



MAR 27 2012

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

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: S-1120528

Dear Mr. Youngblood :

Enclosed for your review and comment is the District's analysis of E&B Natural Resources's application for an Authority to Construct for increasing flare S-1624-218-0's daily and annual throughput, at E&B's heavy oil production stationary source in Section 5, Township 28 S Range 27 E, MDBE.

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
Tel: (559) 230-6000 FAX: (559) 230-6061

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



MAR 27 2012

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-1120528

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of E&B Natural Resources's application for an Authority to Construct for increasing flare S-1624-218-0's daily and annual throughput, at E&B's heavy oil production stationary source in Section 5, Township 28 S Range 27 E, MDBE.

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MAR 27 2012

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-1120528

Dear Mr. Rios:

Enclosed for your review and comment is the District's analysis of E&B Natural Resources's application for an Authority to Construct for increasing flare S-1624-218-0's daily and annual throughput, at E&B's heavy oil production stationary source in Section 5, Township 28 S Range 27 E, MDBE.

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.

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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-1624-218-0's daily and annual throughput, at E&B's heavy oil production stationary source in Section 5, Township 28 S Range 27 E, MDBE.

The analysis of the regulatory basis for this proposed action, Project #S-1120528, 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

Engineer: David Torii

Lead Engineer: Richard Karrs

Contact Person: Greg Youngblood and Scott Faulkenburg

RWK 3-15-12

Telephone: (661) 766-2501 (GY), (661) 377-0073 (#15) 345-8263 (SF cell)

Fax: (661) 766-2348

E-Mail: sfaulkenburg@ix.netcom.com

Application #(s): S-1624-25-3, '26-3, '72-3, '178-2 and '218-1

Project #: 1120528

Deemed Complete: 3/3/12

I. Proposal

E&B Natural Resources requests an Authority to Construct (ATC) to increase flare S-1624-218-0's daily and annual throughput.

The flare's VOC IPE will be mitigated by connecting tank '72 to the vapor control system listed on tank '178. Also, the facility's NOx SSPE will be lowered to below 20,000 lb/yr by lowering the NOx emission limits of dormant steam generators '25 and '26.

Disposition of Outstanding ATCs

ATCs S-1624-178-1 and '218-0 serve as the base documents. Current PTO S-1624-178-0 and ATCs S-1624-178-1 and '218-0 are included in **Appendix B**.

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 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4305	Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
Rule 4306	Boilers, Steam Generators and Process Heaters – Phase III (3/17/05)
Rule 4320	Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
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

The equipment is located within E&B's heavy production stationary source in the central Kern County fields. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The flare will be used to incinerate TEOR and tank vapors from the Blackhawk lease.

V. Equipment Listing

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

PTOs:

- S-1624-25-1: NON-COMPLIANT DORMANT 23.0 MMBTU/HR STRUTHERS GAS-FIRED STEAM GENERATOR #2 W/OXYGEN CONTROLLER/ANALYZER: DIS# 27544-66 (MIDWAY PREMIER)
- S-1624-26-1: NON-COMPLIANT DORMANT 30.0 MMBTU/HR STRUTHERS GAS-FIRED STEAM GENERATOR #1 W/OXYGEN CONTROLLER/ANALYZER - DIS# 39095-86 (MIDWAY PREMIER)
- S-1624-72-2: 1,000 BBL FIXED ROOF CRUDE OIL STORAGE TANK, BLACKHAWK LEASE
- S-1624-178-0: 5,000 BBL FIXED ROOF CRUDE OIL WASH TANK WITH VAPOR RECOVERY SYSTEM (BLACKHAWK LEASE)

ATCs:

- S-1624-178-1: MODIFICATION OF 5,000 BBL FIXED ROOF CRUDE OIL WASH TANK WITH VAPOR RECOVERY SYSTEM (BLACKHAWK LEASE): CONNECT TANKS S-1624-46 AND 47 TO THE VAPOR RECOVERY SYSTEM
- S-1624-218-0: JOHN ZINK 250 MMBTU/DAY AIR ASSIST FLARE WITH MODEL EEF-FA-8 FLARE TIP SERVING TANK VAPOR RECOVERY SYSTEM AND TEOR SYSTEM (BLACKWELL LEASE)

Proposed ATCs:

- S-1624-25-3: MODIFICATION OF NON-COMPLIANT DORMANT 23.0 MMBTU/HR STRUTHERS GAS-FIRED STEAM GENERATOR #2 W/OXYGEN CONTROLLER/ANALYZER: DIS# 27544-66 (MIDWAY PREMIER): LOWER NOX TO 9 PPM

