San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

SEP 1 3 2011

Greg Youngblood
E&B Natural Resources
34740 Merced Avenue
Bakersfield, CA 93308

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: S-1110967

Dear Mr. Youngblood:

Enclosed for your review and comment is the District's analysis of E&B Natural Resource's application for an Authority to Construct for increasing flare S-4034-25's fuel use limit, at the SE/4 of section 8, T30S,R21E, MDB&M in the Miller and Lux lease.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. David Torii of Permit Services at 661-392-5620.

Sincerely,

David Warner
Director of Permit Services

DW: DBT/cm

Enclosures

Seyed Sadredin
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
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Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

SEP 1 3 2011

Mike Tollstrup, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
PO Box 2815
Sacramento, CA 95812-2815

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: S-1110967

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of E&B Natural Resource's application for an Authority to Construct for increasing flare S-4034-25's fuel use limit, at the SE/4 of section 8, T30S,R21E, MDB&M in the Miller and Lux lease.

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SEP 13 2011

Gerardo C. Rios (AIR 3)
Chief, Permits Office
Air Division
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: S-1110967

Dear Mr. Rios:

Enclosed for your review and comment is the District's analysis of E&B Natural Resource's application for an Authority to Construct for increasing flare S-4034-25's fuel use limit, at the SE/4 of section 8, T30S,R21E, MDB&M in the Miller and Lux lease.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. David Torii of Permit Services at 661-392-5620.

Sincerely,

David Warner
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www.valleyair.org www.healthyairliving.com

Bakersfield Californian

NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
AN AUTHORITY TO CONSTRUCT

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Authority to Construct to E&B Natural Resources for increasing flare S-4034-25's fuel use limit at the SE/4 of section 8, T30S,R21E, MDB&M in the Miller and Lux lease.

The analysis of the regulatory basis for this proposed action, Project #S-1110967, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Flare

Facility Name:	E&B Natural Resources
Mailing Address:	34740 Merced Avenue Bakersfield, CA 93308
Contact Person:	Greg Youngblood
Telephone:	661-773-2501
Fax:	661-776-2348
Application #(s):	S-4034-22-1 and '25-1
Project #:	1110967
Deemed Complete:	5/9/11

Engineer: David Torii
Lead Engineer: Steve Leonard

8/15/11

I. Proposal

E&B Natural Resources (E&B) requests an Authority to Construct (ATC) to increase flare S-4034-25's combustion limit from 29 Mscf/day to 100 Mscf/day and add air assist. Permit S-4034-25 does not specify a location, the application requests that its authorized location be the SE/4 of section 8, T30S,R21E.

The flare's VOC emission increase will be mitigated by lowering the true vapor pressure (TVP) of fluid stored in tank S-4034-22 from 11.0 psia (unrestricted maximum) to 5.0 psia.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 2530	Federally Enforceable Potential To Emit (12/18/08)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4311	Flares (6/18/09)
Rule 4409	Components At Light Crude Oil Production Facilities, Natural Gas Production Facilities, And Natural Gas Processing Facilities (4/20/05)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

Tank S-4034-22 is located at the SW/4 of section 6, T28S, R20E in the Voigt lease. Flare S-4034-25 is/will be located at the SE/4 of section 8, T30S, R21E in the Miller and Lux lease in E & B's Light Oil Western stationary source.

IV. Process Description

Tank S-4034-22 receives production from the Voigt lease. Flare S-4034-25 incinerate produced gas from the Miller and Lux leases.

V. Equipment Listing

Pre-Project Equipment Description (see PTOs in Appendix B):

S-4034-22-0: ONE 10,500 GALLON CRUDE OIL STORAGE TANK (15 FT. DIA. X 8 FT. HIGH) WITH A P/V VENT VALVE (VOIGT LEASE)

S-4034-25-0: MACTRONIC PRODUCED GAS FLARE WITH 316LSS FLARE TIP (3" DIA. X 20' TALL) AND SOLAR POWERED IGNITION SYSTEM AND 370 GALLON SEPARATOR VESSEL

Proposed ATCs:

S-4034-22-1: MODIFICATION OF 10,500 GALLON CRUDE OIL STORAGE TANK (15 FT. DIA. X 8 FT. HIGH) WITH A P/V VENT VALVE (VOIGT LEASE): LIMIT MAXIMUM TVP TO 5.0 PSIA

S-4034-25-1: MODIFICATION OF MACTRONIC PRODUCED GAS FLARE WITH 316LSS FLARE TIP (3" DIA. X 20' TALL) AND SOLAR POWERED IGNITION SYSTEM AND 370 GALLON SEPARATOR VESSEL: INCREASE THROUGHPUT FROM 29 MCF/DAY TO 100 MCF/DAY, ADD AIR ASSIST AND DESIGNATE LOCATION AS SE/4 SECTION 8, T30S, R21E

Post Project Equipment Description:

S-4034-22-1: 10,500 GALLON CRUDE OIL STORAGE TANK (15 FT. DIA. X 8 FT. HIGH) WITH A P/V VENT VALVE (VOIGT LEASE)

S-4034-25-1: MACTRONIC AIR ASSISTED PRODUCED GAS FLARE WITH 316LSS FLARE TIP (3" DIA. X 20' TALL) AND SOLAR POWERED IGNITION SYSTEM AND 370 GALLON SEPARATOR VESSEL

VI. Emission Control Technology Evaluation

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

The flare is designed to incinerate produced gas in a safe manner and without creating a nuisance. Engineered flares, such as these are designed to achieve a greater than 98% destruction efficiency of VOC and H_2S and to operate without visible emissions. Air-assist promotes complete combustion of gases.

VII. General Calculations

A. Assumptions

S-4034-22:

TVP of oil = 11.0 psia (pre-project)
TVP of oil = 5.0 psia (post project)
50 bbl/day throughput (PTO condition)
Shell height 20', average liquid height 11', diameter 12 '
See tank emission calculation spreadsheet in Appendix C

S-4034-25:

- The facility operates 24 hours per day, 7 days per week, and 52 weeks per year.
- The proposed modification will not affect fugitive VOC emissions associated with the flare
- Sulfur content of hydrocarbon vapors is 1 grain/100dscf (applicant)
- Pre-project flare emission are based on 29 Mscf of gas flared per day
- Post-project flare emission are based on 100 Mscf of gas flared per day
- Produced gas heating value: 1,000 Btu/scf
- Post-project flare emission estimates are based on continuous firing at the maximum capacity of 4.98 MMBtu/hr

B. Emission Factors

Both the daily and annual PE's for tank S-4034-22 are based on the results from the District's Microsoft Excel spreadsheets for Tank Emissions - Fixed Roof Crude Oil greater than 26° API located in Appendix C.

