Equipment listing for permit unit '-8-36, as stated in project S-1201077, is used here since ATC S-37-8-36 will be implemented prior to or concurrently with ATC S-37-8-37.

Proposed Modification:

S-37-8-37: MODIFICATION OF ORGANIC LIQUID LOADING AREAS AND REFINERY VAPOR RECOVERY SYSTEM SERVING TANK S-37-150, AND ‘-171 THRU ‘-173 AND INCLUDING COMPRESSOR(S), LOADING RACKS (RACKS A, F, K, L, N) WITH 10 PRODUCT LINES AND 9 VAPOR RETURN LINES: CONNECT VAPOR CONTROL SYSTEM TO S-37-175

Post-Project Equipment Description:

S-37-8-37: ORGANIC LIQUID LOADING AREAS AND REFINERY VAPOR RECOVERY SYSTEM SERVING TANK S-37-44, ‘-150, ‘-153, ‘-154, ‘-171 THRU ‘-173, AND ‘-175, AND INCLUDING COMPRESSOR(S), LOADING RACKS (RACKS A, F, K, L, N) WITH 10 PRODUCT LINES AND 9 VAPOR RETURN LINES

## **VI. Emission Control Technology Evaluation**

VOC emissions from the tank will be controlled by a shared vapor control system listed on permit unit S-37-8. The vapor control system collects vapors from tanks and routes the uncondensed vapors to incinerators and/or flares that have a guaranteed combustion efficiency greater than 95%. In addition, the efficiency of the vapor control system is at least 95%.

## **VII. General Calculations**

### **A. Assumptions**

- Operating schedule is 24 hours/day, 365 day/year (worst case).
- The only pollutant emitted in this project is fugitive VOC.
- Only fugitive VOCs emitted from components in gas service are calculated.
- The fugitive emissions for the tanks are calculated using California Implementation Guidelines for Estimating Mass Emissions of fugitive Hydrocarbon Leaks at Petroleum Facilities, CAPCOA/CARB, February 1999 “revised screening” emissions factors (see Appendix F).
  - Component counts used to calculate emissions were provided by the applicant.
  - The percentage of VOCs of the total hydrocarbons is 100%. piping components (e.g. valves, flanges, piping connections) in gas service. Fugitive emissions from heavy oil liquid service components are negligible per *District Policy SSP 2015, Procedures for Quantifying Fugitive VOC Emissions at Petroleum and SOCMF Facilities*.

### **B. Emission Factors**

Pursuant to California Implementation Guidelines for Estimating Mass Emissions of fugitive Hydrocarbon Leaks at Petroleum Facilities, CAPCOA/CARB, February 1999, emissions in this project are calculated using the “revised screening” emissions factors (see Appendix F for emissions calculations showing the emission factors used and the resulting emissions).

## C. Calculations

### S-37-8-37 – Loading and refinery VRS

Consistent with historic District practice, the connection of a new tank to the existing refinery VRS is not a modification of the refinery VRS, as defined in Section 3.25 of District Rule 2201, provided emissions limits at any of the refinery's vapor disposal devices do not increase. Kern Oil has not proposed any change to the combustion equipment, which may receive these vapors. Therefore, potential to emit calculations are not required. For the District's PAS emissions profile purposes, the potential to emit is taken from ATC S-37-8-36, which is based on component counts from District ATC project S-1111779.

### S-37-175 – Organic liquid storage tank served by VRS

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

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

#### 2. Post-Project Potential to Emit (PE2)

As seen in Appendix F, daily and annual PE2 is as follows:

Daily PE2 = **1.2 lb/day<sup>3</sup>**

Annual PE2 = **438 lb/yr**

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

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

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

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

Pursuant to 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.

Since facility emissions are already above the Offset and Major Source Thresholds for VOC emissions, SSPE2 calculations are not necessary.

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<sup>3</sup> Pursuant to District Policy APR 1105, Guidelines for the Use of Significant Figures in Engineering Calculations, the calculated quantities are rounded off to the smallest significant units of 0.1 lb/day.

## 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), pursuant to the Clean Air Act, Title 3, Section 302, US Codes 7602(j) and (z)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 70.2

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

### **Rule 2410 Major Source Determination:**

The facility or the equipment evaluated under this project is listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore, the PSD Major Source threshold is 100 tpy for any regulated NSR pollutant.

As indicated in previous ATC projects (e.g. S-1204420 and S-1181577), Kern Oil is a PSD Major Source for at least one pollutant (CO). Therefore, since Kern Oil is a PSD Major Source, this project will be evaluated to determine if it is a major modification of an existing PSD Major Source.

## 6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

As calculated in Section VII.C.1 above, PE1 is summarized in the following table:  
Permit unit S-37-175-0 is a new unit; therefore, the BE = 0.

BE (lb/year)						
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO	VOC
S-37-175-0	0	0	0	0	0	0

Permit unit S-37-8 being modified in this project is not an NSR modification and therefore a BE analysis is not required.

## 7. SB 288 Major Modification

40 CFR Part 51.165 defines a SB 288 Major Modification as any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act. Since this facility is a major source for VOC, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if further SB 288 Major Modification calculation is required.

As calculated in the Calculation section above:

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO <sub>x</sub>	0	50,000	No
SO <sub>x</sub>	0	80,000	No
PM <sub>10</sub>	0	30,000	No
VOC	438	50,000	No

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

## 8. Federal Major Modification / New Major Source

### Federal Major Modification

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

As defined in 40 CFR 51.165, Section (a)(1)(v) and part D of Title I of the CAA, a Federal Major Modification is 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 significant net emission increase threshold for each criteria pollutant is included in Rule 2201.

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

**Step 1: Project Emissions Increase**

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

Emission Increase = PE2

Project Emissions Increase

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

<b>Federal Major Modification Thresholds for Emission Increases</b>			
<b>Pollutant</b>	<b>Total Emissions Increases (lb/yr)</b>	<b>Thresholds (lb/yr)</b>	<b>Federal Major Modification?</b>
NO <sub>x</sub> *	0	0	No
VOC*	438	0	Yes
PM <sub>10</sub>	0	30,000	No
PM <sub>2.5</sub>	0	20,000	No
SO <sub>x</sub>	0	80,000	No

\*If there is any emission increases in NO<sub>x</sub> or VOC, this project is a Federal Major Modification, and no further analysis is required, i.e. Step 2, calculating the project’s net emissions increase is not performed.

Since there is an increase in VOC emissions, this project constitutes a Federal Major Modification

The Federal Offset Quantity is calculated below.

**Federal Offset Quantity Calculation**

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

Pursuant to 40 CFR 51.165(a)(3)(ii)(J), the federal offset quantity is the sum of the annual emission changes for all new and modified emission units in a project calculated as the



potential to emit after the modification (PE2) minus the actual emissions (AE) for each emission unit times the applicable federal offset ratio.

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

Actual Emissions

As described in 40 CFR 51.165(a)(1)(xii), actual emissions (AE), as of a particular date, shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a consecutive 24-month period which precedes the particular date and which is representative of normal source operation. The reviewing authority shall allow the use of a different time period upon a determination that it is more representative of normal source operation.

Since this is a new unit, AE = 0

**VOC Federal Offset Ratio = 1.5**

Permit No.	Post-Project Potential to Emit (PE2) (lb/year)	Actual Emissions (lb/year)	Emissions Change (lb/yr)
S-37-175-0	438	0	438
		$\sum(PE2 - AE)$ (lb/year):	<b>438</b>
		<b>Federal Offset Quantity (lb/year):</b> $\sum(PE2 - AE) \times 1.5$	<b>657</b>
		<b>Federal Offset Quantity (tons/year):</b> $\sum(PE2 - AE) \times 1.5 \div 2,000$	<b>0.3</b>

Since this project constitutes a Federal Major Modification, and as discussed below in Section VIII of this evaluation, pursuant to Section 7.4.2.1 of District Rule 2201, VOC Emission Reduction Credits (ERCs) used to satisfy the offset quantity required under District Rule 2201 must be surplus at the time of use (ATC issuance).

**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 only pollutant emitted by this project is VOC. VOC is a precursor to ozone for which the District is designated as non-attainment for federal standards. Since PSD only applies to attainment or unclassified pollutants, this project cannot trigger a Major Modification under PSD, and no further analysis is required.<sup>4</sup>

<sup>4</sup> Ref. U.S. EPA's New Source Review Workshop Manual, p. A.26 (Draft October 1990).

## 10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix I.

## VIII. Compliance Determination

### Rule 2201 New and Modified Stationary Source Review Rule

#### S-37-8-37: Organic liquid loading areas and VRS

As discussed above in Section VII, the proposed change to connect the new 5,000 bbl organic liquid storage tank to the refinery vapor recovery system does not constitute an NSR modification to the vapor recovery system listed on permit unit S-37-8. Pursuant to Section 3.25 of District Rule 2201, a modification is defined as:

- 3.25.1.1 Any change in hours of operation, production rate, or method of operation of an existing emissions unit, which would necessitate a change in permit conditions.

The proposed change does not result in a change in the hours of operation, the production rate or the method of operation.

- 3.25.1.2 Any structural change or addition to an existing emissions unit which would necessitate a change in permit conditions. Routine replacement shall not be considered to be a structural change.

The proposed change does not constitute a structural change or addition to an existing emissions unit, which necessitates a change in permit conditions.

- 3.25.1.3 An increase in emissions from an emissions unit caused by a modification of the Stationary Source when the emissions unit is not subject to a daily emissions limitation.

As discussed, there are no emissions increases associated with this project.

- 3.25.1.4 Addition of any new emissions unit which is subject to District permitting requirements.

The proposed change does not result in the addition of any new emissions units.

- 3.25.1.5 A change in a permit term or condition proposed by an applicant to obtain an exemption from an applicable requirement to which the source would otherwise be subject.

The proposed change does not result in exemption from any applicable requirements.

As discussed above, the proposal to connect an existing vapor control system to the proposed organic liquid storage tank does not meet any of the criteria for a modification. Therefore, the proposed change to permit unit '-8 is not subject to the requirements of District Rule 2201.

S-37-175 – Organic liquid storage tank served by VRS

**A. Best Available Control Technology (BACT)**

**1. BACT Applicability**

Pursuant to District Rule 2201, Section 4.1, BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions\*:

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

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

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

Kern Oil is proposing to install a new fixed roof tank as a replacement for an existing tank. The PE from the new tank is 1.2 lb-VOC/day. VOC is the only pollutant emitted as a result of this project, and it is emitted at a rate less than 2.0 lb/day. Therefore, BACT 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**

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

#### **d. SB 288/Federal Major Modification**

As discussed in Sections VII.C.7 and VII.C.8 above, this project does constitute 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 Guidelines 7.3.2 (Petroleum and Petrochemical Production - Fixed Roof Organic Liquid Storage or Processing Tank, = or > 5,000 bbl Tank capacity) applies to this project. (See Appendix D).