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- S-1624-26-3: MODIFICATION OF NON-COMPLAINT DORMANT 30.0 MMBTU/HR STRUTHERS GAS-FIRED STEAM GENERATOR #1 W/OXYGEN CONTROLLER/ANALYZER - DIS# 39095-86 (MIDWAY PREMIER): LOWER NOX TO 9 PPM
- S-1624-72-3: MODIFICATION OF 1,000 BBL FIXED ROOF CRUDE OIL STORAGE TANK, BLACKHAWK LEASE: CONNECT TO VAPOR RECOVERY SYSTEM LISTED ON S-1624-178
- S-1624-178-2: MODIFICATION OF 5,000 BBL FIXED ROOF CRUDE OIL WASH TANK WITH VAPOR RECOVERY SYSTEM SHARED WITH TANKS S-1624-46 AND '47 (BLACKHAWK LEASE): CONNECT TANK S-1624-72 TO THE VAPOR RECOVERY SYSTEM
- S-1624-218-1: MODIFICATION OF JOHN ZINK 250 MMBTU/DAY AIR ASSIST FLARE WITH MODEL EEF-FA-8 FLARE TIP SERVING TANK VAPOR RECOVERY SYSTEM AND TEOR SYSTEM (BLACKWELL LEASE): INCREASE THROUGHPUT LIMIT TO 660 MMBTU/DAY AND 118,800 MMBTU/YEAR

Post Project Equipment Description:

- S-1624-25-3: NON-COMPLIANT DORMANT 23.0 MMBTU/HR STRUTHERS GAS-FIRED STEAM GENERATOR #2 W/OXYGEN CONTROLLER/ANALYZER: DIS# 27544-66 (MIDWAY PREMIER)
- S-1624-26-3: NON-COMPLAINT DORMANT 30.0 MMBTU/HR STRUTHERS GAS-FIRED STEAM GENERATOR #1 W/OXYGEN CONTROLLER/ANALYZER - DIS# 39095-86 (MIDWAY PREMIER)
- S-1624-72-3: 1,000 BBL FIXED ROOF CRUDE OIL STORAGE TANK SERVED BY VAPOR CONTROL SYSTEM LISTED ON S-1624-178, BLACKHAWK LEASE
- S-1624-178-2: 5,000 BBL FIXED ROOF CRUDE OIL WASH TANK WITH VAPOR RECOVERY SYSTEM SHARED WITH TANKS S-1624-46, '47 AND '72 (BLACKHAWK LEASE)
- S-1624-218-1: JOHN ZINK 250 MMBTU/DAY AIR ASSIST FLARE WITH MODEL EEF-FA-8 FLARE TIP SERVING TANK VAPOR RECOVERY SYSTEM AND TEOR SYSTEM (BLACKWELL LEASE)

VI. Emission Control Technology Evaluation

Flares typically achieve greater than 99% destruction efficiency of VOCs. The subject flare operates with an auto-ignition propane pilot and is air assist to prevent smoking.

Tank S-1624-72 will be served by a leak-free vapor control system with an expected control efficiency exceeding 99% as emissions are based on screening value emissions factors with no leaks allowed and stringent I&M control

There are no proposed changes to non-compliant dormant steam generators S-1624-25 and '26; therefore, there is no need to evaluate the emission controls.

VII. General Calculations

A. Assumptions

- Facility will operate 24 hours per day, 7 days per week, and 52 weeks per year.

Tank S-1624-72

- The tanks emit only volatile organic compounds (VOCs),
- TVP of oil = 0.5 psia (PTO)
- Tank temperature, ambient (unheated)
- Throughput: 1000 bbl/day (one turnover; District practice for tanks without a throughput limit)
- VOCs molecular weight, 100 lb/lbmol
- API gravity: <26 degrees

Flare S-1624-218's pre-project throughput: 250 MMBtu/day and 5300 MMBtu/yr.

Flare S-1624-218's post-project throughput: 660 MMBtu/day and 118,800 MMBtu/yr.

Steam generators S-1624-25 and '26 are currently non-compliant dormant. The proposed ATCs lower their potential NOx emissions to 9 ppmv at 3% O2. If operated in the future the units must meet this (9 ppmv) emission limit.

Pursuant to item #11 of District FYI 111, modification of a tank vapor control system to connect a new tank to it is not an NSR Modification; therefore, calculations are not needed for tank S-1624-178.

B. Emission Factors

Pre-Project Emission Factors S-1624-25-1 and '26-1 (lb/MMBtu)					
	NO _x	SO _x	PM ₁₀	CO	VOC
EF	0.036	0.004	0.010	0.001	0.005

Post-Project Emission Factors S-1624-25-1 and '26-1 (lb/MMBtu)					
	NO _x	SO _x	PM ₁₀	CO	VOC
EF	0.011 (9 ppmv)	0.004	0.010	0.001	0.005

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Tank S-1624-72's pre-project emissions are based on the District's Microsoft Excel spreadsheets for Tank Emissions - Fixed Roof Crude Oil less than 26° API

Tank S-1624-72's post project emissions are based on the CAPCOA California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities Table IV-2c, Oil and Gas Production Screening Value Ranges Emission Factors (Feb 1999), from the total number of components from the tank.