Emission Factors Flare S-4034-25		
Pollutant	Emission Factor (lb/MMBtu)	Source
NO_X	0.068	PTO S-4034-25-0 and FYI 83
SO_X	0.00285	PTO S-4034-25-0
PM_{10}	0.026	PTO S-4034-25-0 and FYI 83
CO	0.370	PTO S-4034-25-0 and FYI 83
VOC	0.063	PTO S-4034-25-0 and FYI 83

C. Calculations

1. Pre-Project Potential to Emit (PE1)

S-4034-22-0 Pre-Project Potential to Emit (PE1)*		
Permit Unit	**VOC - Daily PE1 (lb/day)**	**VOC - Annual PE1 (lb/Year)**
S-4034-22-0	37.2	13,562

*see emission calculation spreadsheet in Appendix C

The potential to emit for the flare is calculated as follows, and summarized in the table below.

NOx: 0.068 lb NOx/MMBtu x MM/1,000,000 x **29,000** scf/day x 1000 Btu/scf = 2.0 lb/day

2.0 lb/day x 365 = 730 lb/yr

S-4034-25-0 Pre-Project Potential to Emit (PE1)				
	Burner (lb/day)	Fugitive (lb/day)	Total (lb/day)	Total (lb/year)
NO_X	2.0		2.0	730
SO_X	0.1		0.1	37
PM_{10}	0.8		0.8	292
CO	10.7		10.7	3906
VOC	1.8	0.05	1.9	694

2. Post Project Potential to Emit (PE2)

S-4034-22-1 Post-Project Potential to Emit (PE1)*	
VOC - Daily PE2 (lb/day)	**VOC - Annual PE2 (lb/Year)**
5.7	2096

*see emission calculation spreadsheet in Appendix C

The potential to emit for the flare is calculated as follows, and summarized in the table below.

NOx: 0.068 lb NOx/MMBtu x MM/1,000,000 x **100,000** scf/day x 1000 Btu/scf = 6.8 lb/day

6.8 lb/day x 365 = 2482 lb/yr

S-4034-25-1 Post-Project Potential to Emit (PE2)				
	Burner (lb/day)	Fugitive (lb/day)	Total (lb/day)	Total (lb/year)
NO_X	6.8		6.8	2482
SO_X	0.3		0.3	110
PM_{10}	2.6		2.6	949
CO	37.0		37.0	13505
VOC	6.3	0.05	6.4	2336

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

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Pre-Project Stationary Source Potential to Emit [SSPE1] (lb/year)					
Permit Unit	NO_X	SO_X	PM_{10}	CO	VOC
S-4034-1-3					2300
S-4034-2-1					1705
S-4034-5-0					708
S-4034-6-0					708
S-4034-7-0					726
S-4034-8-0					716
S-4034-13-1					7528
S-4034-14-3					5116
S-4034-15-2					7528
S-4034-16-1					3589
S-4034-17-1					3589
S-4034-18-1					4567
S-4034-19-1					864
S-4034-20-0					2746
S-4034-21-1	621	54	359	4176	640
S-4034-22-0					13,562
S-4034-23-0					13,562
S-4034-24-0					4097
S-4034-25-0	730	37	292	3906	694
S-4034-26-0					292
S-4034-27-0					1570
Pre-Project SSPE (SSPE1)	1351	91	651	8082	76,807

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

Pursuant to Section 4.10 of District Rule 2201, the Post Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Post-Project Stationary Source Potential to Emit [SSPE2] (lb/year)					
Permit Unit	NO_X	SO_X	PM_{10}	CO	VOC
S-4034-1-3					2300
S-4034-2-1					1705
S-4034-5-0					708
S-4034-6-0					708
S-4034-7-0					726
S-4034-8-0					716
S-4034-13-1					7528
S-4034-14-3					5116
S-4034-15-2					7528
S-4034-16-1					3589
S-4034-17-1					3589
S-4034-18-1					4567
S-4034-19-1					864
S-4034-20-0					2746
S-4034-21-1	621	54	359	4176	640
S-4034-22-0					2096
S-4034-23-0					13,562
S-4034-24-0					4097
S-4034-25-0	2482	110	949	13,505	2336
S-4034-26-0					292
S-4034-27-0					1570
Pre-Project SSPE (SSPE1)	3103	164	1308	17681	66,983

5. Major Source Determination

Pursuant to Section 3.23 of District Rule 2201, a Major Source is a stationary source with post-project emissions or a Post Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the following threshold values. However, Section 3.23.2 states, "for the purposes of determining major source status, the SSPE2 shall not include the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site."

Major Source Determination (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
Pre-Project SSPE (SSPE1)	1351	91	651	8082	76,807
Post Project SSPE (SSPE2)	3103	164	1308	17681	66,983
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	Yes

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

6. Baseline Emissions (BE)

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

Pursuant to Section 3.7 of District Rule 2201, BE = Pre-project Potential to Emit for:

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

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.22 of District Rule 2201.

As shown in Section VII.C.5 above, the facility is a major source for VOC emissions only. Therefore Baseline Emissions (BE) for NOx, SOx, CO and PM10 are equal to the Pre-project Potential to Emit (PE1).

Pursuant to Rule 2201, Section 3.12, a Clean Emissions Unit is defined as an emissions unit that is "equipped with an emissions control technology with a minimum control efficiency of at least 95% or is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

Tank S-4034-22 is equipped with a P/V vent which meets the requirements for achieved-in-practice BACT (see BACT guideline 7.3.1 in Appendix D). Therefore, Baseline Emissions (BE) are equal to the Pre-Project Potential to Emit (PE1).

Flare S-4034-25 is not Highly-Utilized, Fully-Offset or a Clean Emissions Unit; therefore, its BE equals its Historic Actual Emissions. The flare has been out of service since 2007; therefore its BE is zero.

7. SB 288 Major Modification

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

As discussed in Section VII.C.5 above, the facility is an existing Major Source for VOC; however, the project by itself would need to be a significant increase in order to trigger a Major Modification. The emissions unit(s) within this project do not have a total potential to emit which is greater than Major Modification thresholds (see table below). Therefore, the project cannot be a significant increase and the project does not constitute a SB 288 Major Modification.

SB 288 Major Modification Thresholds (Existing Major Source)			
	Project PE (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
S-4034-22-1	2096		
S-4034-25-1	2336		
Total:	4432	50,000	No

8. Federal Major Modification

District Rule 2201, Section 3.17 states that Federal Major Modifications are the same as "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

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

Step 1

For existing emissions units, the increase in emissions is calculated as follows.

Emission Increase = PAE – BAE - UBC

Where: PAE = Projected Actual Emissions, and
BAE = Baseline Actual Emissions
UBC = Unused baseline capacity

If there is no increase in design capacity or potential to emit, the PAE is equal to the annual emission rate at which the unit is projected to emit in any one year, selected by the operator, within 5 years after the unit resumes normal operation (10 years for existing units with an increase in design capacity or potential to emit). If detailed PAE are not provided, the PAE is equal to the PE2 for each permit unit.