### **3. Top-Down BACT Analysis**

Per BACT Guideline 7.3.2, BACT is satisfied with 99% VOC control (waste gas incinerated in process heaters or flare, and an inspection and maintenance program). Kern Oil proposes to connect Tank 5013 to the refinery gas collection system permitted on S-37-8, which routes the captured gas to the refinery fuel gas system for combustion in process heaters and boilers.

VOC: 99% emission control

## **B. Offsets**

### **1. Offset Applicability**

Pursuant to District Rule 2201, Section 4.5, offset requirements shall be triggered on a pollutant-by-pollutant basis and shall be required if the SSPE2 equals or exceeds the offset threshold levels in Table 4-1 of Rule 2201. Since the VOC SSPE2 for Kern Oil exceeds the offset threshold of 20,000 lb/year, offset requirements must be considered.

### **2. Quantity of District Offsets Required**

#### Surplus at the Time Of Use Emission Reduction Credits

Since this project does trigger a Federal Major Modification for VOC emissions, federal offset quantities are required for this project for VOC. Pursuant to Section 7.4.2.1 of District Rule 2201, emission reduction credits used to satisfy federal offset quantities for VOC must be creditable and surplus at the time of use (ATC issuance).

The applicant has stated that the facility plans to use ERC certificate C-1523-1 to satisfy the federal offset quantities for VOC required for this project. Pursuant to the ERC surplus analysis in Appendix G, the District has verified that the credits from the ERC certificate provided by the applicant are sufficient to satisfy the federal offset quantities for VOC required for this project.

## 2.1 VOC

### District Offset Quantities (DOQ) Calculation

As stated above, the facility has an SSPE1 that is greater than the offset thresholds. Therefore, offset calculations will be required for this project.

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

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

Where: BE = HAE

As calculated in Section VII.C.6 above, the BE from this unit are equal to the PE1 since the unit is a Clean Emissions Unit. Therefore, PE1 = BE = 0.

In addition, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions. Therefore, offsets can be determined as follows:

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

PE2 (VOC) = 438 lb/year

BE (VOC) = 0 lb/year

ICCE = 0 lb/year

DOR = 1.5

Offsets Required (lb/year) =  $(438 - 0) + 0) \times 1.5$   
= 657 lb-VOC/year

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

Quarterly offsets required (lb/qtr) =  $(657 \text{ lb-VOC/year}) \div (4 \text{ quarters/year})$   
= 164.25 b-NO<sub>x</sub>/qtr

As demonstrated in the previous calculation, the quarterly amount of offsets required for this project, when evenly distributed to each quarter, results in fractional pounds of offsets being required each quarter. Since offsets are required to be withdrawn as whole pounds,

the quarterly amounts of offsets need to be adjusted to ensure the quarterly values sum to the total annual amount of offsets required.

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

<b>Redistribution of Required Quarterly Offsets</b>				
(where X is the annual amount of offsets, and $X \div 4 = Y.z$ )				
<b>Value of z</b>	<b>Quarter 1</b>	<b>Quarter 2</b>	<b>Quarter 3</b>	<b>Quarter 4</b>
0.0	Y	Y	Y	Y
0.25	Y	Y	Y	Y+1
0.5	Y	Y	Y+1	Y+1
0.75	Y	Y+1	Y+1	Y+1

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

<u>1<sup>st</sup> Quarter</u>	<u>2<sup>nd</sup> Quarter</u>	<u>3<sup>rd</sup> Quarter</u>	<u>4<sup>th</sup> Quarter</u>	<u>Total Annual</u>
164	164	164	165	<b>657</b>

### **District and Federal Offset Quantities**

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

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

<b>Comparison of District vs Federal Offset Quantity (VOC)</b>			
	<b>DOQ</b>	<b>FOQ</b>	<b>FOQ ≥ DOQ</b>
VOC	657	657	<b>Yes</b>

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

**Surplus at the Time Of Use Emission Reduction Credits**

The applicant has stated that the facility plans to use ERC certificate C-1523-1 to satisfy the federal offset quantities for VOC required for this project. Pursuant to the ERC surplus analysis in Appendix G, the District has verified that the credits from the ERC certificate provided by the applicant are sufficient to satisfy the federal offset quantities for VOC required for this project.

**Required District and Federal Offset Quantities Summary**

The applicant has proposed to use the following emission reduction certificates:

	<u>1<sup>st</sup> Quarter</u>	<u>2<sup>nd</sup> Quarter</u>	<u>3<sup>rd</sup> Quarter</u>	<u>4<sup>th</sup> Quarter</u>
ERC #C-1523-1	2,000	2,000	2,000	2,000

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

**Proposed Rule 2201 Offset Permit Conditions**

The following permit conditions will be added to the Authority to Construct S-37-175-0:

- {4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 164 lb, 2nd quarter - 164 lb, 3rd quarter - 164 lb, and fourth quarter - 165 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]
- {1983 - edited} ERC Certificate Number C-1523-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

**3. ERC Withdrawal Calculations**

The applicant must identify the ERC Certificate to be used to offset the increase of VOC emissions for the project. As indicated in previous section, the applicant is proposing to use ERC certificate #C-1523-1 to mitigate the increases of VOC emissions associated with this project. See Appendix K for detailed ERC Withdrawal Calculations.

## C. Public Notification

### 1. Applicability

Pursuant to District Rule 2201, Section 5.4, public noticing is required for:

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

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

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

#### **b. PE > 100 lb/day**

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

#### **c. Offset Threshold**

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

As mentioned above, there were no thresholds surpassed with this project because the facility is already a Major Source for VOC; 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.



No SSIPEs for any 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 being a Federal Major Mod for VOC emissions. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB), the Environmental Protection Agency (EPA), and a public notice will be electronically published on the District's website prior to the issuance of the ATC for this equipment.

**D. Daily Emission Limits (DELs)**

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

**Proposed Rule 2201 (DEL) Conditions:**

The following permit conditions will be added to the Authority to Construct S-37-175-0:

- Permit to Operate S-37-42-4 shall be cancelled prior to or concurrent with the implementation of this Authority to Construct. [District Rule 2201].
- All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201 and 4623]
- Storage tank shall be fully enclosed and shall be maintained in a leak-free condition. [District Rules 2201 and 4623]
- Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rules 2201 and 4623]
- VOC fugitive emissions from the components in gas service within five (5) feet of this tank shall not exceed 1.2 lb/day. [District Rule 2201]
- Except as otherwise provided in this permit, the operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2201]

- Permit holder shall maintain accurate component counts for components on this tank and on piping from this tank to the vapor control system listed on S-37-8 and resultant emissions according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-3a (Feb 1999), Correlation Equations Method. [District Rule 2201]

## **E. Compliance Assurance**

### **1. Source Testing**

This tank is subject to District Rule 4623, *Storage of Organic Liquids*. Source testing requirements, in accordance with this rule, will be discussed in Section VIII of this evaluation.

### **2. Monitoring**

This tank is subject to District Rule 4623, *Storage of Organic Liquids*. Monitoring requirements, in accordance with this rule, will be discussed in Section VIII of this evaluation.

### **3. Recordkeeping**

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

- Operator shall maintain records to demonstrate compliance with fugitive VOC emissions limit of this permit annually. Compliance shall be demonstrated by calculation, using the correlation equations, zero default and 10,000 ppmv pegged factors set forth in the CAPCOA California implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities, Table IV-3a, February 1999, and the average emission concentrations of total organic compounds measured for each component during all inspections conducted during the prior 365 day period. [District Rule 2201]
- All records required by this permit shall be retained for a minimum period of 5 years and shall be made available to the APCO, ARB and US EPA upon request. [District Rules 2201 and 4623]

### **4. Reporting**

No reporting is required to demonstrate compliance with Rule 2201.

## **F. Ambient Air Quality Analysis (AAQA)**

Section 4.14 of District Rule 2201 requires that an 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. The District's Technical Services Division conducted the required analysis. Refer to Appendix E of this document for the AAQA summary sheet.

An AAQA was not performed for the project because there is no State or Federal standard for Volatile Organic Compounds (VOC's).

## **G. Compliance Certification**

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

## **H. Alternate Siting Analysis**

The current project occurs at an existing facility. The applicant proposes to install a new 5,000 bbl fixed roof organic liquid storage tank.

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

## **Rule 2410 Prevention of Significant Deterioration**

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

## **Rule 2520 Federally Mandated Operating Permits**

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

The criteria for qualifying as an administrative amendment to the Title V permit are specified in Section 3.2. This project does not meet any of the criteria for being an administrative amendment.

The criteria for qualifying as a minor modification to the Title V permit are specified in Section 3.20. This project is a major modification under NSR (and therefore also a Title I modification

under the Clean Air Act), and, therefore, cannot qualify as a minor modification to the Title V permit under Section 3.20.5 of this rule.

As neither an administrative amendment nor a minor modification, this project thus constitutes a significant modification to the Title V permit.

As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, after completing the EPA review period, the facility must apply to modify their Title V permit with an administrative amendment prior to operating with the proposed modifications. As a significant modification, the facility shall not implement the changes requested until the final permit is issued.

The following conditions will be included on the ATC to ensure compliance with these requirements:

- {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]
- {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]

#### **Rule 4001 New Source Performance Standards (NSPS)**

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

The tank proposed in this project has a capacity of 5,000 bbl; therefore, the requirements of this subpart are not applicable to this project. However, to maintain consistency with Kern's larger storage operations the applicant has requested that the conditions associated with this Subpart be included on ATC S-37-175-0.

- As part of its notification required by 40 CFR 60.7(a)(1) or 60.7(a)(2), the operator shall submit to the APCO for approval an operating plan as described in 40 CFR 60.113b(c) and shall operate the closed vent system and monitor the parameters of the system in accordance with the approved operating plan. The operator shall keep a record of the measured values of the parameters monitored in accordance with the approved operating plan. The operating plan shall be retained for the life of the control equipment. [40 CFR 60.113b(c), 60.115b(c)]

- The tank shall be equipped with a vapor control system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor control system shall be APCO-approved and maintained in leak-free condition. Vapors shall be discharged to permit S-37-8 and controlled with an efficiency of at least 95% by weight as determined by EPA Test Method 21. [District Rules 2201 and 4623 and 40 CFR 60.112b(a)(3)(ii)]
- The closed vent system shall operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in 40 CFR 60.485(b). Emissions from the closed vent system in excess of this limit shall be considered a leak. [40 CFR 60.112b(a)(3)(i)]

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

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

### **Rule 4101 Visible Emissions**

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). Visible emissions are not expected from the vapor recovery system or the tank. Therefore, compliance with this rule is expected.