Emission Factor Flare S-1624-218		
Pollutant	(lb/MMBtu)	Source
NOx	0.068	ATC S-1624-218-0
SOx	0.00285	
PM10	0.008	
CO	0.37	
VOC	0.063	

C. Calculations

1. Pre-Project Potential to Emit (PE1)

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

S-1624-25-1 (23.0 MMBtu/hr gas-fired steam generator):

$$PE2 = (\text{Maximum heat input rating}) \times (EF2)$$

$$\text{Daily PE1 (NOx)} = (23.0 \text{ MMBtu/hr}) \times (24 \text{ hr/day}) \times (0.036 \text{ lb/MMBtu}) \\ = 19.9 \text{ lb/day}$$

$$\text{Annual PE1 (NOx)} = (128,947 \text{ MMBtu/yr}) \times (0.036 \text{ lb/MMBtu}) \\ = 4,642 \text{ lb/yr}$$

Pre-Project Potential to Emit (PE1)					
	NO _x	SO _x	PM ₁₀	CO	VOC
Daily (lb/day)	19.9	2.2	5.5	0.6	2.8
Annual (lb/yr)	4,642	516	1,289	129	645

S-1624-26-1 (30.0 MMBtu/hr gas-fired steam generator):

$$PE1 = (\text{Maximum heat input rating}) \times (EF2)$$

$$\text{Daily PE1 (NOx)} = (30.0 \text{ MMBtu/hr}) \times (24 \text{ hr/day}) \times (0.036 \text{ lb/MMBtu}) \\ = 25.9 \text{ lb/day}$$

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$$\text{Annual PE1 (NO}_x\text{)} = (168,192 \text{ MMBtu/yr}) \times (0.036 \text{ lb/MMBtu}) \\ = 6,055 \text{ lb/yr}$$

Pre-Project Potential to Emit (PE1)					
	NO _x	SO _x	PM ₁₀	CO	VOC
Daily (lb/day)	25.9	2.9	7.2	0.7	3.6
Annual (lb/yr)	6,055	673	1,682	168	841

S-1624-72-2 PE1*		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
VOC	52.3	19,082

*see calculation spreadsheet in Appendix C

Pollutant	S-1624-218-0 Daily Pre-Project Potential to Emit (PE1)			
	Emission Factors	Heat input	Days	Daily PE1
NO _x	0.0680 (lb-NO _x /MMBtu)	x 250 (MMBtu/day)	x 1 day	= 17.0 (lb-NO _x /day)
SO _x	0.00285 (lb-SO _x /MMBtu)	x 250 (MMBtu/day)	x 1 day	= 0.7 (lb-SO _x /day)
PM ₁₀	0.0080 (lb-PM ₁₀ /MMBtu)	x 250 (MMBtu/day)	x 1 day	= 2.0 (lb-PM ₁₀ /day)
CO	0.3700 (lb-CO/MMBtu)	x 250 (MMBtu/day)	x 1 day	= 92.5 (lb-CO/day)
VOC	0.0630 (lb-VOC/MMBtu)	x 250 (MMBtu/day)	x 1 day	= 15.8 (lb-VOC/day)

Pollutant	S-1624-218-0 Annual Pre-Project Potential to Emit (PE1)			
	Emission Factors	Annual Max. Heat input		Annual PE1
NO _x	0.0680 (lb-NO _x /MMBtu)	x 5.3 (billion Btu/year)	=	360 (lb-NO _x /year)
SO _x	0.00285 (lb-SO _x /MMBtu)	x 5.3 (billion Btu/year)	=	15 (lb-SO _x /year)
PM ₁₀	0.0080 (lb-PM ₁₀ /MMBtu)	x 5.3 (billion Btu/year)	=	42 (lb-PM ₁₀ /year)
CO	0.3700 (lb-CO/MMBtu)	x 5.3 (billion Btu/year)	=	1,961 (lb-CO/year)
VOC	0.0630 (lb-VOC/MMBtu)	x 5.3 (billion Btu/year)	=	334 (lb-VOC/year)

PE1					
	NO _x	SO _x	PM ₁₀	CO	VOC
S-1624-25-1	4,642	516	1,289	129	645
S-1624-26-1	6,055	673	1,682	168	841
S-1624-72-2	0	0	0	0	19082
S-1624-218-0	360	15	42	1961	334
Total PE1:	11,057	1204	3,013	2258	20902

2. Post Project Potential to Emit (PE2)

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

S-1624-25-3 (23.0 MMBtu/hr gas-fired steam generator):

$$PE2 = (\text{Maximum heat input rating}) \times (EF2)$$

$$\text{Daily PE2 (NOx)} = (23.0 \text{ MMBtu/hr}) \times (24 \text{ hr/day}) \times (0.01 \text{ lb/MMBtu}) \\ = 6.1 \text{ lb/day}$$

$$\text{Annual PE2 (NOx)} = (128,947 \text{ MMBtu/yr}) \times (0.011 \text{ lb/MMBtu}) \\ = 1418 \text{ lb/yr}$$

Post-Project Potential to Emit (PE2)					
	NO _x	SO _x	PM ₁₀	CO	VOC
Daily (lb/day)	6.1	2.2	5.5	0.6	2.8
Annual (lb/yr)	1418	516	1,289	129	645