The BAE is calculated based on historical emissions and operating records for any 24 month period, selected by the operator, within the previous 10 year period (5 years for electric utility steam generating units). The BAE must be adjusted to exclude any non-

compliant operation emissions and emissions that are no longer allowed due to lower applicable emission limits that were in effect when this application was deemed complete.

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

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
VOC	2336	0	Yes

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

9. 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 A.**

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless exempted pursuant to Section 4.2, BACT shall be required for the following actions:*:

a. Any new emissions unit with a potential to emit exceeding two pounds per day,
b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
d. Any new or modified emissions unit, in a stationary source project, which results in an SB288 Major Modification or a Federal Major Modification, as defined by the rule.

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

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

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

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

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

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

AIPE = PE2 – HAPE

Where,
AIPE = Adjusted Increase in Permitted Emissions, (lb/day)
PE2 = Post-Project Potential to Emit, (lb/day)
HAPE = Historically Adjusted Potential to Emit, (lb/day)

HAPE = PE1 x (EF2/EF1)

Where,
PE1 = The emissions unit's Potential to Emit prior to modification or relocation, (lb/day)
EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1
EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

AIPE = PE2 – (PE1 * (EF2 / EF1))

There is no change in EF for the subject equipment; therefore:

AIPE = PE2 – PE1

AIPE S-4034-22-1			
PE1	PE2	AIPE	BACT Triggered?
37.2	5.7	0	no

AIPE S-4034-25-1				
	PE1	PE2	AIPE	BACT Triggered?
NO_X	2.0	6.8	4.8	Yes
SO_X	0.1	0.3	0.2	No
PM_{10}	0.8	2.6	1.8	No
CO	10.7	37.0	26.3	Yes
VOC	1.9	6.4	4.5	Yes

As demonstrated above, the S-4034-25's AIPE is greater than 2.0 lb/day for NOx, CO and VOC emissions for any baghouse; therefore BACT is triggered for NOx, CO and VOC; however, BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lbs/year, as demonstrated in Section VII.C.5 of this document.

d. SB 288/Federal Major Modification

As discussed in Section VII.C.7 above, this project does constitute a SB 288 and/or 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. Therefore, BACT is triggered for S-4034-25-1 for VOC.

2. BACT Guideline

BACT Guideline 1.4.1, applies to the flare. [Waste Gas Flare - 15.3 MMBtu/hr, Serving a Tank Vapor Control System] (See Appendix D)

3. Top-Down BACT Analysis

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

Pursuant to the attached Top-Down BACT Analysis (see **Appendix E**), BACT has been satisfied with the following: air-assisted flare.

B. Offsets

1. Offset Applicability

Pursuant to Section 4.5.3, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the Post Project Stationary Source Potential to Emit (SSPE2) equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

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

Offset Determination (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
Post Project SSPE (SSPE2)	3103	164	1308	17681	66,983
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	yes

2. Quantity of Offsets Required

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

Per Sections 4.7.1 and 4.7.3, the quantity of offsets in pounds per year for VOC is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

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

Where,
PE2 = Post Project Potential to Emit, (lb/year)
BE = Baseline Emissions, (lb/year)
ICCE = Increase in Cargo Carrier Emissions, (lb/year)

BE = Pre-project Potential to Emit for:

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

otherwise,

BE = Historic Actual Emissions (HAE)

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

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

	BE lb-VOC/year	PE2 lb-VOC/year	Offsets Required (PE2 – BE)
S-4034-22	13,562	2096	
S-4034-25	0	2336	
Total:	13,562	4432	-9130 = 0

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

C. Public Notification

1. Applicability

Public noticing is required for:
a. New Major Sources, Federal Major Modifications, and SB288 Major Modifications,

b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
c. Any project which results in the offset thresholds being surpassed, and/or
d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Sources, Federal Major Modifications, and SB288 Major Modifications

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

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

b. PE > 100 lb/day

Applications which include a new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project; therefore public noticing is not required for this project for Potential to Emit Purposes.

c. Offset Threshold

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

Offset Threshold				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO_X	1351	3103	20,000 lb/year	No
SO_X	91	164	54,750 lb/year	No
PM_{10}	651	1308	29,200 lb/year	No
CO	8082	17,681	200,000 lb/year	No
VOC	76,807	66,983	20,000 lb/year	No

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

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. SSIPE = SSPE2 – SSPE1. The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and

4.10, respectively. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO_x	1351	3103	0	20,000 lb/year	No
SO_x	91	164	0	20,000 lb/year	No
PM_{10}	651	1308	0	20,000 lb/year	No
CO	8082	17,681	0	20,000 lb/year	No
VOC	76,807	66,983	0	20,000 lb/year	No

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

2. Public Notice Action

As discussed above, this project will result in emissions, for any pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will be required for this project.

As discussed above, public noticing is required because the project is a Federal Major Modification. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, 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:

For the flare, the DELs are stated in the form of emission factors (lb/MMBtu), the maximum rating, and the maximum operational time of 24 hours per day.

- Emissions from the flare shall not exceed any of the following: NOx 0.068 lb/MM Btu, CO 0.370 lb/MM Btu, PM10 0.026 lb/MM Btu and VOC 0.063 lb/MM Btu. [District Rule 2201] N

Proposed Rule 2201 (DEL) Conditions:

For the tank, the DELs will be stated in the form of tank's throughput and contents, maximum true vapor pressure (TVP). The permittee will be required to maintain accurate records of tank content TVP and tanks monthly average daily throughput to validate the DEL.

- Crude oil throughput shall not exceed 50 barrels per day based on a monthly average. [District Rules 2201 and 4623] N

- This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 5.0 psia under all storage conditions. [District Rule 2201] N

E. Compliance Assurance

1. Source Testing

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

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

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

S-4034-22-1:

- Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201 and 4623] N

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

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

- All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 2201 and 4623] N

S-4034-25-1:

- The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201 and 4409] N

- Permittee shall maintain daily records of volume of gas flared and annual records of the fuel sulfur content. [District Rule 2210] N

- All records, including required monitoring data and support information, shall be maintained and retained for a period of 5 years and made available for inspection at any time. [District Rule 1070] N

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

Rule 2520 Federally Mandated Operating Permits

Since this facility's emissions exceed the major source thresholds of District Rule 2201, this facility is a major source. However, this facility has elected to comply with Rule 2530, which, per Section 4.6 of Rule 2520, exempts it from the requirements of Rule 2520.

Rule 2530 Federally Enforceable Potential to Emit

The purpose of this rule is to restrict the emissions of a stationary source so that the source may elect to be exempt from the requirements of Rule 2520. Per Section 6.1 of Rule 2530, this facility has elected exemption from the requirements of Rule 2520 by ensuring actual emissions from the stationary source in every 12-month periods to not exceed the following: ½ the major source thresholds for NOx, VOCs, CO, and PM_{10}; 50 tons per year SO2; 5 tons per year of a single HAP; 12.5 tons per year of any combination of HAPs; 50 percent of any lesser threshold for a single HAP as the EPA may establish by rule; and 50 percent of the major source threshold for any other regulated air pollutant not listed in 6.1.1 and 6.1.6 of Rule 2530.