### **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.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification of an existing source shall not result in an increase in cancer risk greater than the District's significance level (20 in a million) and shall not result in acute and/or chronic risk indices greater than 1.

According to the Technical Services Memo for this project, 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 resulting prioritization score, acute hazard index, chronic hazard index, and cancer risk for this project is shown on the following page.

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
8-37	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	No	No
175-0	0.01	0.00	0.00	9.57E-08	No	No
<b>Project Totals</b>	0.01	0.00	0.00	9.57E-08		
<b>Facility Totals</b>	>1	0.95	0.09	1.82E-05		

Notes:

1. There is no increase in emissions for Unit 8-37, therefore is not included in this analysis.

### 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.

In accordance with District policy APR 1905, no further analysis is required, and compliance with District Rule 4102 requirements is expected.

See Appendix E HRA Summary

### 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 capacity of 1,100 gallons or greater in which any organic liquid is placed, held, or stored.

Section 3.11 defines gas leak as a reading in excess of 10,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated with methane in accordance with the test method in Section 6.4.8.

The following conditions will be included on ATC S-37-175-0.

- Storage tank shall be fully enclosed and shall be maintained in a leak-free condition. [District Rules 2201 and 4623]
- A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the test method specified in section 6.4.8. A liquid leak is defined as the dripping of organic liquid at a rate of more than 3 drops per minute. [District Rule 4623]

Section 5.6.2 states 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. The following condition will be placed on ATC S-37-175-0.

- Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rules 2201 and 4623]

Section 5.6.3 states all piping, valves, and fittings shall be constructed and maintained in a leak-free condition. The following condition will be placed on ATC S-37-175-0.

- All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201 and 4623]

Pursuant to District Policy SSP 2215, the following conditions will be placed on the ATCs.

- Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 4623]
- Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623]
- Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 4623]
- Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 4623]
- Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rule 4623]

- If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 4623]
- Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rule 4623]

Section 6.3 (Recordkeeping) states that an operator shall retain accurate records required by this rule for a period of five years. Records shall be made available to the APCO upon request.

The following conditions will be included on ATC S-37-175-0.

- Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rules 2201 and 4623]
- All records required by this permit shall be retained for a minimum period of 5 years and shall be made available to the APCO, ARB and US EPA upon request. [District Rules 2201 and 4623]

### **California Health & Safety Code 42301.6 (School Notice)**

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

### **California Environmental Quality Act (CEQA)**

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

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



## **Greenhouse Gas (GHG) Significance Determination**

### District is a Responsible Agency

It is determined that another agency has prepared an environmental review document for the project. 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 greenhouse gas emissions. The District has determined that the applicant is responsible for implementing greenhouse gas mitigation measures, if any, imposed by the Lead Agency.

### **District CEQA Findings**

The District performed an Engineering Evaluation (this document) for the proposed project and determined that the project will not have a significant effect on the environment. The District finds that the project is exempt per the common sense exemption that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

### **Indemnification Agreement/Letter of Credit Determination**

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

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

## **IX. Recommendation**

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC S-37-8-37 and ' -175-0 subject to the permit conditions on the attached draft ATC in Appendix A.

**X. Billing Information**

<b>Annual Permit Fees</b>			
<b>Permit Number</b>	<b>Fee Schedule</b>	<b>Fee Description</b>	<b>Annual Fee</b>
S-37-8-37	3020-01-F	415 hp	\$731
S-37-175-0	3020-05-F	210,000 Gallons	\$296

**Appendixes**

- A: Draft ATCs: S-37-8-37 and '-175-0
- B: ATC: S-37-8-36
- C: Current PTO: S-37-8-35
- D: BACT Analysis and Guideline
- E: HRA Summary
- F: PE2 Calculations
- G: ERC Surplus Analysis
- H: ERC Certificate C-1523-1
- I: Quarterly Net Emissions Change [QNEC]
- J: Site Map
- K: ERC Withdrawal Calculations

**APPENDIX A**  
**Draft ATCs: S-37-8-37 and '-175-0**

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-37-8-37

**LEGAL OWNER OR OPERATOR:** KERN OIL & REFINING CO.  
**MAILING ADDRESS:** 7724 E PANAMA LN  
BAKERSFIELD, CA 93307-9210

**LOCATION:** PANAMA LN & WEEDPATCH HWY  
BAKERSFIELD, CA 93307-9210

**SECTION:** 25 **TOWNSHIP:** 30S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF ORGANIC LIQUID LOADING AREAS AND REFINERY VAPOR RECOVERY SYSTEM SERVING TANK S-37-150, AND '-171 THRU '-173 AND INCLUDING COMPRESSOR(S), LOADING RACKS (RACKS A, F, K, L, N) WITH 10 PRODUCT LINES AND 9 VAPOR RETURN LINES: CONNECT VAPOR CONTROL SYSTEM TO S-37-175

**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. Authority to Construct (ATC) S-37-8-36 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Transfer Racks N and F may be used for loading and unloading. Transfer Racks A, K, and L shall be used only for loading. [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.

Samir Sheikh, Executive Director / APCO

**Brian Clements, Director of Permit Services**

S-37-8-37 : Dec 9 2022 10:49AM -- BALLARDD : Joint Inspection NOT Required

5. All liquids and gases from the transfer operation shall be routed to one of the following systems: a vapor collection and control system; a fixed roof container that meets the control requirements specified in Rule 4623 (Storage of Organic Liquids); a floating roof container that meets the control requirements specified in Rule 4623 (Storage of Organic Liquids); or a pressure vessel equipped with an APCO-approved vapor recovery system that meets the control requirements specified in Rule 4623 (Storage of Organic Liquids); or a closed VOC emission control system. [District Rules 4623 and 4624] Federally Enforceable Through Title V Permit
6. A floating roof container that meets the applicable control requirements of Section 5.0 of Rule 4623 (Storage of Organic Liquids) shall be considered not leaking when receiving unloaded liquids for compliance with Rule 4624. [District Rule 4624] Federally Enforceable Through Title V Permit
7. For the transfer of gasoline only, transfer to any stationary storage container with 250 gallon capacity or more, that is not subject to Rule 4623, shall not be allowed unless the container is equipped with a permanent submerged fill pipe and an ARB certified Phase I vapor recovery system, which is maintained and operated according to the manufacturer's specifications, or a vapor recovery system with 95% control approved by the District. [District Rule 4621] Federally Enforceable Through Title V Permit
8. All delivery tanks which previously contained organic liquids, including gasoline, with a TVP 1.5 psia or greater at the storage container's maximum organic liquid storage temperature shall be filled only at Class 1 or Class 2 loading facilities that meet the vapor collection and control requirements of District Rule 4624 or listed herein. [District Rule 4624] Federally Enforceable Through Title V Permit
9. Construction, reconstruction (as defined in District Rule 4001) or expansion of any top loading facility shall not be allowed. [District Rule 4624] Federally Enforceable Through Title V Permit
10. The organic liquid and gasoline loading operation shall be equipped with bottom loading equipment with a vapor collection and control system meeting the requirements listed in this permit. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
11. Transfer rack and vapor collection and control equipment shall be designed, installed, maintained in accordance with the manufacturers specifications, and operated such that there are no leaks or excess organic liquid drainage at disconnections as defined herein. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
12. During unloading of gasoline, a leak shall be defined as the dripping of VOC-containing liquid at a rate of more than three drops per minute or a reading greater than 100 percent of the Lower Explosive Limit (21,000 ppmv as propane) in accordance with EPA Method 21. [District Rule 4621] Federally Enforceable Through Title V Permit
13. For components used in the gasoline loading operation, a leak shall be defined as the dripping of VOC-containing liquid at a rate of more than three drops per minute or the detection of organic compounds, in excess of 10,000 ppm as methane measured at the surface of the component interface from the potential source in accordance with EPA Method 21. Excess liquid drainage shall be defined as exceeding 10 milliliters per average of 3 consecutive disconnects. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
14. For delivery vessels and components used in the organic liquid transfer operation, a leak shall be defined as the detection of organic compounds, in excess of 1,000 ppm as methane measured at the surface of the component interface from the potential source in accordance with EPA Method 21. [District Rule 4624] Federally Enforceable Through Title V Permit
15. Equipment under vapor control shall not vent to atmosphere. [District Rules 4621 and 4624.] Federally Enforceable Through Title V Permit
16. The vapor collection and control system shall operate such that VOC emissions do not exceed 0.08 lb/1000 gallons of organic liquid loaded; maintains at least 95% capture and control efficiency of VOC and which operates so the delivery tank does not exceed 18 inches water column pressure nor 6 inches water column vacuum. [District Rule 4624] Federally Enforceable Through Title V Permit