S-1624-26-3 (30.0 MMBtu/hr gas-fired steam generator):

$$PE2 = (\text{Maximum heat input rating}) \times (EF2)$$

$$\text{Daily PE2 (NOx)} = (30.0 \text{ MMBtu/hr}) \times (24 \text{ hr/day}) \times (0.011 \text{ lb/MMBtu}) \\ = 7.9 \text{ lb/day}$$

$$\text{Annual PE2 (NOx)} = (168,192 \text{ MMBtu/yr}) \times (0.011 \text{ lb/MMBtu}) \\ = 1850 \text{ lb/yr}$$

Post-Project Potential to Emit (PE2)					
	NO _x	SO _x	PM ₁₀	CO	VOC
Daily (lb/day)	7.9	2.9	7.2	0.7	3.6
Annual (lb/yr)	1850	673	1,682	168	841

S-1624-72-3 PE1*		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
VOC	0.13	47

*see calculation spreadsheet in Appendix D

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Pollutant	S-1624-218-1 Daily Post-Project Potential to Emit (PE2)			
	Emission Factors	Heat input	Days	Daily PE2
NO _x	0.0680 (lb-NO _x /MMBtu)	x 660 (MMBtu/day)	x 1 day	= 44.9 (lb-NO _x /day)
SO _x	0.00285 (lb-SO _x /MMBtu)	x 660 (MMBtu/day)	x 1 day	= 1.9 (lb-SO _x /day)
PM ₁₀	0.0080 (lb-PM ₁₀ /MMBtu)	x 660 (MMBtu/day)	x 1 day	= 5.3 (lb-PM ₁₀ /day)
CO	0.3700 (lb-CO/MMBtu)	x 660 (MMBtu/day)	x 1 day	= 244.2 (lb-CO/day)
VOC	0.0630 (lb-VOC/MMBtu)	x 660 (MMBtu/day)	x 1 day	= 41.6 (lb-VOC/day)

Pollutant	S-1624-218-1 Annual Post-Project Potential to Emit (PE2)		
	Emission Factors	Annual Max Heat input	Annual PE2
NO _x	0.0680 (lb-NO _x /MMBtu)	x 118.8 (billion Btu/year)	= 8,078 (lb-NO _x /year)
SO _x	0.00285 (lb-SO _x /MMBtu)	x 118.8 (billion Btu/year)	= 339 (lb-SO _x /year)
PM ₁₀	0.0080 (lb-PM ₁₀ /MMBtu)	x 118.8 (billion Btu/year)	= 950 (lb-PM ₁₀ /year)
CO	0.3700 (lb-CO/MMBtu)	x 118.8 (billion Btu/year)	= 43,956 (lb-CO/year)
VOC	0.0630 (lb-VOC/MMBtu)	x 118.8 (billion Btu/year)	= 7,484 (lb-VOC/year)

PE2					
S-1624-25-1	1418	516	1,289	129	645
S-1624-26-1	1850	673	1,682	168	841
S-1624-72-2	0	0	0	0	47
S-1624-218-0	8078	339	950	43956	7484
Total PE2:	11346	1528	3,921	44253	9017

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.

The SSPE1 can be calculated by adding the PE1 from all units with valid ATCs or PTOs and the sum of the ERCs that have been banked at the source and which have not been used on-site (Total_{ERC}).

SSPE1 (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	18,814	6,079	6,987	71,417	>>20,000

*from most recently issued project 1120245

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

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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.

Project IPE					
	NO _x	SO _x	PM ₁₀	CO	VOC
PE1	11,057	1204	3,013	2258	20902
PE2	11346	1528	3,921	44253	9017
PE2 – PE1	289	324	908	41,995	-11,885

SSPE2 (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	18,814	6,079	6,987	71,417	>>20,000
PE2 – PE1	289	324	908	41,995	-11,885
SSPE2	19,103	6,403	7,895	113,412	>>20,000

5. Major Source Determination

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. However, for the purposes of determining major source status, the SSPE2 shall not include 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.”

Major Source Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	18,814	6,079	6,987	71,417	>>20,000
SSPE2	19,103	6,403	7,895	113,412	>>20,000
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 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,

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- 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.

a. BE

As shown in Section VII.C.5 above, the facility is a major source for VOC emissions only.

Pursuant to Rule 2201, 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.

- Steam generators S-1624-25 and '26 are fired on gaseous fuel which meets the requirements for achieved-in-practice BACT. Therefore, their BE=PE1.
- Tank S-1624-72 is equipped with a PV-vent set to within 10% of maximum allowable pressure which meets the requirements for achieved-in-practice BACT. Therefore, its BE=PE1.
- Flare S-1624-218 is equipped with Air-assist which meets the requirements for achieved-in-practice BACT. Therefore, its BE=PE1.

7. SB 288 Major Modification

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

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

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	11346	50,000	No
SO _x	1528	80,000	No
PM ₁₀	3921	30,000	No
VOC	9017	50,000	No

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

8. Federal Major Modification

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

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

Step 1

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

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

$$\text{Emission Increase} = \text{PAE} - \text{BAE} - \text{UBC}$$

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.