Rule 4101 Visible Emissions

Per Section 5.0, 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).

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

Rule 4102 Nuisance

Section 4.0 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

California Health & Safety Code 41700 (Health Risk Assessment)

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

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

Discussion of T-BACT

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

Rule 4201 Particulate Matter Concentration

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

The subject equipment is currently in compliance with this rule and the proposed modifications are not expected to affect

Rule 4311 Flares

Rule 4311 limits the emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NOx), and sulfur from the operation of flares.

Section 5.1 states flares permitted to operate only during an emergency are not subject to the requirements of Section 5.6 and 5.7. The flare in this project is not an emergency flare; therefore, Sections 5.6 and 5.7 are not applicable.

Section 5.2 requires that the flame be present at all times when combustible gases are vented through the flare. The following condition will be listed on the ATC to ensure compliance:

- A flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311]

Section 5.3 requires that the flare outlet be equipped with an automatic ignition system, or operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. The following condition will be listed on the ATC to ensure compliance:

- Flare outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311]

Section 5.4 requires that except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an alternative equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated. The following condition will be listed on the ATC to ensure compliance:

- Flare shall be equipped with a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device capable of continuously detecting at least one pilot flame or the flare flame is present. The flame detection device shall be kept operational at all times except during flare maintenance when the flare is isolated from gas flow. During essential planned power outages when the flare is operating, the pilot monitor is allowed to be non-functional if the flare flame is clearly visible to onsite operators. Effective on and after July 1, 2012, all pilot monitor downtime shall be reported annually pursuant to Rule 4311, section 6.2.3.6. [District Rule 4311]

Section 5.5 requires flares that use flow-sensitive automatic ignition systems and which do not use a continuous pilot flame to use purge gas for purging. The following condition will be listed on the ATC to ensure compliance:

- If the flare uses a flow-sensing automatic ignition system and does not use a continuous flame pilot, the flare shall use purge gas for purging. [District Rule 4311]

Section 5.6 states that open flares (air-assisted, steam-assisted, or non-assisted) in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. The requirements of this section shall not apply to Coanda effect flares. Flare S-1548-424 is a Coanda effect flare. The following condition will be listed on the ATC to ensure compliance:

- Open flares in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. [District Rule 4311, 5.6]

Section 5.7 states that ground-level enclosed flares meet the defined emission standards. The flare involved with this project is not ground-level enclosed flares; therefore, this section does not apply.

Section 5.8 states that Effective on and after July 1, 2011, flaring is prohibited unless it is consistent with an approved flare minimization plan (FMP), pursuant to Section 6.5, and all commitments listed in that plan have been met. Subsection 6.5.1 states that by July 1, 2010, the operator of a petroleum refinery flare or any flare that has a flaring capacity of greater than or equal to 5.0 MMBtu per hour shall submit a flare minimization plan (FMP) to the APCO for approval. Flare S-4034-25 has a flaring capacity less than 5.0 MMBtu/hr; therefore a FMP is not required.

Section 5.9 sites Petroleum Refinery SO2 Performance Targets. The flare does not serve a petroleum refinery.

Section 5.10 states that Effective on and after July 1, 2011, the operator of a flare subject to flare minimization requirements pursuant to Section 5.8 shall monitor the vent gas flow to the flare with a flow measuring device or other parameters as specified in the Permit to Operate. The subject flare is not subject to flare minimization requirements pursuant to Section 5.8.

Section 5.11 states that effective on and after July 1, 2011, the operator of a petroleum refinery or a flare with a flaring capacity equal to or greater than 50 MMBtu/hr shall monitor the flare pursuant to Sections 6.6, 6.7, 6.8, 6.9, and 6.10. The flare is not part of petroleum refinery nor is the flaring capacity greater than 50 MMBtu/hr.

Compliance with the rule is expected.

Rule 4409 Components at Light Crude Oil Production Facilities, Natural Gas Production Facilities, and Natural Gas Processing Facilities

The units currently comply with this rule and the proposed modifications are not expected to affect compliance. Continued compliance with the rule is expected.

Rule 4801 Sulfur Compounds

The units currently comply with this rule and the proposed modifications are not expected to affect compliance. Continued compliance with the rule is expected.

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; 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

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

Project specific impacts on global climate change were evaluated consistent with the adopted District policy – *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. The District's engineering evaluation (this document) demonstrates that the project includes Best Performance Standards (BPS) for each class and category of greenhouse gas emissions unit. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue Authorities to Construct S-4034-22-1 and '25-1 subject to the permit conditions on the attached draft Authorities to Construct in **Appendix G**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-4034-22-1	3020-05S-B	10500 gallons	$44
S-4034-25-1	3020-02-F	4.2 MMBtu/hr	$412

APPENDIX A
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.6 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

$PE2_{quarterly}$ = $PE2_{annual}$ ÷ 4 quarters/year
= 2096 lb/year ÷ 4 qtr/year
= 524 lb VOC/qtr

$PE1_{quarterly}$= $PE1_{annual}$ ÷ 4 quarters/year
= 13,562 lb/year ÷ 4 qtr/year
= 3391 lb VOC/qtr

S-4034-22-1 Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NOX	NA	NA	0
SOX	NA	NA	0
PM10	NA	NA	0
CO	NA	NA	0
VOC	524	3391	-2867

S-4034-25-1 Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NOX	621	183	438
SOX	28	9	18
PM10	237	73	164
CO	3376	977	2400
VOC	584	174	411

Permit #: S-4034-22-1	**Last Updated**
Facility: E&B NATURAL RESOURCES	08/08/2011 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	2096.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	5.7
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-2867.0
Q2:	0.0	0.0	0.0	0.0	-2867.0
Q3:	0.0	0.0	0.0	0.0	-2867.0
Q4:	0.0	0.0	0.0	0.0	-2867.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-4034-25-1	**Last Updated**
Facility: E&B NATURAL RESOURCES	08/08/2011 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	2482.0	110.0	949.0	13505.0	2336.0
Daily Emis. Limit (lb/Day)	6.8	0.3	2.6	37.0	6.4
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	438.0	18.0	164.0	2400.0	411.0
Q2:	438.0	18.0	164.0	2400.0	411.0
Q3:	438.0	18.0	164.0	2400.0	411.0
Q4:	438.0	18.0	164.0	2400.0	411.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

APPENDIX B
Current PTOs

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-4034-22-0 **EXPIRATION DATE:** 12/31/2011

SECTION: SW06 **TOWNSHIP:** 28S **RANGE:** 20E

EQUIPMENT DESCRIPTION:
ONE 10,500 GALLON CRUDE OIL STORAGE TANK (15 FT. DIA. X 8 FT. HIGH) WITH A P/V VENT VALVE (VOIGT LEASE)

PERMIT UNIT REQUIREMENTS

1. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623]
2. This tank shall be in a gas-tight condition. A gas-tight 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. [District Rule 4623]
3. Crude oil throughput shall not exceed 50 barrels per day based on a monthly average. [District Rule 4623]
4. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623]
5. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623]
6. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. Permittee's crude oil production shall average less than 6,000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rule 4623]
8. Formerly S-3276-1.