DRAFT

CONDITIONS CONTINUE ON NEXT PAGE

17. No gasoline delivery vessel shall be used or operated unless it is leak-free. No gasoline delivery vessel shall be operated or loaded unless valid State of California decals are displayed on the cargo tank, attesting to the vapor integrity of the tank as verified by annual performance of CARB required Certification and Test Procedures for Vapor Recovery Systems for Cargo Tanks (Executive Order G-70-10-A) or EPA Method 27 for testing delivery vessels owned or operated by this facility. [District Rule 4621, Health & Safety Code, section 41962, and CCR, Title 17 section 94004] Federally Enforceable Through Title V Permit
18. Measurements of leak concentrations for organic liquid delivery vessels, including gasoline, shall be conducted according to the ARB Test Procedure for Determination of Leaks, TP-204.3, or EPA Method 21. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
19. VOC emission rate from diesel loading rack shall not exceed any of the following: Fugitive emissions: 0.12 lb/hr and vapor recovery system: 0.09 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. VOC emission rate from fugitive components associated with the refinery vapor control system shall not exceed 6.9 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
21. During loading of a delivery vessel, the truck-mounted vapor return line shall be connected to the vapor recovery system listed on this permit. [District Rules 2201 and 4621] Federally Enforceable Through Title V Permit
22. A delivery vessel loading gasoline shall discontinue if its pressure relief valve opens. Corrective action shall be taken should this condition occur. [District Rules 2520 and 4621] Federally Enforceable Through Title V Permit
23. Switch loading shall not be conducted unless such transfer is made using an ARB certified vapor recovery system. [District Rules 2201 and 4621] Federally Enforceable Through Title V Permit
24. Operators shall conduct all performance tests required by the facility installation and operations manual as per the frequency outlined therein or as designated by the APCO. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
25. The operator shall perform and record the results of monthly leak and drainage inspections of the loading and vapor collection equipment at each loading arm. During the loading of gasoline or organic liquids, leak detection shall be conducted using EPA Method 21 measuring at the surface of the component interface from the potential source. When not in current operation, excess drainage inspections shall be conducted before 10:00 am at the disconnect of each loading arm by collecting all drainage at disconnect in a container and determining the volume within one (1) minute of collection [District Rules 2520, 40 CFR 60.502(j) and 4624] Federally Enforceable Through Title V Permit
26. The leak detection instrument shall be calibrated each day of its use, prior to use, by the procedures specified in Method 21 using the following calibration gases: A) Zero air (less than 10 ppm of hydrocarbon in air); and B) Mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane. [District Rules 2520, 9.3.2 and 4624] Federally Enforceable Through Title V Permit
27. Corrective steps shall be taken at any time the operator observes a leak or excess drainage at disconnect. All equipment found leaking shall be repaired or replaced within 72 hours. If the leaking component cannot be repaired or replaced within 72 hours, the component shall be taken out of service until such time the component is repaired or replaced. The repaired or replacement equipment shall be reinspected the first time the equipment is in operation after the repair or replacement. [District Rule 4624] Federally Enforceable Through Title V Permit
28. All inspections shall be documented within the inspection log. Inspection records shall include, at a minimum, 1) date of inspection, 2) location and description of any missing, loose, leaking, or damaged equipment and any malfunction requiring repair, 3) corrective steps taken to repair or replace the equipment, 4) test method and results for leak and drainage inspections, 5) location and description of any of equipment which shall be inspected upon commencing operation after repair or replacement and 6) inspector name and signature. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
29. Records of daily throughput of each loading rack shall be maintained and made available to the APCO, ARB, or EPA during normal business hours. [District Rules 2201, 4621, and 4624] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

30. Permit holder shall maintain accurate component count and resultant emissions according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-3a (Feb 1999), CAPCOA-Revised 1995 EPA Correlation Equations and Factors for Refineries and Marketing Terminals. Components shall be screened and leak rate shall be measured at least once each quarter. If compliance with the daily emission limit is shown during each of five (5) consecutive quarterly inspections, the inspection frequency may be changed from quarterly to annual. If any annual inspection shows non-compliance with the daily emission limit, then quarterly inspections shall be resumed. [District Rule 2201] Federally Enforceable Through Title V Permit
31. This unit is subject to Rule 4455 Leak Detection and Repair Conditions on the facility wide permit S-37-0. [District Rule 4455] Federally Enforceable Through Title V Permit

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-37-175-0

**LEGAL OWNER OR OPERATOR:** KERN OIL & REFINING CO.  
**MAILING ADDRESS:** 7724 E PANAMA LN  
BAKERSFIELD, CA 93307-9210

**LOCATION:** PANAMA LN & WEEDPATCH HWY  
BAKERSFIELD, CA 93307-9210

**EQUIPMENT DESCRIPTION:**  
5,000 BBL ORGANIC LIQUID STORAGE TANK (#5013) SERVED BY SHARED VAPOR RECOVERY SYSTEM LISTED ON PERMIT S-37-8

**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. Permit to Operate S-37-42-4 shall be cancelled prior to or concurrent with the implementation of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 164 lb, 2nd quarter - 164 lb, 3rd quarter - 164 lb, and fourth quarter - 165 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
5. ERC Certificate Number C-1523-1 (or certificate split from this certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCCO

**Brian Clements, Director of Permit Services**

S-37-175-0 : Jan 10 2023 11:39AM - BALLARDD : Joint Inspection NOT Required



6. As part of its notification required by 40 CFR 60.7(a)(1) or 60.7(a)(2), the operator shall submit to the APCO for approval an operating plan as described in 40 CFR 60.113b(c) and shall operate the closed vent system and monitor the parameters of the system in accordance with the approved operating plan. The operator shall keep a record of the measured values of the parameters monitored in accordance with the approved operating plan. The operating plan shall be retained for the life of the control equipment. [40 CFR 60.113b(c), 60.115b(c)] Federally Enforceable Through Title V Permit
7. The tank shall be equipped with a vapor control system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor control system shall be APCO-approved and maintained in leak-free condition. Vapors shall be discharged to permit S-37-8 and controlled with an efficiency of at least 95% by weight as determined by EPA Test Method 21. [District Rules 2201 and 4623 and 40 CFR 60.112b(a)(3)(ii)] Federally Enforceable Through Title V Permit
8. The closed vent system shall operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in 40 CFR 60.485(b). Emissions from the closed vent system in excess of this limit shall be considered a leak. [40 CFR 60.112b(a)(3)(i)] Federally Enforceable Through Title V Permit
9. All piping, valves, and fittings shall be constructed and maintained in a leak free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
10. Storage tank shall be fully enclosed and shall be maintained in a leak-free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
11. A leak free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623] Federally Enforceable Through Title V Permit
12. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
13. VOC fugitive emissions from the components in gas service within five (5) feet of this tank shall not exceed 1.2 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 4623] Federally Enforceable Through Title V Permit
15. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623] Federally Enforceable Through Title V Permit
16. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take on of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 4623] Federally Enforceable Through Title V Permit
17. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 4623] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

18. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rule 4623] Federally Enforceable Through Title V Permit
19. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 4623] Federally Enforceable Through Title V Permit
20. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rule 4623] Federally Enforceable Through Title V Permit
21. Except as otherwise provided in this permit, the operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
23. Permit holder shall maintain accurate component counts for components on this tank and on piping from this tank to the vapor control system listed on S-37-8 and resultant emissions according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-3a (Feb 1999), Correlation Equations Method. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Operator shall maintain records to demonstrate compliance with fugitive VOC emissions limit of this permit annually. Compliance shall be demonstrated by calculation, using the correlation equations, zero default and 10,000 ppmv pegged factors set forth in the CAPCOA California implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities, Table IV-3a, February 1999, and the average emission concentrations of total organic compounds measured for each component during all inspections conducted during the prior 365 day period. [District Rule 2201] Federally Enforceable Through Title V Permit
25. All records required by this permit shall be retained for a minimum period of 5 years and shall be made available to the APCO, ARB and US EPA upon request. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

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**APPENDIX B**  
**ATC: S-37-8-36**

# AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-37-8-36

**ISSUANCE DATE:** 06/30/2020

**LEGAL OWNER OR OPERATOR:** KERN OIL & REFINING CO.  
**MAILING ADDRESS:** 7724 E PANAMA LN  
BAKERSFIELD, CA 93307-9210

**LOCATION:** PANAMA LN & WEEDPATCH HWY  
BAKERSFIELD, CA 93307-9210

**SECTION:** 25 **TOWNSHIP:** 30S **RANGE:** 28E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF ORGANIC LIQUID LOADING AREAS AND REFINERY VAPOR RECOVERY SYSTEM SERVING TANK S-37-150 AND INCLUDING COMPRESSOR(S), LOADING RACKS (RACKS A, F, K, L, N) WITH 10 PRODUCT LINES AND 9 VAPOR RETURN LINES: CONNECT TANKS '-44 AND '-171 THRU '-173 TO VAPOR CONTROL SYSTEM

## CONDITIONS

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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. Transfer Racks N and F may be used for loading and unloading. Transfer Racks A, K, and L shall be used only for loading. [District Rule 2201] Federally Enforceable Through Title V Permit
4. All liquids and gases from the transfer operation shall be routed to one of the following systems: a vapor collection and control system; a fixed roof container that meets the control requirements specified in Rule 4623 (Storage of Organic Liquids); a floating roof container that meets the control requirements specified in Rule 4623 (Storage of Organic Liquids); or a pressure vessel equipped with an APCO-approved vapor recovery system that meets the control requirements specified in Rule 4623 (Storage of Organic Liquids); or a closed VOC emission control system. [District Rules 4623 and 4624] 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.

Samir Sheikh, Executive Director / APCO

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Brian Clements, Director of Permit Services

S-37-8-36 : Oct 10 2022 3:22PM -- BALLARDD : Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