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

S-1624-218

Rule 1020, Section 3.46 excludes air pollution abatement operation from the definition of "source operation". Since the standby flare is designed to control the VOC emissions from tank vapor and TEOR operation control systems, the flare is considered an air pollution abatement operation and is not an emissions unit. Therefore, BACT is not required for the flare.

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

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

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

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

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

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

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

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

AIPE = PE2 – HAPE

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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)

$$HAPE = PE1 \times (EF2/EF1)$$

Where,

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

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

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

$$AIPE = PE2 - (PE1 * (EF2 / EF1))$$

S-1624-25:

Steam Generator:

$$\begin{aligned} AIPE &= 6.1 - (19.9 * (0.011/0.036)) \\ &= 6.1 - 6.1 \\ &= 0.0 \text{ lb/day} \end{aligned}$$

S-1624-26:

Steam Generator:

$$\begin{aligned} AIPE &= 7.9 - (25.9 * (0.011/0.036)) \\ &= 7.9 - 7.9 \\ &= 0.0 \text{ lb/day} \end{aligned}$$

S-1624-72:

Tank

$$\begin{aligned} AIPE &= 0.13 - (52.3 * (1-0.99/1-0.95)) \\ &= 0.13 - 10.5 \\ &= 0.0 \text{ lb/day} \end{aligned}$$

d. SB 288/Federal Major Modification

As discussed in Section VII.C.7 above, this project does constitute an 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. Only flare S-1624-218 has an emissions increase in this project, however, as explained above in section VIII.A.1 the flare is not subject to BACT.

B. Offsets

1. Offset Applicability

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

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

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	19,103	6,403	7,895	113,412	5,061,107
Offset Thresholds	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 SSPE2 is greater than the offset thresholds for VOC only. Therefore VOC offset calculations will be required for this project.

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.

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

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

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

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

$$\text{PE2 (VOC)} = 9017 \text{ lb/year}$$

$$\text{BE (VOC)} = 20902 \text{ lb/year}$$

$$\text{ICCE} = 0 \text{ lb/year}$$

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([9017 - 20902] + 0) \times \text{DOR} \\ &= 0 \text{ lb VOC/year} \end{aligned}$$

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

C. Public Notification

1. Applicability

Public noticing is required for:

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

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

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

b. PE > 100 lb/day

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

c. Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	18814	19103	20,000 lb/year	No
SO _x	6079	6403	54,750 lb/year	No
PM ₁₀	6987	7895	29,200 lb/year	No
CO	71417	113412	200,000 lb/year	No
VOC	5,072,992	5,061,107	20,000 lb/year	No

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

d. SSIPE > 20,000 lb/year

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

SSIPE Public Notice Thresholds					
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	18814	19103	289	20,000 lb/year	No
SO _x	6079	6403	324	20,000 lb/year	No
PM ₁₀	6987	7895	908	20,000 lb/year	No
CO	71417	113412	41995	20,000 lb/year	No
VOC	5,072,992	5,061,107	-11885	20,000 lb/year	No

As demonstrated above, the SSIPEs for CO was greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

2. Public Notice Action

As discussed above, public noticing is required for this project for CO and VOC emissions in excess of 20,000 lb/year and for being a Federal Major Modification for VOC. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

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

Proposed Rule 2201 (DEL) Conditions:

S-1624-25-3:

Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NOx @ 3% O2 (equivalent to 0.011 lb-NOx/MMBtu), 0.004 lb-SOx/MMBtu, 0.010 lb-PM10/MMBtu, 0.001 lb-CO/MMBtu, or 0.005 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] N

S-1624-26-3:

Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NOx @ 3% O2 (equivalent to 0.011 lb-NOx/MMBtu), 0.004 lb-SOx/MMBtu, 0.010 lb-PM10/MMBtu, 0.001 lb-CO/MMBtu, or 0.005 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] N

S-1624-72-3:

VOC fugitive emissions from the components in gas service on the tank shall not exceed 0.2 lb/day. [District Rule 2201] N

S-1624-178-2:

VOC fugitive emissions from the vapor service components associated with tank and tank vapor control system shall not exceed 0.5 lb/day. [District Rule 2201] N

S-1627-218-1:

Maximum amount of gas combusted shall not exceed 660 MMBtu/day nor 118,800 MMBtu/yr. [District Rule 2201] N

Emissions from the flare shall not exceed any of the following limits (based on total gas combusted): NOx (as NO2): 0.068 lb/MMBtu; PM10: 0.008 lb/MMBtu; CO: 0.37 lb/MMBtu; or VOC: 0.063 lb/MMBtu. [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) are listed on the permit to operate:

S-1624-25-3:

- Records of the monthly amount of fuel used and fuel gas sulfur content shall be maintained. [District Rule 2201] N
- All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305 and 4306] N

S-1624-26-3:

- Records of the monthly amount of fuel used and fuel gas sulfur content shall be maintained. [District Rule 2201] N
- All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305 and 4306] N

S-1624-72-3:

- The permittee shall maintain records of number and type of components installed and calculated fugitive emissions. Permittee shall update such records when new components are installed. [District Rule 2201] N
- {2503} Permittee shall record and maintain monthly records of average daily crude oil throughput and shall make such records readily available for District inspection upon request for a period of five years. [District Rule 4623] N

S-1624-178-2:

- The permittee shall maintain records of number and type of components installed and calculated fugitive emissions. Permittee shall update such records when new components are installed. [District Rule 2201] N
- {3246} All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] N

S-1627-218-1:

- Permittee shall maintain accurate records of flared gas higher heating value, daily and annual quantities of produced gas, pilot gas, and sweep gas combusted in the flare, and flared gas concentration of H₂S. [District Rules 1070 and 2201] N
- {3246} All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] N

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to Appendix E of this document for the AAQA summary sheet.

Technical Services performed modeling for criteria pollutants CO, NO_x, SO_x and PM₁₀ and PM_{2.5}. The emission rates used for criteria pollutant modeling were 3.9 lb/hr CO, 0.7 lb/hr NO_x, 0.03 lb/hr SO_x, 0.3 lb/hr PM₁₀ and 0.3 lb/hr PM_{2.5}.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Diesel ICE	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass ¹	X	X	X	Pass
SO _x	Pass	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass ²	Pass ²
PM _{2.5}	X	X	X	Pass ²	Pass ²

*Results were taken from the attached PSD spreadsheet.

¹The project was compared to the 1-hour NO₂ National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures.

²The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

G. Compliance Certification

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

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to modify oilfield equipment.

Since the project will continue to provide oilfield equipment 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 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, 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. Pursuant to Rule 2530, since 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 NO_x, VOCs, CO, and PM₁₀; 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 Rule 2530.

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). As the subject equipment is fired on natural gas, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. Also, based on past inspections of the facility continued compliance 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.

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 compliance; therefore, compliance is expected.

District Rule 4311 Flares

Section 5.1 states that flares that are permitted to operate only during an emergency are not subject to the requirements of Sections 5.6 and 5.7. Section 5.6 states that open flares with flare gas pressure less than 5 psig shall comply with 40 CFR 60.18. Section 5.7 lists requirement for ground level enclosed flares. The flare is not an emergency flare but operates with a flare gas pressure exceeding 5 psig and so is not subject to Section 5.6.

The subject flare is not enclosed. Section 5.7 is not applicable.

Section 5.2 The flame shall be present at all times when combustible gases are vented through the flare. The following condition is included on the ATC to ensure compliance:

Flare shall be operated with a flame present at all times, and kept in operation when emissions may be vented to them. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. [District Rule 2201] N

Section 5.3 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. The following conditions are included on the ATC:

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. The pilot need not be present when the flare is isolated for required flare maintenance. [District Rule 4311] N

Flare shall be equipped with an automatic flow sensing 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 and unforeseen or necessary planned power outages. [District Rule 4311] N

Section 5.4: 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 flare is not equipped with a heat sensing device.

Section 5.5 Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. The following conditions are included on the ATC:

Flare shall use purge gas for purging. [District Rule 4311] N

Flare shall be equipped with an automatic flow sensing 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 and unforeseen or necessary planned power outages. [District Rule 4311] N

Section 5.6 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

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CFR 60.18. The requirements of this section shall not apply to Coanda effect flares. The following condition is included on the ATC:

{2333} 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] Y
Section 5.8 Flare Minimization Plan

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 of Rule 4311, and all commitments listed in that plan have been met. This standard shall not apply if the APCO determines that the flaring is caused by an emergency as defined by Section 3.7 of Rule 4311 and is necessary to prevent an accident, hazard or release of vent gas directly to the atmosphere. [District Rule 4311]

Permittee shall submit and have approved by the APCO a flare minimization plan prior to operating the flare authorized by this permit. [District Rule 4311] N

Section 5.9 Petroleum Refinery SO2 Performance Targets – not applicable – facility is not a petroleum refinery

Section 5.10 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 operator shall maintain records pursuant to Section 6.1.7. Flares that the operator can verify, based on permit conditions, are not capable of producing reportable flare events pursuant to Section 6.2.2 shall not be required to monitor vent gas flow to the flare.

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 operator shall maintain records pursuant to Section 6.1.7 of Rule 4311. Flares that the operator can verify, based on permit conditions, are not capable of producing reportable flare events pursuant to Section 6.2.2 of Rule 4311 shall not be required to monitor vent gas flow to the flare. [District Rule 4311] N

6.0 Administrative Requirements

Section 6.1 Recordkeeping

The following subsections are relevant:

6.1.5 Effective on and after July 1, 2011, a copy of the approved flare minimization plan pursuant to Section 6.5. The following ATC condition is included:

On and after July 1, 2011, permittee shall keep a copy of flare minimization plan on site for District inspection upon request. [40 CFR 60.18, Rule 4311]

Section 6.1.7 Effective on and after July 1, 2011, where applicable, monitoring data collected pursuant to Sections 5.10 (flare minimization vent gas flow rate)

Section 6.5 Flare Minimization Plan

6.5.1 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. The project flare has a rating of 660 MMBtu/day and therefore is subject to this section.