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-4034-25-0 **EXPIRATION DATE:** 12/31/2011

EQUIPMENT DESCRIPTION:
MACTRONIC PRODUCED GAS FLARE WITH 316LSS FLARE TIP (3" DIA. X 20' TALL) AND SOLAR POWERED IGNITION SYSTEM AND 370 GALLON SEPARATOR VESSEL

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Permittee's crude oil production shall average less than 6,000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rule 4623]
3. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. No more than 29 Mscf of gas shall be flared per day. [District Rule 2201]
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
6. The flare shall be equiped with an operational gas flow meter. [District Rule 2201]
7. Vessel shall only store, place, or hold organic liquid with a true vapor pressure (TVP) no greater than 1.5 psia under all storage conditions. [District Rule 2201 and 4409]
8. Permittee shall maintain with the permit accurate fugitive component counts for vapor handling components and resulting emissions calculated using CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999) Oil and Gas Production Screening Value Range emission factors. [District Rule 2201]
9. The fugitive VOC emissions from this operation shall not exceed 0.05 lb/day. [District Rule 2201]
10. Maximum VOC content of produced fluids in liquid piping between separator and tank S-3262-5 shall not exceed 10% by weight. [District Rule 2201]
11. Permittee shall maintain with the permit accurate records of the produced fluid's VOC content. [District Rules 2201 and 1070]
12. Emissions from the flare shall not exceed any of the following: NOx 0.068 lb/MM Btu, CO 0.370 lb/MM Btu, PM10 0.026 lb/MM Btu and VOC 0.063 lb/MM Btu. [District Rule 2201]
13. The sulfur content of the gas being flared shall not exceed exceed 1.0 gr S/100scf. [District Rules 2201 and 4801]
14. Compliance with sulfur compound emission limit shall be demonstrated by testing for fuel sulfur content once every 24 months. [District Rule 2201]
15. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank. [District Rules 2201 and 4409]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

16. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rules 2201 and 4409]
17. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rules 2201 and 4409]
18. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623]
19. The sulfur content of the gas being flared shall be determined using ASTM D1072, D3031, D4084, D3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2201]
20. The flame shall be present at all times when combustible gases are vented through the flare. [District Rule 2201]
21. The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 2201]
22. Permittee shall maintain daily records of volume of gas flared and annual records of the fuel sulfur content. [District Rule 2210]
23. All records, including required monitoring data and support information, shall be maintained and retained for a period of 5 years and made available for inspection at any time. [District Rule 1070]

APPENDIX C
Tank Emission Calculation Spreadsheets

FOR REFERENCE PAINT TABLE

PAINT COLOR	SHADE/ TYPE	PAINT FACTORS PAINT CONDITION GOOD	POOR
ALUMINUM	SPECULAR	0.39	0.49
ALUMINUM	DIFFUSE	0.60	0.68
GRAY	LIGHT	0.54	0.63
GRAY	MEDIUM	0.68	0.74
RED	PRIMER	0.89	0.91
WHITE	--NONE--	0.17	0.34

LIQUID TYPE	CODE	
CRUDE OIL	0	CRUDE
MOTOR GASOLINE	1	MOTOR GAS
AVIATION GASOLINE	2	AV GAS
LIGHT NAPHTHA (RVP 9-14 PSIA)	3	LT NAPTHA
NAPHTHA (RVP 2-8 PSIA)	4	NAPTHA

METEOROLOGICAL DATA CODES	
AREA	CODE
BAKERSFIELD	0
FRESNO	1
STOCKTON	2

PRESS [TAB] TO SKIP TO NEXT MODIFIABLE CELL

GIVEN AND ASSUMED DATA	
USING THE CODES ABOVE, WHAT REGION PERMIT NUMBERS DO YOU WANT TO USE? (0, 1, OR 2)	1
USING THE CODES ABOVE, WHAT AREA METEOROLOGICAL DATA DO YOU WANT TO USE? (0, 1, 2, ...)	1
REID VAPOR PRESSURE (psia)	11.00
VAPOR MOLECULAR WEIGHT (Mv)	50.00
USING THE CODES ABOVE, WHAT TYPE OF ORGANIC LIQUID (0, 1, 2, ...)	0
VOC CONTROL EFFICIENCY	0.00
TANK SHELL DIAMETER (FEET)	15.00
TANK SHELL HEIGHT, Hs (FEET)	8.00
VENT VACUUM (ENTER "-" FOLLOWED BY A VALUE IN PSIG)	-0.03
VENT PRESSURE (POSITIVE psig)	0.03
TANK ID	S-4034-22
TANK USE	Stock
SJVUAPCD PERMIT#	
CONE OR DOME ROOF (C/D)	C
MAXIMUM TOTAL DAILY THROUGHPUT (BBL/DAY)	50.00
MIN LIQUID HEIGHT (USE 0.0 FT FOR DEFAULT)	2.00
TANK ROOF PAINT CONDITION, GOOD OR POOR (G/P)	G
TANK ROOF PAINT COLOR, SEE ABOVE (A/G/R/W)	G
TANK ROOF PAINT SHADE, SEE ABOVE (S/D/L/M/P/N)	M
TANK SHELL PAINT CONDITION, GOOD OR POOR (G/P)	G
TANK SHELL PAINT COLOR, SEE ABOVE (A/G/R/W)	G
TANK SHELL PAINT SHADE, SEE ABOVE (S/D/L/M/P/N)	M

MODIFIABLE DATA	
---	---
---	---
---	Y
---	--N/R--
---	3.0
CONE ROOF	---
GIVEN ROOF HEIGHT OR SLOPE (H/S)	S
---	0.94
TANK CONE ROOF SLOPE, Sr (DEFAULT=0.0625) (ft/ft)	0.0625
---	---
---	1.00
DO YOU WANT TO ENTER A MAX LIQUID HEIGHT? (Y/N)	N
---	16.00
DEFAULT MAX LIQUID HEIGHT (SHELL HT - 2.0 FT)	6.00
DO YOU WANT TO ENTER AN AVERAGE LIQUID HEIGHT? (Y/N)	y
---	---
ENTER AVERAGE LIQUID HEIGHT (ft)	5.0
IS TANK CONSTANT LEVEL? (Y/N)	N
---	0.33
ARE THE CONTENTS OF THE TANK HEATED? (Y/N)	N
---	160