5. A floating roof container that meets the applicable control requirements of Section 5.0 of Rule 4623 (Storage of Organic Liquids) shall be considered not leaking when receiving unloaded liquids for compliance with Rule 4624. [District Rule 4624] Federally Enforceable Through Title V Permit
6. For the transfer of gasoline only, transfer to any stationary storage container with 250 gallon capacity or more, that is not subject to Rule 4623, shall not be allowed unless the container is equipped with a permanent submerged fill pipe and an ARB certified Phase I vapor recovery system, which is maintained and operated according to the manufacturer's specifications, or a vapor recovery system with 95% control approved by the District. [District Rule 4621] Federally Enforceable Through Title V Permit
7. All delivery tanks which previously contained organic liquids, including gasoline, with a TVP 1.5 psia or greater at the storage container's maximum organic liquid storage temperature shall be filled only at Class 1 or Class 2 loading facilities that meet the vapor collection and control requirements of District Rule 4624 or listed herein. [District Rule 4624] Federally Enforceable Through Title V Permit
8. Construction, reconstruction (as defined in District Rule 4001) or expansion of any top loading facility shall not be allowed. [District Rule 4624] Federally Enforceable Through Title V Permit
9. The organic liquid and gasoline loading operation shall be equipped with bottom loading equipment with a vapor collection and control system meeting the requirements listed in this permit. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
10. Transfer rack and vapor collection and control equipment shall be designed, installed, maintained in accordance with the manufacturers specifications, and operated such that there are no leaks or excess organic liquid drainage at disconnections as defined herein. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
11. During unloading of gasoline, a leak shall be defined as the dripping of VOC-containing liquid at a rate of more than three drops per minute or a reading greater than 100 percent of the Lower Explosive Limit (21,000 ppmv as propane) in accordance with EPA Method 21. [District Rule 4621] Federally Enforceable Through Title V Permit
12. For components used in the gasoline loading operation, a leak shall be defined as the dripping of VOC-containing liquid at a rate of more than three drops per minute or the detection of organic compounds, in excess of 10,000 ppm as methane measured at the surface of the component interface from the potential source in accordance with EPA Method 21. Excess liquid drainage shall be defined as exceeding 10 milliliters per average of 3 consecutive disconnects. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
13. For delivery vessels and components used in the organic liquid transfer operation, a leak shall be defined as the detection of organic compounds, in excess of 1,000 ppm as methane measured at the surface of the component interface from the potential source in accordance with EPA Method 21. [District Rule 4624] Federally Enforceable Through Title V Permit
14. Equipment under vapor control shall not vent to atmosphere. [District Rules 4621 and 4624.] Federally Enforceable Through Title V Permit
15. The vapor collection and control system shall operate such that VOC emissions do not exceed 0.08 lb/1000 gallons of organic liquid loaded; maintains at least 95% capture and control efficiency of VOC and which operates so the delivery tank does not exceed 18 inches water column pressure nor 6 inches water column vacuum. [District Rule 4624] Federally Enforceable Through Title V Permit
16. No gasoline delivery vessel shall be used or operated unless it is leak-free. No gasoline delivery vessel shall be operated or loaded unless valid State of California decals are displayed on the cargo tank, attesting to the vapor integrity of the tank as verified by annual performance of CARB required Certification and Test Procedures for Vapor Recovery Systems for Cargo Tanks (Executive Order G-70-10-A) or EPA Method 27 for testing delivery vessels owned or operated by this facility. [District Rule 4621, Health & Safety Code, section 41962, and CCR, Title 17 section 94004] Federally Enforceable Through Title V Permit
17. Measurements of leak concentrations for organic liquid delivery vessels, including gasoline, shall be conducted according to the ARB Test Procedure for Determination of Leaks, TP-204.3, or EPA Method 21. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
18. VOC emission rate from diesel loading rack shall not exceed any of the following: Fugitive emissions: 0.12 lb/hr and vapor recovery system: 0.09 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. VOC emission rate from fugitive components associated with the refinery vapor control system shall not exceed 6.9 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
20. During loading of a delivery vessel, the truck-mounted vapor return line shall be connected to the vapor recovery system listed on this permit. [District Rules 2201 and 4621] Federally Enforceable Through Title V Permit
21. A delivery vessel loading gasoline shall discontinue if its pressure relief valve opens. Corrective action shall be taken should this condition occur. [District Rules 2520 and 4621] Federally Enforceable Through Title V Permit
22. Switch loading shall not be conducted unless such transfer is made using an ARB certified vapor recovery system. [District Rules 2201 and 4621] Federally Enforceable Through Title V Permit
23. Operators shall conduct all performance tests required by the facility installation and operations manual as per the frequency outlined therein or as designated by the APCO. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
24. The operator shall perform and record the results of monthly leak and drainage inspections of the loading and vapor collection equipment at each loading arm. During the loading of gasoline or organic liquids, leak detection shall be conducted using EPA Method 21 measuring at the surface of the component interface from the potential source. When not in current operation, excess drainage inspections shall be conducted before 10:00 am at the disconnect of each loading arm by collecting all drainage at disconnect in a container and determining the volume within one (1) minute of collection [District Rules 2520, 40 CFR 60.502(j) and 4624] Federally Enforceable Through Title V Permit
25. The leak detection instrument shall be calibrated each day of its use, prior to use, by the procedures specified in Method 21 using the following calibration gases: A) Zero air (less than 10 ppm of hydrocarbon in air); and B) Mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane. [District Rules 2520, 9.3.2 and 4624] Federally Enforceable Through Title V Permit
26. Corrective steps shall be taken at any time the operator observes a leak or excess drainage at disconnect. All equipment found leaking shall be repaired or replaced within 72 hours. If the leaking component cannot be repaired or replaced within 72 hours, the component shall be taken out of service until such time the component is repaired or replaced. The repaired or replacement equipment shall be reinspected the first time the equipment is in operation after the repair or replacement. [District Rule 4624] Federally Enforceable Through Title V Permit
27. All inspections shall be documented within the inspection log. Inspection records shall include, at a minimum, 1) date of inspection, 2) location and description of any missing, loose, leaking, or damaged equipment and any malfunction requiring repair, 3) corrective steps taken to repair or replace the equipment, 4) test method and results for leak and drainage inspections, 5) location and description of any of equipment which shall be inspected upon commencing operation after repair or replacement and 6) inspector name and signature. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
28. Records of daily throughput of each loading rack shall be maintained and made available to the APCO, ARB, or EPA during normal business hours. [District Rules 2201, 4621, and 4624] Federally Enforceable Through Title V Permit
29. Permit holder shall maintain accurate component count and resultant emissions according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-3a (Feb 1999), CAPCOA-Revised 1995 EPA Correlation Equations and Factors for Refineries and Marketing Terminals. Components shall be screened and leak rate shall be measured at least once each quarter. If compliance with the daily emission limit is shown during each of five (5) consecutive quarterly inspections, the inspection frequency may be changed from quarterly to annual. If any annual inspection shows non-compliance with the daily emission limit, then quarterly inspections shall be resumed. [District Rule 2201] Federally Enforceable Through Title V Permit
30. This unit is subject to Rule 4455 Leak Detection and Repair Conditions on the facility wide permit S-37-0. [District Rule 4455] Federally Enforceable Through Title V Permit

**APPENDIX C**  
**Current PTO: S-37-8-35**

INSPECTION  
EXPIRATION DATE: 08/31/2022  
WORKSHEET

**LEGAL OWNER OR OPERATOR:** KERN OIL & REFINING CO.  
**MAILING ADDRESS:** 7724 E PANAMA LN  
 BAKERSFIELD, CA 93307-9210

**LOCATION:** PANAMA LN & WEEDPATCH HWY  
 BAKERSFIELD, CA 93307-9210

**SECTION:** 25 **TOWNSHIP:** 30S **RANGE:** 28E

**INSPECT PROGRAM PARTICIPANT:** NO

**EQUIPMENT DESCRIPTION:**

ORGANIC LIQUID LOADING AREAS AND REFINERY VAPOR RECOVERY SYSTEM SERVING TANKS S-37-16 AND '150 AND INCLUDING COMPRESSOR(S), LOADING RACKS (RACKS A, F, K, L, N) WITH 10 PRODUCT LINES AND 9 VAPOR RETURN LINES

## CONDITIONS

1. Transfer Racks N and F may be used for loading and unloading. Transfer Racks A, K, and L shall be used only for loading. [District Rule 2201] Federally Enforceable Through Title V Permit
2. All liquids and gases from the transfer operation shall be routed to one of the following systems: a vapor collection and control system; a fixed roof container that meets the control requirements specified in Rule 4623 (Storage of Organic Liquids); a floating roof container that meets the control requirements specified in Rule 4623 (Storage of Organic Liquids); or a pressure vessel equipped with an APCO-approved vapor recovery system that meets the control requirements specified in Rule 4623 (Storage of Organic Liquids); or a closed VOC emission control system. [District Rules 4623 and 4624] Federally Enforceable Through Title V Permit
3. A floating roof container that meets the applicable control requirements of Section 5.0 of Rule 4623 (Storage of Organic Liquids) shall be considered not leaking when receiving unloaded liquids for compliance with Rule 4624. [District Rule 4624] Federally Enforceable Through Title V Permit
4. For the transfer of gasoline only, transfer to any stationary storage container with 250 gallon capacity or more, that is not subject to Rule 4623, shall not be allowed unless the container is equipped with a permanent submerged fill pipe and an ARB certified Phase I vapor recovery system, which is maintained and operated according to the manufacturer's specifications, or a vapor recovery system with 95% control approved by the District. [District Rule 4621] Federally Enforceable Through Title V Permit
5. All delivery tanks which previously contained organic liquids, including gasoline, with a TVP 1.5 psia or greater at the storage container's maximum organic liquid storage temperature shall be filled only at Class 1 or Class 2 loading facilities that meet the vapor collection and control requirements of District Rule 4624 or listed herein. [District Rule 4624] Federally Enforceable Through Title V Permit
6. Construction, reconstruction (as defined in District Rule 4001) or expansion of any top loading facility shall not be allowed. [District Rule 4624] Federally Enforceable Through Title V Permit
7. The organic liquid and gasoline loading operation shall be equipped with bottom loading equipment with a vapor collection and control system meeting the requirements listed in this permit. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
8. Transfer rack and vapor collection and control equipment shall be designed, installed, maintained in accordance with the manufacturers specifications, and operated such that there are no leaks or excess organic liquid drainage at disconnections as defined herein. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
9. During unloading of gasoline, a leak shall be defined as the dripping of VOC-containing liquid at a rate of more than three drops per minute or a reading greater than 100 percent of the Lower Explosive Limit (21,000 ppmv as propane) in accordance with EPA Method 21. [District Rule 4621] Federally Enforceable Through Title V Permit



10. For components used in the gasoline loading operation, a leak shall be defined as the dripping of VOC-containing liquid at a rate of more than three drops per minute or the detection of organic compounds, in excess of 10,000 ppm as methane measured at the surface of the component interface from the potential source in accordance with EPA Method 21. Excess liquid drainage shall be defined as exceeding 10 milliliters per average of 3 consecutive disconnects. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
11. For delivery vessels and components used in the organic liquid transfer operation, a leak shall be defined as the detection of organic compounds, in excess of 1,000 ppm as methane measured at the surface of the component interface from the potential source in accordance with EPA Method 21. [District Rule 4624] Federally Enforceable Through Title V Permit
12. Equipment under vapor control shall not vent to atmosphere. [District Rules 4621 and 4624.] Federally Enforceable Through Title V Permit
13. The vapor collection and control system shall operate such that VOC emissions do not exceed 0.08 lb/1000 gallons of organic liquid loaded; maintains at least 95% capture and control efficiency of VOC and which operates so the delivery tank does not exceed 18 inches water column pressure nor 6 inches water column vacuum. [District Rule 4624] Federally Enforceable Through Title V Permit
14. No gasoline delivery vessel shall be used or operated unless it is leak-free. No gasoline delivery vessel shall be operated or loaded unless valid State of California decals are displayed on the cargo tank, attesting to the vapor integrity of the tank as verified by annual performance of CARB required Certification and Test Procedures for Vapor Recovery Systems for Cargo Tanks (Executive Order G-70-10-A) or EPA Method 27 for testing delivery vessels owned or operated by this facility. [District Rule 4621, Health & Safety Code, section 41962, and CCR, Title 17 section 94004] Federally Enforceable Through Title V Permit
15. Measurements of leak concentrations for organic liquid delivery vessels, including gasoline, shall be conducted according to the ARB Test Procedure for Determination of Leaks, TP-204.3, or EPA Method 21. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
16. VOC emission rate from diesel loading rack shall not exceed any of the following: Fugitive emissions: 0.12 lb/hr and vapor recovery system: 0.09 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
17. VOC emission rate from fugitive components associated with the refinery vapor control system shall not exceed 6.9 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
18. During loading of a delivery vessel, the truck-mounted vapor return line shall be connected to the vapor recovery system listed on this permit. [District Rules 2201 and 4621] Federally Enforceable Through Title V Permit
19. A delivery vessel loading gasoline shall discontinue if its pressure relief valve opens. Corrective action shall be taken should this condition occur. [District Rules 2520 and 4621] Federally Enforceable Through Title V Permit
20. Switch loading shall not be conducted unless such transfer is made using an ARB certified vapor recovery system. [District Rules 2201 and 4621] Federally Enforceable Through Title V Permit
21. Operators shall conduct all performance tests required by the facility installation and operations manual as per the frequency outlined therein or as designated by the APCO. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
22. The operator shall perform and record the results of monthly leak and drainage inspections of the loading and vapor collection equipment at each loading arm. During the loading of gasoline or organic liquids, leak detection shall be conducted using EPA Method 21 measuring at the surface of the component interface from the potential source. When not in current operation, excess drainage inspections shall be conducted before 10:00 am at the disconnect of each loading arm by collecting all drainage at disconnect in a container and determining the volume within one (1) minute of collection [District Rules 2520, 40 CFR 60.502(j) and 4624] Federally Enforceable Through Title V Permit
23. The leak detection instrument shall be calibrated each day of its use, prior to use, by the procedures specified in Method 21 using the following calibration gases: A) Zero air (less than 10 ppm of hydrocarbon in air); and B) Mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane. [District Rules 2520, 9.3.2 and 4624] Federally Enforceable Through Title V Permit