Permittee shall submit and have approved by the APCO a flare minimization plan prior to operating the flare authorized by this permit. [District Rule 4311] N

Sections 6.6, 6.7, 6.8, and 6.9 are applicable to flares with an hourly heat input exceeding 50 MMBtu/hr and therefore is not applicable.

Section 6.10 is not applicable as it addresses petroleum refinery flares.

Section 7.0 Compliance Schedule

Operators of flares, that are exempt under Section 4.0 and that lose exemption status, shall not operate flares until in full compliance with all applicable requirements of this rule effective on the date the exemption status is lost – not applicable.

Compliance with the rule is expected.

Rule 4305 Boilers, Steam Generators and Process Heaters – Phase 2

This rule applies to any gaseous fuel or liquid fuel fired boiler, steam generator, or process heater with a rated heat input greater than 5 million Btu per hour. Since the dormant unit(s) will not be operated, compliance with this rule is expected. The emission limits, monitoring provisions, and testing requirements of this rule will be satisfied when the unit is operated in compliance with Rule 4320.

Rule 4306 Boilers, Steam Generators and Process Heaters – Phase 3

This rule applies to any gaseous fuel or liquid fuel fired boiler, steam generator, or process heater with a rated heat input greater than 5 million Btu per hour. Since the dormant unit(s) will not be operated, compliance with this rule is expected. The emission limits, monitoring provisions, and testing requirements of this rule will be satisfied when the unit is operated in compliance with Rule 4320.

Rule 4320 Advanced Emissions Reduction Options For Boilers, Steam Generators, and Process Heaters greater than 5.0 MMBtu/hr

This rule applies to any gaseous fuel or liquid fuel fired boiler, steam generator, or process heater with a total rated heat input greater than 5 million Btu per hour. Since dormant units S-1624-25 and '26 will not be operated, compliance with this rule is expected.

The emission limits, monitoring provisions, and testing requirements of this rule will be satisfied when the facility applies for ATC(s) to operate in compliance with this rule. The following conditions will be incorporated into the permit to enforce the dormant emission unit status

pursuant to District Policy SSP 1705. The conditions below will be placed ahead of the existing permit conditions:

{4558} Operation of the unit is not authorized until modifications are made to comply with District Rules as authorized by an Authority to Construct. [District Rule 2010] N

The fuel line shall be physically disconnected from the unit. [District Rule 2080] N

{4560} While dormant, normal source testing shall not be required. [District Rule 2080] N

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 3.29 Small Producer Status Requirements:

Producers of an average of less than 6,000 barrels per day of crude oil from all operation with the county are entitled to alternate requirements of this rule. E&B is a small producer; therefore the following condition is listed on permit '-0-0:

To maintain status as a small producer, permittee's crude oil production shall average less than 6000 bbl/day on a monthly basis from all operations within Kern County. [District Rules 3020 and 4623]

Section 5.1.1 General VOC Control System Requirements

Except for small producers who are required to comply with the VOC control system requirements in Section 5.1.2, an operator shall not place, hold, or store organic liquid in any tank unless such tank is equipped with a VOC control system identified in Table 1. The specifications for the VOC control system are described in Sections 5.2, 5.3, 5.4, 5.5, and 5.6.

The modified tank will be vented to the vapor control system listed on S-1624-178. Therefore, the tank satisfies the control requirement listed in Table 1.

Section 5.1.3 requires all tanks subject to the control requirements of this rule to be maintained in a leak-free condition, except for the certain enumerated components on floating roof tanks and as allowed by Section 5.2 and applicable provisions of Table 3 through Table 5, and Section 5.7.5.4.

The following condition will be listed on the ATC to ensure compliance with leak-free requirements of Section 5.1.3:

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

Section 5.2 (specifications for pressure-valve settings) is not applicable to tanks connected to a vapor control system. Sections 5.3 through 5.5 (specifications for external floating roof tanks, internal floating roof tanks, and floating roof deck requirements) are not applicable to fixed roof tanks.

Section 5.6 Specifications for Vapor Recovery Systems

Section 5.6.1 requires fixed roof tanks to be fully enclosed and maintained in a leak free condition. An APCO-approved vapor recovery system shall consist of a closed system that collects all VOCs from the storage tank and a VOC control device. The vapor recovery system shall be maintained in a leak free condition. The VOC control device shall be one of the following:

5.6.1.1 A condensation or vapor return system that connects to one of the following: a gas processing plant, a field gas pipeline, a pipeline distributing Public Utility Commission quality gas for sale, an injection well for disposal of vapors as approved by the California Department of Conservation, Division of Oil Gas, and Geothermal Resources, or

5.6.1.2 A VOC control device that reduces the inlet VOC emissions by at least 95 percent by weight as determined by the test method specified in Section 6.4.6.

The vapor control system connects to the system listed on S-1624-178. Compliance with this section is expected.