TANK ID	TANK USE	SJVUAPCD PERMIT #	TANK TYPE H OR V	SHELL DIMENSIONS D (FT)	SHELL DIMENSIONS Hs (FT)	CAPACITY (BBL)	ROOF TYPE (C/D)	VENT PSIG VAC.	VENT PSIG PRESS.
S-4034-22	Stock	0.00	VERTICAL	15.0	8.0	251.8	CONE	-0.03	0.03

TANK ROOF COND.	TANK ROOF COLOR	PAINT FACTOR	LIQUID DATA TYPE	LIQUID DATA Ht=H(lx)	LIQUID DATA Kp	LIQUID DATA RVP	CONSTANT LEVEL?	VAPOR MOL. WT.	VOC CNTRL %EFF (w/w)
GOOD	GRAY	0.68	CRUDE	6.0	0.75	11.00	NO	50.00	0.0

UNCONTROLLED EMISSIONS

CALENDAR QUARTER	CALENDAR MONTH	SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/MON)	TURNOVER PER MON.	FAC-(Kn)	VOC (LBM/MONTH) Ls	VOC (LBM/MONTH) Lw	VOC (LBM/MONTH) TOTAL (Lt)	TOTAL (LBM/QTR)
FIRST	JANUARY	60.88	8.61	1550	12.31	0.374	177.54	187.08	364.62	
	FEBRUARY	65.13	9.22	1400	11.12	0.374	265.53	180.81	446.34	
	MARCH	71.56	10.19	1550	12.31	0.374	421.48	221.27	642.74	1453.71
SECOND	APRIL	74.79	10.71	1500	11.91	0.374	739.20	225.00	964.20	
	MAY	80.34	11.64	1550	12.31	0.374	1246.06	252.75	1498.81	
	JUNE	84.63	12.40	1500	11.91	0.374	1822.48	260.61	2083.10	4546.11
THIRD	JULY	86.88	12.81	1550	12.31	0.374	2400.13	278.28	2678.41	
	AUGUST	84.72	12.42	1550	12.31	0.374	1764.09	269.64	2033.73	
	SEPTEMBER	79.91	11.56	1500	11.91	0.374	1003.36	243.05	1246.41	5958.55
FOURTH	OCTOBER	73.21	10.45	1550	12.31	0.374	568.51	226.94	795.45	
	NOVEMBER	65.32	9.25	1500	11.91	0.374	265.31	194.30	459.61	
	DECEMBER	60.32	8.54	1550	12.31	0.374	163.07	185.40	348.47	1603.53

CONTROLLED EMISSIONS (BASED ON MONTHLY CALCULATIONS)

CALENDAR QUARTER	CALENDAR MONTH	SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/QTR)	TURNOVER PER QTR.	FAC-(Kn)	VOC (LBM/QTR) Ls	VOC (LBM/QTR) Lw	VOC (LBM/QTR) TOTAL (Lt)
FIRST	JAN-MAR	65.86	9.34	4500	36	0.374	865	589	1454
SECOND	APR-JUN	79.92	11.58	4550	36	0.374	3808	738	4546
THIRD	JUL-SEP	83.84	12.27	4600	37	0.374	5168	791	5959
FOURTH	OCT-DEC	66.28	9.41	4600	37	0.374	997	607	1604
QUARTERLY AVERAGE		73.97	10.65	4563			2709	681	3390
DAILY AVERAGE (LB/DAY, BASED ON MONTHLY CALCULATIONS)							29.7	7.5	37.2
ANNUAL EMISSIONS (LB/YEAR, BASED ON MONTHLY CALCULATIONS)							10837	2725	13562

Tank Emission Calculation Spreadsheet, version 01/23/03

FOR REFERENCE PAINT TABLE

PAINT COLOR	SHADE/ TYPE	PAINT FACTORS PAINT CONDITION GOOD	POOR
ALUMINUM	SPECULAR	0.39	0.49
ALUMINUM	DIFFUSE	0.60	0.68
GRAY	LIGHT	0.54	0.63
GRAY	MEDIUM	0.68	0.74
RED	PRIMER	0.89	0.91
WHITE	--NONE--	0.17	0.34

LIQUID TYPE	CODE	
CRUDE OIL	0	CRUDE
MOTOR GASOLINE	1	MOTOR GAS
AVIATION GASOLINE	2	AV GAS
LIGHT NAPHTHA (RVP 9-14 PSIA)	3	LT NAPTHA
NAPHTHA (RVP 2-8 PSIA)	4	NAPTHA

METEOROLOGICAL DATA CODES	
AREA	CODE
BAKERSFIELD	0
FRESNO	1
STOCKTON	2

PRESS [TAB] TO SKIP TO NEXT MODIFIABLE CELL

GIVEN AND ASSUMED DATA	
USING THE CODES ABOVE, WHAT REGION PERMIT	---
NUMBERS DO YOU WANT TO USE? (0, 1, OR 2)	1
USING THE CODES ABOVE, WHAT AREA METEOROLOGICAL	---
DATA DO YOU WANT TO USE? (0, 1, 2, ...)	1
REID VAPOR PRESSURE (psia)	5.00
VAPOR MOLECULAR WEIGHT (Mv)	50.00
USING THE CODES ABOVE, WHAT	---
TYPE OF ORGANIC LIQUID (0, 1, 2, ...)	0
VOC CONTROL EFFICIENCY	0.00
TANK SHELL DIAMETER (FEET)	15.00
TANK SHELL HEIGHT, Hs (FEET)	8.00
VENT VACUUM (ENTER "-" FOLLOWED BY A VALUE IN PSIG)	-0.03
VENT PRESSURE (POSITIVE psig)	0.03
TANK ID	S-4034-22
TANK USE	Stock
SJVUAPCD PERMIT#	
CONE OR DOME ROOF (C/D)	C
MAXIMUM TOTAL DAILY THROUGHPUT (BBL/DAY)	50.00
MIN LIQUID HEIGHT (USE 0.0 FT FOR DEFAULT)	2.00
TANK ROOF PAINT CONDITION, GOOD OR POOR (G/P)	G
TANK ROOF PAINT COLOR, SEE ABOVE (A/G/R/W)	G
TANK ROOF PAINT SHADE, SEE ABOVE (S/D/L/M/P/N)	M
TANK SHELL PAINT CONDITION, GOOD OR POOR (G/P)	G
TANK SHELL PAINT COLOR, SEE ABOVE (A/G/R/W)	G
TANK SHELL PAINT SHADE, SEE ABOVE (S/D/L/M/P/N)	M

MODIFIABLE DATA	
---	---
---	---
---	Y
---	--N/R--
---	3.0
CONE ROOF	---
GIVEN ROOF HEIGHT OR SLOPE (H/S)	S
---	0.94
TANK CONE ROOF SLOPE, Sr (DEFAULT=0.0625) (ft/ft)	0.0625
---	---
---	1.00
DO YOU WANT TO ENTER A MAX LIQUID HEIGHT? (Y/N)	N
---	18.00
DEFAULT MAX LIQUID HEIGHT (SHELL HT - 2.0 FT)	6.00
DO YOU WANT TO ENTER AN AVERAGE LIQUID HEIGHT? (Y/N)	y
---	---
ENTER AVERAGE LIQUID HEIGHT (ft)	5.0
IS TANK CONSTANT LEVEL? (Y/N)	N
---	0.33
ARE THE CONTENTS OF THE TANK HEATED? (Y/N)	N
---	160