24. Corrective steps shall be taken at any time the operator observes a leak or excess drainage at disconnect. All equipment found leaking shall be repaired or replaced within 72 hours. If the leaking component cannot be repaired or replaced within 72 hours, the component shall be taken out of service until such time the component is repaired or replaced. The repaired or replacement equipment shall be reinspected the first time the equipment is in operation after the repair or replacement. [District Rule 4624] Federally Enforceable Through Title V Permit
25. All inspections shall be documented within the inspection log. Inspection records shall include, at a minimum, 1) date of inspection, 2) location and description of any missing, loose, leaking, or damaged equipment and any malfunction requiring repair, 3) corrective steps taken to repair or replace the equipment, 4) test method and results for leak and drainage inspections, 5) location and description of any of equipment which shall be inspected upon commencing operation after repair or replacement and 6) inspector name and signature. [District Rules 4621 and 4624] Federally Enforceable Through Title V Permit
26. Records of daily throughput of each loading rack shall be maintained and made available to the APCO, ARB, or EPA during normal business hours. [District Rules 2201, 4621, and 4624] Federally Enforceable Through Title V Permit
27. Permit holder shall maintain accurate component count and resultant emissions according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-3a (Feb 1999), CAPCOA-Revised 1995 EPA Correlation Equations and Factors for Refineries and Marketing Terminals. Components shall be screened and leak rate shall be measured at least once each quarter. If compliance with the daily emission limit is shown during each of five (5) consecutive quarterly inspections, the inspection frequency may be changed from quarterly to annual. If any annual inspection shows non-compliance with the daily emission limit, then quarterly inspections shall be resumed. [District Rule 2201] Federally Enforceable Through Title V Permit
28. This unit is subject to Rule 4455 Leak Detection and Repair Conditions on the facility wide permit S-37-0. [District Rule 4455] Federally Enforceable Through Title V Permit

## **APPENDIX D**

### **BACT Analysis and Guideline**

## BACT Analysis

### Step 1 - Identify All Possible Control Technologies

BACT Guideline 7.3.2 lists the controls that are considered potentially applicable to fixed-roof organic liquid storage or processing tank = to or > 5,000 bbl tank capacity. The VOC control measures are summarized below.

#### Current District BACT Guideline 7.3.2

	Achieved in Practice BACT	Technologically Feasible BACT	Alternate Basic Equipment
VOC	99% Control (Waste gas incinerated in steam generator, heater treater or other fired equipment and inspection and maintenance program, or equal)	99% Control (Transfer of noncondensable vapors to gas pipeline; reinjection to formation (if appropriate wells are available); thermal or catalytic oxidizer; carbon adsorption; or equal).	None Identified

### Step 2 - Eliminate Technologically Infeasible Options

The technologically feasible control measures of re-injecting the vapors into the formation and transfer of non-condensable vapors to gas pipeline are not feasible because neither gas injection wells nor a gas pipeline currently exist at the project site. Further, no candidate geologic formations are available for gas re-injection at the project site. All of the above remaining control options identified above are technologically feasible for the proposed equipment and are not eliminated. (In compliance with District Policy APR 1305, Best Available Control Technology, in this step the District is only eliminating some of the equal alternatives within the Technologically Feasible control option and not the 99% control option itself.)

### Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. 99% Control (Transfer of noncondensable vapors to gas pipeline; reinjection to formation (if appropriate wells are available); thermal or catalytic oxidizer; carbon adsorption; or equal).
2. 99% Control (Waste gas incinerated in steam generator, heater treater or other fired equipment and inspection and maintenance program, or equal)

### Step 4 - Cost Effectiveness Analysis

The proposed tank will be connected to a vapor recovery system which is subject to a Rule 4455 I&M Program (on the facility-wide permit S-37-0) with the collected vapors

recycled or used in various specified<sup>5</sup> combustion devices throughout the refinery. Therefore, the highest ranked control identified is proposed. A cost effectiveness analysis is not required.

#### **Step 5 - Select BACT**

99% control of using a vapor recovery system has been proposed and addresses BACT for VOC emissions. Therefore, BACT is satisfied for this emissions unit.

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<sup>5</sup> The permits for the combustion devices specify the allowed use of refinery fuel gas as a supplemental fuel.

## **APPENDIX E HRA Summary**

## San Joaquin Valley Air Pollution Control District Risk Management Review

To: Dakota Ballard – Permit Services  
 From: Keanu Morin – Technical Services  
 Date: July 8, 2022  
 Facility Name: Kern Oil & Refining Co.  
 Location: 7724 E. Panama Ln. Bakersfield, CA 93307  
 Application #(s): S-37-8-37, -175-0  
 Project #: S-1220184

### 1. Summary

#### 1.1 Risk Management Review (RMR)

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
8-37	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	No	No
175-0	0.01	0.00	0.00	9.57E-08	No	No
<b>Project Totals</b>	0.01	0.00	0.00	9.57E-08		
<b>Facility Totals</b>	>1	0.95	0.09	1.82E-05		

Notes:

- There is no increase in emissions for Unit 8-37, therefore is not included in this analysis.

#### 1.2 Proposed Permit Requirements

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

##### Unit # 175-0

- No special requirements.

### 2. Project Description

Technical Services received a request on June 20, 2022 to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA). An AAQA was not performed for the project because there is no State or Federal standard for Volatile Organic Compounds (VOC's). A Risk Management Review was performed for the following:

- Unit -8-37: MODIFICATION OF ORGANIC LIQUID LOADING AREAS AND REFINERY VAPOR RECOVERY SYSTEM SERVING TANKS S-37-16 AND '-150 AND INCLUDING COMPRESSOR(S), LOADING RACKS (RACKS A, F, K, L, N) WITH 10 PRODUCT LINES AND 9 VAPOR RETURN LINES: CONNECT TANKS '-175 TO VAPOR CONTROL SYSTEM

- Unit -175-0: 5,000 BBL ORGANIC LIQUID STORAGE TANK (#5013) SERVED BY SHARED VAPOR RECOVERY SYSTEM LISTED ON PERMIT S-37-8 (REPLACEMENT FOR TANK S-37-42)

### 3. RMR Report

#### 3.1 Analysis

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

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

Then, generally no further analysis is required.

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

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

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

- Volatile organic compound emissions from this proposed operation were provided by the Permit Engineer. These emissions were speciated into toxic air contaminants using emission factors derived from the 1991 source tests of central valley sites.

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

The AERMOD model was used, with the parameters outlined below and meteorological data for 2007-2011 from Arvin (rural dispersion coefficient selected) to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.



The following parameters were used for the review:

Source Process Rates					
Unit ID	Process ID	Process Material	Process Units	Hourly Process Rate	Annual Process Rate
175-0	1	VOC	Lbs.	0.05	438

Circular Area Source Parameters				
Unit ID	Unit Description	Release Height (m)	Radius (m)	Area (m <sup>2</sup> )
175-0	5,000 BBL Organic Liquid Storage Tank	7.32	6.86	147.8

## 4. Conclusion

### 4.1 RMR

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

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.

## 5. Attachments

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

## **APPENDIX F**

### **PE2 Calculations**

**Kern Oil & Refining Co.**  
**Tank T-3300 Replacement**

**Emission Calculations**

S-37-42		
Terms:	lb/day	lb/year
PE1	0.0	0
PE2	1.2	438
BE	0.0	0

**Notes:**

Tank 3300 is being replaced with a new larger tank, as such PE1 = 0 and BE = 0

BACT Determination				
Permit Unit	PE2	PE1		
S-37-42	1.20	0.00		

**Notes:**

The proposed emissions from Tank 5013 are less than 2 lb/day, however the project triggers a Federal Major Modification, so BACT is required.

QNEC			
Permit Unit	PE2 (lb/qtr)	BE (lb/qtr)	QNEC (lb/qtr)
S-37-42	110	0	110

Offsets			
Permit Unit	PE2 (lb/year)	BE (lb/year)	Offsets (lb/year)
S-37-42	438	0	438

**Notes:**

Federal Modification				
Permit Unit	PAE	BAE	UBC	Increase
S-37-42	438	0	0	438

**Notes:**

Since T-5013 is a new tank, there is no unused baseline to account for.

**Kern Oil & Refining Company  
Tank T-3300 Replacement  
Fugitive Component Count and Emission Estimate**

**Emission Calculations**

Tank T-5013	Service	Component Count	% Default Zero	% Pegged	% in Correlation Range	Default Zero	Pegged Factor @9,999 ppmv	Correlation	VOC Emissions
			%	%	%	(lb/day)	(lb/day)	(lb/day)	(lb/day)
Valves	All	26	50%	1.0%	49.0%	0.005	0.031	0.136	0.173
Pump Seals	All	0	50%	1.0%	49.0%	0.000	0.000	0.000	0.000
Compressor Seals	All	0	50%	1.0%	49.0%	0.000	0.000	0.000	0.000
Open-Ended Lines	All	0	50%	1.0%	49.0%	0.000	0.000	0.000	0.000
Pressure Relief Device	All	1	50%	1.0%	49.0%	0.000	0.002	0.008	0.010
Flanges	All	56	50%	1.0%	49.0%	0.000	0.090	0.455	0.546
Connectors	All	65	50%	1.0%	49.0%	0.013	0.046	0.211	0.270
Others	All	8	50%	1.0%	49.0%	0.001	0.014	0.160	0.175
Drain	All	1	50%	1.0%	49.0%	0.000	0.002	0.015	0.017
<b>Tank T-5013 Total</b>									<b>1.2</b>

**Fugitive Component Inventory:**

Tank	Tank T-5013		
Valves	22		
Pump Seals	0		
Compressor Seals	0		
Open-Ended Lines	0		
Pressure Relief Device	1		
Flanges	47		
Connectors	54		
Dthers	7		
Drain	1		

**Emission Factors**

Equipment Type	Service	Default Zero Factor	Correlation Screening Value	Correlation Equation	Pegged Factor @9,999 ppmv
		(kg/hr)	(ppm)	(kg/hr)	(kg/hr)
Valves	All	0.000078	400	0.0002	0.0022
Pump Seals	All	0.000019	1000	0.0037	0.0156
Compressor Seals	All	0.000004	1000	0.0007	0.0032
Others	All	0.000004	1000	0.0007	0.0032
Drain	All	0.000004	500	0.0005	0.0032
Pressure Relief Device	All	0.000004	200	0.0003	0.0032
Connectors	All	0.000075	400	0.0001	0.0013
Flanges	All	0.0000031	400	0.0003	0.0030
Open-Ended Lines	All	0.000002	1000	0.0003	0.0015

Equipment Type	Service	Default Zero	Correlation Screening Value	Correlation	Pegged Factor @9,999 ppmv
		(lb/hr)	(ppm)	(lb/hr)	(lb/hr)
Valves	All	1.72E-05	400	4.40E-04	4.87E-03
Pump Seals	All	4.19E-05	1000	8.21E-03	3.44E-02
Compressor Seals	All	8.82E-06	1000	1.62E-03	7.08E-03
Others	All	8.82E-06	1000	1.62E-03	7.08E-03
Drain	All	8.82E-06	500	1.04E-03	7.08E-03
Pressure Relief Device	All	8.82E-06	200	5.75E-04	7.08E-03
Connectors	All	1.65E-05	400	2.77E-04	2.96E-03
Flanges	All	6.83E-07	400	6.86E-04	6.65E-03
Open-Ended Lines	All	4.41E-06	1000	6.22E-04	3.30E-03

**Notes:**

- The emissions associated with the replacement tank have been estimated assuming 120% of the anticipate components within 5 feet of the tank.
- The components within 5 feet of the new tank, T-5013 are subject to the requirements of Rule 4623. The potential emissions from these components have been estimated assuming a small percentage of components might "peg" at 9,999 ppmv.

Rule 4623 Pegged Value                      9999                      ppm

3. Correlation Screening Value consistent with APCD Rule 4455 minor leak thresholds for components in gas service, except for drains in liquid service.

## **APPENDIX G**

### **ERC Surplus Analysis**

## San Joaquin Valley Air Pollution Control District Surplus ERC Analysis

<b>Facility Name:</b> Kern Oil & Refining Company	<b>Date:</b> October 4, 2022
<b>Mailing Address:</b> 7724 E Panama Ln Bakersfield, CA 93307	<b>Engineer:</b> Dakota Ballard
	<b>Lead Engineer:</b> Brian Clerico
<b>Contact Person:</b> Melinda Palmer	
<b>Telephone:</b> (661) 845-0761	
<b>ERC Certificate #:</b> C-1523-1	
<b>Project #:</b> S-1220184	

### I. Proposal

Kern Oil & Refining Company has requested the District to perform an analysis of the current surplus value of the following Emission Reduction Credit (ERC) certificate:

Proposed ERC Certificate	
Certificate #	Criteria Pollutant
C-1523-1	VOC

The purpose of this analysis is to ensure that the emission reductions on this ERC certificate are surplus of all applicable Federal requirements; therefore, this analysis establishes the surplus value of the ERC certificate as of the date of this analysis. The current face value and surplus value of the ERC certificate evaluated in this analysis are summarized in the following table:

#### Criteria Pollutant Summary: VOC

ERC Certificate C-1523-1				
Pollutant	1 <sup>st</sup> Qtr. (lb/qtr)	2 <sup>nd</sup> Qtr. (lb/qtr)	3 <sup>rd</sup> Qtr. (lb/qtr)	4 <sup>th</sup> Qtr. (lb/qtr)
Current Value	2,000	2,000	2,000	2,000
Surplus Value	2,000	2,000	2,000	2,000

## II. Individual ERC Certificate Analysis

### ERC Certificate C-1523-1

#### A. ERC Background

##### Criteria Pollutant: VOC

ERC Certificate C-1523-1 is a certificate that was split out from parent ERC Certificate C-3-1. Original ERC Certificate C-3-1 was issued to Fruehauf Trailer Corporation on November 5, 1992 under Project C-92003. The ERCs were generated from the shutdown of a truck trailer coating operation, based on the use of coatings having a VOC content of 2.8 lb/gal and an application method with a 65% transfer efficiency. The following table summarizes the values of the original parent certificate and the current value of the subject certificate proposed to be utilized as a part of the current District analysis:

ERC Certificates C-3-1 and C-1523-1				
Pollutant	1 <sup>st</sup> Qtr. (lb/qtr)	2 <sup>nd</sup> Qtr. (lb/qtr)	3 <sup>rd</sup> Qtr. (lb/qtr)	4 <sup>th</sup> Qtr. (lb/qtr)
Original Value of Parent Certificate C-3-1	5,547	6,575	4,753	6,696
Current Value of ERC Certificate C-1523-1	2,000	2,000	2,000	2,000

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

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

##### 1. District Rules

Rule 220.1 – New and Modified Stationary Source Review

Rule 230.1 – Emission Reduction Credit Banking

Rule 230.2 – Community Bank

Rule 460.3 – Surface Coating of Metal Parts and Products

The application review for the original ERC banking project demonstrated that the ERC credit complied with the requirements of these rules at the time it was issued.

## **2. Federal Rules and Regulations**

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

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

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

#### **1. District Rules:**

Rule 2201 – New and Modified Stationary Source Review (8/15/2019)

Rule 2301 – Emission Reduction Credit Banking (8/15/2019)

Rule 2302 – Community Bank (12/17/1992)

District Rules 220.1, 230.1, and 230.2 have been renamed 2201, 2301, and 2302, respectively, since the original ERC certificate was issued. Rules 2201 and 2301 have also been amended. However, the requirements of these rules only applied at the time of the original banking action. Thus, no further evaluation of these rules will be conducted in this analysis.

Rule 4603 – Surface Coating of Metal Parts and Products, Plastic Parts and Products, and Pleasure Crafts (9/17/2009)

District Rule 460.3 has been renamed 4603, and amended, since the original ERC certificate was issued. However, the applicable requirements in the amended rule (i.e. VOC content limit of 2.8 lb/gal and application method transfer efficiency of 65%) have not changed. The original ERC therefore remains surplus of the requirements of this rule.

Rule 4612 – Motor Vehicle and Mobile Equipment Operations

The requirements of this rule would have been applicable to the operation that was shut down since truck trailers are mobile equipment. However, the applicable requirements in this rule (i.e. VOC content limit of 2.8 lb/gal for single-stage coatings and application method transfer efficiency of 65%) are equivalent to the corresponding requirements in Rule 4603, which were evaluated during the original banking action. The original ERC therefore remains surplus of the requirements of this rule.



## 2. Federal Rules and Regulations:

### 40 CFR Part 63 Subpart MMMM – National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products

Pursuant to §63.3881(c)(16), this subpart does not apply to surface coating of assembled on-road vehicles that meet the applicability criteria for the assembled on-road vehicle subcategory in plastic parts and products surface coating (40 CFR part 63, subpart PPPP).

Pursuant to §63.3981, assembled on-road vehicle coating means any coating operation in which coating is applied to the surface of some component or surface of a fully assembled motor vehicle or trailer intended for on-road use including, but not limited to, components or surfaces on automobiles and light-duty trucks that have been repaired after a collision or otherwise repainted, fleet delivery trucks, and motor homes and other recreational vehicles (including camping trailers and fifth wheels). Assembled on-road vehicle coating includes the concurrent coating of parts of the assembled on-road vehicle that are painted off-vehicle to protect systems, equipment, or to allow full coverage. Assembled on-road vehicle coating does not include surface coating operations that meet the applicability criteria of the automobiles and light-duty trucks NESHAP. Assembled on-road vehicle coating also does not include the use of adhesives, sealants, and caulks used in assembling on-road vehicles.

The original ERC therefore remains surplus of the requirements of this subpart.

### 40 CFR Part 63 Subpart PPPP – National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products

Pursuant to §63.4481(a)(5), the assembled on-road vehicle coating subcategory includes surface coating of fully assembled motor vehicles and trailers intended for on-road use, including, but not limited to: automobiles, light-duty trucks, heavy duty trucks, and busses that have been repaired after a collision or otherwise repainted; fleet delivery trucks; and motor homes and other recreational vehicles (including camping trailers and fifth wheels). This subcategory also includes the incidental coating of parts, such as radiator grilles, that are removed from the fully assembled on-road vehicle to facilitate concurrent coating of all parts associated with the vehicle. The assembled on-road vehicle coating subcategory does not include the surface coating of plastic parts prior to their attachment to an on-road vehicle on an original equipment manufacturer's (OEM) assembly line. The assembled on-road vehicle coating subcategory also does not include the use of adhesives, sealants, and caulks used in assembling on-road vehicles. Body fillers used to correct small surface defects and rubbing compounds used to remove surface scratches are not considered coatings subject to this subpart.

Pursuant to §63.4481, this subpart is applicable to new, reconstructed, or existing operations that use 100 gallons per year, or more, of coatings that contain hazardous air pollutants (HAP) in the surface coating of plastic parts and products and that are major sources of HAP emissions. A major source of HAP emissions is any stationary

source with the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAP at a rate of 25 tons or more per year. Although HAP potential to emit for the subject stationary source has not been determined, compliance with the requirements of this subpart will be evaluated for expediency.

Pursuant to §63.4482(c), new sources are those that commenced construction after December 4, 2002 by installing new coating equipment. Since subject operation was shut down in 1992, it would have been classified as an existing source.