TANK ID	TANK USE	SJVUAPCD PERMIT #	TANK TYPE H OR V	SHELL DIMENSIONS D (FT)	SHELL DIMENSIONS Hs (FT)	CAPACITY (BBL)	ROOF TYPE (C/D)	VENT PSIG VAC.	VENT PSIG PRESS.
S-4034-22	Stock	0.00	VERTICAL	15.0	8.0	251.8	CONE	-0.03	0.03

TANK ROOF COND.	TANK ROOF COLOR	PAINT FACTOR	LIQUID DATA TYPE	LIQUID DATA Ht=H(lx)	LIQUID DATA Kp	LIQUID DATA RVP	CONSTANT LEVEL?	VAPOR MOL. WT.	VOC CNTRL %EFF (w/w)
GOOD	GRAY	0.68	CRUDE	6.0	0.75	5.00	NO	50.00	0.0

UNCONTROLLED EMISSIONS

CALENDAR QUARTER	CALENDAR MONTH	SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/MON)	TURNOVER PER MON.	FAC-(Kn)	VOC (LBM/MONTH) Ls	VOC (LBM/MONTH) Lw	VOC (LBM/MONTH) TOTAL (Lt)	TOTAL (LBM/QTR)
FIRST	JANUARY	60.88	2.93	1550	12.31	0.374	31.45	63.58	95.03	
	FEBRUARY	65.13	3.18	1400	11.12	0.374	44.47	62.37	106.85	
	MARCH	71.56	3.59	1550	12.31	0.374	62.16	78.03	140.19	342.07
SECOND	APRIL	74.79	3.82	1500	11.91	0.374	100.29	80.22	180.52	
	MAY	80.34	4.23	1550	12.31	0.374	137.42	91.79	229.21	
	JUNE	84.63	4.57	1500	11.91	0.374	157.21	95.98	253.19	662.92
THIRD	JULY	86.88	4.75	1550	12.31	0.374	172.58	103.23	275.81	
	AUGUST	84.72	4.57	1550	12.31	0.374	151.15	99.34	250.48	
	SEPTEMBER	79.91	4.19	1500	11.91	0.374	112.69	88.15	200.83	727.13
FOURTH	OCTOBER	73.21	3.71	1550	12.31	0.374	80.56	80.48	161.04	
	NOVEMBER	65.32	3.19	1500	11.91	0.374	44.25	67.07	111.32	
	DECEMBER	60.32	2.90	1550	12.31	0.374	29.05	62.88	91.93	364.30

CONTROLLED EMISSIONS (BASED ON MONTHLY CALCULATIONS)

CALENDAR QUARTER	CALENDAR MONTH	SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/QTR)	TURNOVER PER QTR.	FAC-(Kn)	VOC (LBM/QTR) Ls	VOC (LBM/QTR) Lw	VOC (LBM/QTR) TOTAL (Lt)
FIRST	JAN-MAR	65.86	3.23	4500	36	0.374	138	204	342
SECOND	APR-JUN	79.92	4.20	4550	36	0.374	395	268	663
THIRD	JUL-SEP	83.84	4.51	4600	37	0.374	436	291	727
FOURTH	OCT-DEC	66.28	3.26	4600	37	0.374	154	210	364
QUARTERLY AVERAGE		73.97	3.80	4563			281	243	524
DAILY AVERAGE (LB/DAY, BASED ON MONTHLY CALCULATIONS)							3.1	2.7	5.7
ANNUAL EMISSIONS (LB/YEAR, BASED ON MONTHLY CALCULATIONS)							1123	973	2096

Tank Emission Calculation Spreadsheet, version 01/23/03

APPENDIX D
BACT guideline 7.3.1

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 1.4.2*

Last Update: 12/31/1998

Waste Gas Flare - Incinerating Produced Gas

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

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

***This is a Summary Page for this Class of Source - Permit Specific BACT Determinations on Next Page(s)**

APPENDIX E
Top-Down BACT Analysis

A. Top-Down BACT Analysis for Waste Gas Flare Incinerating Produced Gas

1. BACT Analysis for NOx and VOC Emissions

Step A - Identify All Possible Control Technologies

The SJVUAPCD BACT Clearinghouse Guideline 1.4.2 (current version), identifies Achieved in Practice BACT for NOx and VOC as steam assisted or air assisted or Coanda effect burner when steam is unavailable.

Step B - Eliminate Technologically Infeasible Options

Steam is not available at this location. Therefore, steam assist is not feasible.

Step C - Rank Remaining Control Technologies by Control Effectiveness

1) Air-assisted or Coanda effect burner.

Step D - Cost Effectiveness Analysis

The applicant has proposed use of an air-assisted flare. The applicant has proposed the most effective control technology. As no technologically feasible controls or alternate basic equipment are identified, a cost effectiveness analysis will not be required.

Step 5 - Select BACT

The selection of air-assisted flare is considered BACT for the control of NOx.

2. BACT Analysis for PM10 Emissions

Step 1 - Identify All Possible Control Technologies

The SJVUAPCD BACT Clearinghouse Guideline 1.4.2 (current version), identifies Achieved in Practice BACT for PM10 as steam assisted or air assisted or Coanda effect burner when steam is unavailable. Pilot light fired solely on LPG or natural gas

Step 2 - Eliminate Technologically Infeasible Options

The flare uses an electronic pilot and steam is not available at this location; therefore, a LPG or natural gas-fired pilot light and steam assist are not feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1) Air-assisted or Coanda effect burner with smokeless combustion.

Step 4 - Cost Effectiveness Analysis

The applicant has proposed use of an air-assisted flare with smokeless combustion with pilot fired solely on natural gas. As no technologically feasible controls or alternate basic equipment are identified, a cost effectiveness analysis will not be required.

Step 5 - Select BACT

The selection of air-assisted flare with smokeless combustion is considered BACT for the control of PM10.

APPENDIX F
HRA

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	David Torli, AQE – Permit Services
From:	Ester Davila, SAQS – Technical Services
Date:	August 31, 2011
Facility Name:	E & B Natural Resources
Location:	SW/6 of Section 6, T28S, R20E (Voigt Lease)
Application #(s):	S-4034-22-1 & 25-1
Project #:	S-1110967

A. RMR SUMMARY

RMR Summary				
Categories	**Storage Tank (Unit 22-1)**	**Flare (Unit 25-1)**	**Project Totals**	**Facility Totals**
Prioritization Score	**0.07**	**0.00**	0.07*	0.45
Acute Hazard Index	N/A	N/A	N/A	N/A
Chronic Hazard Index	N/A	N/A	N/A	N/A
Maximum Individual Cancer Risk (10^{-6})	N/A	N/A	N/A	N/A
T-BACT Required?	N/A	N/A		
Special Permit Conditions?	N/A	N/A		

*Project passed on prioritization.

I. Project Description

Technical Services received a request on August 8, 2011, to perform a Risk Management Review to modify two units. The modification consists of an increase in the flare's combustion limit from 29 MScf/day to 100 MScf/day for unit S-4034-25 and to lower the true vapor pressure (TVP) of fluid stored in tank S-4034-22 from 11.0 psia (unrestricted maximum) to 5.0 psia in order to mitigate the VOC emissions increase from the flare.

II. Analysis

Toxic emissions were calculated using fugitive emission factors from oilfields (for existing tank not previously modeled), the San Diego emission factors for flare waste gas, and the usage rates provided by the engineer. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905-1, March 2, 2001), risks from the proposed project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEART's database. The prioritization score for the proposed project was less than 1.0 (see RMR Summary Table). Therefore, no further analysis was necessary.

The following parameters were used for the review:

Analysis Parameters Unit 21-1 & 25-1			
Total VOC Emissions (lb/hr) Mitigated	1.55	**Total VOC Emissions (lb/yr) Mitigated**	13,562
Flare Produced Gas (MMBtu/hr)	1.3	**Flare Produced Gas (MMBtu/hr)**	25,915
Closest Receptor (m)	305	**Max Hours per Year**	8760

III. Conclusion

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

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

Attachments:

A. RMR Request
B. Prioritization Score
C. Facility Summary

APPENDIX G
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-4034-22-1 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: E&B NATURAL RESOURCES
MAILING ADDRESS: 1600 NORRIS ROAD
BAKERSFIELD, CA 93308

LOCATION: LIGHT OIL WESTERN

SECTION: SW06 **TOWNSHIP:** 28S **RANGE:** 20E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 10,500 GALLON CRUDE OIL STORAGE TANK (15 FT. DIA. X 8 FT. HIGH) WITH A P/V VENT VALVE (VOIGT LEASE): LIMIT MAXIMUM TVP TO 5.0 PSIA

CONDITIONS

1. Permittee's crude oil production shall average less than 6,000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rule 4623]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623]
4. This tank shall be in a gas-tight condition. A gas-tight 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. [District Rule 4623]
5. Crude oil throughput shall not exceed 50 barrels per day based on a monthly average. [District Rules 2201 and 4623]
6. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 5.0 psia under all storage conditions. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
S-4034-22-1 : Aug 8 2011 4:51PM – TORID : Joint Inspection NOT Required

7. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 2201]
8. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 2201]
9. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 2201]
10. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 2201]
11. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201 and 4623]
12. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 2201]
13. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 2201]
14. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 2201 and 4623]
15. Formerly S-3276-1.

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-4034-25-1 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: E&B NATURAL RESOURCES
MAILING ADDRESS: 1600 NORRIS ROAD
BAKERSFIELD, CA 93308

LOCATION: LIGHT OIL WESTERN

SECTION: SE8 **TOWNSHIP:** 30 S **RANGE:** 21 E

EQUIPMENT DESCRIPTION:
MODIFICATION OF MACTRONIC PRODUCED GAS FLARE WITH 316LSS FLARE TIP (3" DIA. X 20' TALL) AND SOLAR POWERED IGNITION SYSTEM AND 370 GALLON SEPARATOR VESSEL: INCREASE THROUGHPUT FROM 29 MCF/DAY TO 100 MCF/DAY, ADD AIR ASSIST AND DESIGNATE LOCATION AS SE/4 SECTION 8, T30S, R21E

CONDITIONS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Permittee's crude oil production shall average less than 6,000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rule 4623]
3. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. No more than 100 Mscf of gas shall be flared per day. [District Rule 2201]
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
6. The flare shall be equiped with an operational gas flow meter. [District Rule 2201]
7. Vessel shall only store, place, or hold organic liquid with a true vapor pressure (TVP) no greater than 1.5 psia under all storage conditions. [District Rule 2201 and 4409]
8. A flame shall be present at all times when combustible gases are vented through the flare. [District Rules 2201 and 4311]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
S-4034-25-1 : Sep 1 2011 10:28AM – TORID : Joint Inspection NOT Required

9. Flare outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rules 2201 and 4311]
10. Flare pilot shall be fired solely on PUC-quality natural gas. [District Rule 2201]
11. Flare shall be equipped with a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device capable of continuously detecting at least one pilot flame or the flare flame is present. The flame detection device shall be kept operational at all times except during flare maintenance when the flare is isolated from gas flow. During essential planned power outages when the flare is operating, the pilot monitor is allowed to be non-functional if the flare flame is clearly visible to onsite operators. Effective on and after July 1, 2012, all pilot monitor downtime shall be reported annually pursuant to Rule 4311, section 6.2.3.6. [District Rule 4311]
12. If the flare uses a flow-sensing automatic ignition system and does not use a continuous flame pilot, the flare shall use purge gas for purging. [District Rule 4311]
13. Open flares in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. [District Rule 4311]
14. Permittee shall maintain with the permit accurate fugitive component counts for vapor handling components and resulting emissions calculated using CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999) Oil and Gas Production Screening Value Range emission factors. [District Rule 2201]
15. The fugitive VOC emissions from this operation shall not exceed 0.05 lb/day. [District Rule 2201]
16. Maximum VOC content of produced fluids in liquid piping between separator and tank S-3262-5 shall not exceed 10% by weight. [District Rule 2201]
17. Permittee shall maintain with the permit accurate records of the produced fluid's VOC content. [District Rules 2201 and 1070]
18. Emissions from the flare shall not exceed any of the following: NOx 0.068 lb/MM Btu, CO 0.370 lb/MM Btu, PM10 0.026 lb/MM Btu and VOC 0.063 lb/MM Btu. [District Rule 2201]
19. The sulfur content of the gas being flared shall not exceed exceed 1.0 gr S/100scf. [District Rules 2201 and 4801]
20. Compliance with sulfur compound emission limit shall be demonstrated by testing for fuel sulfur content once every 24 months. [District Rule 2201]
21. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank. [District Rules 2201 and 4409]
22. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rules 2201 and 4409]
23. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rules 2201 and 4409]
24. The sulfur content of the gas being flared shall be determined using ASTM D1072, D3031, D4084, D3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2201]
25. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201 and 4409]
26. Permittee shall maintain daily records of volume of gas flared and annual records of the fuel sulfur content. [District Rule 2210]
27. All records, including required monitoring data and support information, shall be maintained and retained for a period of 5 years and made available for inspection at any time. [District Rule 1070]

CONDITIONS CONTINUE ON NEXT PAGE

28. ATC S-4034-22-1 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]