The only potentially applicable VOC emission limit in this subpart would be from §63.4490(b)(4). Pursuant to §63.4490(b)(4), existing assembled on-road vehicle coating affected sources are required to limit organic HAP emissions to no more than 1.34 lb of organic HAP emitted per lb of coating solids used during each 12-month compliance period.

According to the information provided in the original ERC banking evaluation, the coatings used were generally high solids coatings. The best available information indicates that the solids content for high solids coatings range from 2.8 lb-Solids/gal to 6.1 lb-Solids/gal. Therefore, the strictest applicable organic HAP limit from this subpart would be:

$$\frac{2.8 \text{ lb solids}}{\text{gal}} \times \frac{1.34 \text{ lb organic HAP}}{\text{lb solids}} = 3.75 \text{ lb organic HAP/gal}$$

The original ERC was based on a VOC content of 2.8 lb/gal for all coatings used. Thus, even assuming all the VOC content from the coatings in the original banking action were organic HAPs and based on the most conservative solids content assumptions, the worst-case HAP emission rate from the subject operation (2.8 lb/gal) would have been below the limit (3.75 lb/gal) required by this subpart. The original ERC, therefore, remains surplus of the requirements of this subpart.

#### 40 CFR Part 63 Subpart HHHHHH – National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources

This subpart specifies work practice standards to limit methylene chloride emissions from paint stripping solvents. The subpart also requires the use of enclosed paint booths with filters and HVLP spray technology for the control of particulate matter emissions. The subpart does not contain any VOC content limits or other specific standards or requirements that could be applicable to VOC emissions from coatings. The original ERC therefore remains surplus of the requirements of this subpart.

#### **D. Surplus at Time of Use Adjustments to ERC Quantities**

As demonstrated in the section above, the emissions reductions from permit units in the original banking project continue to be surplus of all applicable District and Federal Rules and Regulations. Therefore, no discounting to the ERC values are necessary for surplus at time of use considerations.

**E. Surplus Value of ERC Certificate**

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

<b>ERC Certificate C-1523-1 – Criteria Pollutant VOC</b>					
		1 <sup>st</sup> Qtr. (lb/qtr)	2 <sup>nd</sup> Qtr. (lb/qtr)	3 <sup>rd</sup> Qtr. (lb/qtr)	4 <sup>th</sup> Qtr. (lb/qtr)
(A)	Current ERC Quantity	2,000	2,000	2,000	2,000
(B)	Percent Discount	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
(C) = (A) x [1 – (B)]	<b>Surplus Value</b>	<b>2,000</b>	<b>2,000</b>	<b>2,000</b>	<b>2,000</b>

**APPENDIX H**  
**ERC Certificate C-1523-1**



**San Joaquin Valley**  
AIR POLLUTION CONTROL DISTRICT



August 4, 2021

**CERTIFIED MAIL**

Jayson Busch  
Kern Oil & Refining Company  
7724 E Panama Ln  
Bakersfield, CA 93307

**Re: Issuance of Emission Reduction Credit Certificate C-1523-1**

Dear Mr. Busch:

Enclosed is Emission Reduction Credit (ERC) certificate C-1523-1 issued to Kern Oil & Refining Company in the amounts specified on the certificate for each quarter of the year. The enclosed certificate reflects the partial transfer of ERC certificate C-1460-1, which is now null and void, from Avenal Power Center, LLC to Kern Oil & Refining Company.

Thank you for your cooperation in this matter. Should you have any questions, please contact Mr. Errol Villegas, Permit Services Manager, at (559) 230-5900.

Sincerely,

Brian Clements  
Director of Permit Services

BC:tb

Enclosure

cc: Jim Rexroad, Avenal Power Center, LLC via email

**Samir Sheikh**  
Executive Director/Air Pollution Control Officer

**Northern Region**  
4800 Enterprise Way  
Modesto, CA 95356-8718  
Tel: (209) 557-6400 FAX: (209) 557-6475

**Central Region (Main Office)**  
1990 E. Gettysburg Avenue  
Fresno, CA 93726-0244  
Tel: (559) 230-8000 FAX: (559) 230-6061

**Southern Region**  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
Tel: (661) 392-5500 FAX: (661) 392-5585



Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726

**Emission Reduction Credit Certificate**  
**C-1523-1**

**ISSUED TO:** KERN OIL & REFINING COMPANY  
**ISSUED DATE:** August 3, 2021  
**LOCATION OF REDUCTION:** 5778 W BARSTOW AVE  
FRESNO, CA

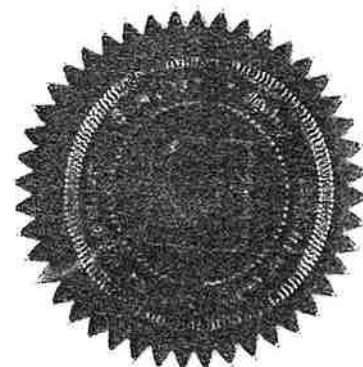
For VOC Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
2,000 lbs	2,000 lbs	2,000 lbs	2,000 lbs

**Method Of Reduction**

- Shutdown of Entire Stationary Source
- Shutdown of Emissions Units
- Other

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.



Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

**APPENDIX I**  
**Quarterly Net Emissions Change [QNEC]**

### 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.1 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated for permit unit S-37-175-0 as follows:

$$\begin{aligned} \text{PE2}_{\text{quarterly}} &= \text{PE2}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 438 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 109.5 \text{ lb VOC/qtr} \end{aligned}$$

$$\begin{aligned} \text{PE1}_{\text{quarterly}} &= \text{PE1}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 0 \text{ lb VOC/qtr} \end{aligned}$$

Quarterly NEC [QNEC]			
Pollutant	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO <sub>x</sub>	0	0	0
SO <sub>x</sub>	0	0	0
PM <sub>10</sub>	0	0	0
CO	0	0	0
VOC	109.5	0	109.5



**APPENDIX J**  
**Site Map**

# Kern Oil & Refining Co.

Tank 3300 Replacement  
S-37-42

## Legend

-  Kern Oil Refining
-  Resident NE
-  T-3300
-  Worker

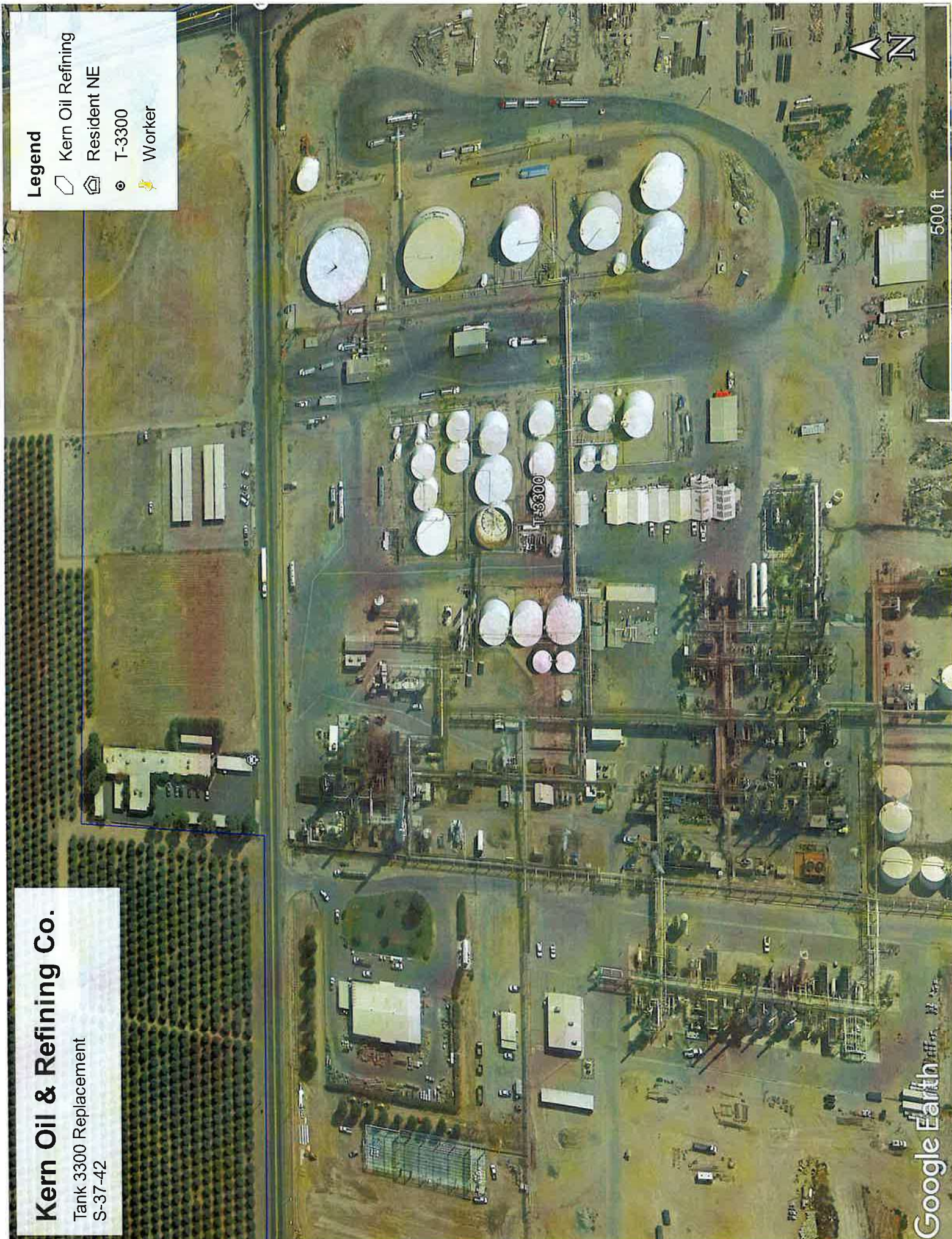


# Kern Oil & Refining Co.

Tank 3300 Replacement  
S-37-42

## Legend

-  Kern Oil Refining
-  Resident NE
-  T-3300
-  Worker



## **APPENDIX K**

### **ERC Withdrawal Calculations**

<b>VOC</b>	<b>1<sup>st</sup> Quarter (lb)</b>	<b>2<sup>nd</sup> Quarter (lb)</b>	<b>3<sup>rd</sup> Quarter (lb)</b>	<b>4<sup>th</sup> Quarter (lb)</b>
ERC C-1523-1	2,000	2,000	2,000	2,000
Offsets Required (Includes distance offset ratio)	164	164	164	165
Amount Remaining and Credits Reissued	1,836	1,836	1,836	1,835