Section 5.6.2 requires any tank gauging or sampling device on a tank vented to the vapor recovery system to be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling.

The following condition will ensure compliance with Section 5.6.2:

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

Section 5.6.3 requires all piping, valves, and fittings to be constructed and maintained in a leak free condition.

The following condition will ensure compliance with Section 5.6.3:

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

Section 5.7 Voluntary Tank Preventive Inspection and Maintenance, and Tank Interior Cleaning Program

E&B has not requested tank-cleaning provisions.

Inspection and Maintenance

E&B has not requested inspection and maintenance provisions.

Section 6.3 Recordkeeping

This section requires an operator to retain accurate records required by this rule for a period of five years. Records must be made available to the APCO upon request, except for certain records that need to be submitted as specified in the respective sections (e.g. 6.3.6) below.

E&B Natural Resources
1120528, S-1624

Compliance with the record retention requirements of this section is ensured by the following standard permit condition which will appear on the ATC:

Permittee shall maintain all records of required monitoring data and support information for a period of five years and shall be made available to the District for inspection upon request. [District Rules 2201 and 4623]

Compliance with the requirements of this rule is expected.

District Rule 4801 Sulfur Compounds

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO₂, on a dry basis averaged over 15 consecutive minutes.

The field gas combusted in the flare has only trace amounts of sulfur and a permitted emission factor of 0.00 lb-SO_x/MMBtu. Continued compliance with this rule is expected.

California Health & Safety Code 41700 (Health Risk Assessment)

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

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

The cancer risk for this project is shown below:

HRA Summary		
Unit	Cancer Risk	T-BACT Required
S-1624-218-1	3.63 per million	yes

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 required for this project because the HRA indicates that the risk is above the District's thresholds for triggering T-BACT requirements.

For this project T-BACT is triggered for VOC. T-BACT is satisfied with BACT for VOC (see BACT guideline in Appendix F), which is the use of steam assisted or air-assisted or Coanda effect burner, when steam unavailable. The flare has air assist and steam is unavailable; therefore, compliance with the District's Risk Management Policy 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)

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.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission unit(s) are exempt from Best Available Control Technology (BACT) requirements. Furthermore, the District conducted a Risk Management Review and concludes that potential health impacts are less than significant.

Issuance of permits for emissions units not subject to BACT requirements and with health impact less than significant is a matter of ensuring conformity with applicable District rules and regulations and does not require discretionary judgment or deliberation. Thus, the District concludes that this permitting action constitutes a ministerial approval. Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue the ATCs subject to the permit conditions on the attached draft ATCs in **Appendix H**.

X. Billing Information

E&B Natural Resources
1120528, S-1624

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1624-25-3	3020-02-H	23 MMBtu/hr	\$1030
S-1624-26-3	3020-02-H	30 MMBtu/hr	\$1030
S-1624-72-3	3020-05S-C	1000 bbls	\$63
S-1624-178-2	3020-05S-E	5000 bbls	\$99
S-1624-218-1	3020-02-H	27.5 mMBtu/hr	\$1030

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:

$$\begin{aligned} \text{PE2}_{\text{quarterly}} &= \text{PE2}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 4,600 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 1,150 \text{ lb PM}_{10}/\text{qtr} \end{aligned}$$

$$\begin{aligned} \text{PE1}_{\text{quarterly}} &= \text{PE1}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 4,600 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 1,150 \text{ lb PM}_{10}/\text{qtr} \end{aligned}$$

S-1624-25 Quarterly NEC [QNEC]					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	1418	355	4642	1161	-806
SO _x	516	129	516	129	0
PM ₁₀	1289	322	1289	322	0
CO	129	32	129	32	0
VOC	645	161	645	161	0

S-1624-26 Quarterly NEC [QNEC]					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	1850	463	6055	1514	-1051
SO _x	673	168	673	168	0
PM ₁₀	1682	421	1682	421	0
CO	168	42	168	42	0
VOC	841	210	841	210	0

S-1624-72 Quarterly NEC [QNEC]					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
VOC	47	12	19082	4771	-4759

S-1624-218 Quarterly NEC [QNEC]					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	8078	463	380	95	380
SO _x	339	168	15	4	165
PM ₁₀	950	421	42	11	410
CO	43956	42	1961	490	-448
VOC	7484	210	334	84	127

Permit #: S-1624-25-3	Last Updated
Facility: E&B NATURAL RESOURCES MGMT	03/12/2012 TORID

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	1418.0	516.0	1289.0	129.0	645.0
Daily Emis. Limit (lb/Day)	6.1	2.2	5.5	0.6	2.8
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	-806.0	0.0	0.0	0.0	0.0
Q2:	-806.0	0.0	0.0	0.0	0.0
Q3:	-806.0	0.0	0.0	0.0	0.0
Q4:	-806.0	0.0	0.0	0.0	0.0
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-1624-26-3	Last Updated
Facility: E&B NATURAL RESOURCES MGMT	03/12/2012 TORID

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	1850.0	673.0	1682.0	168.0	841.0
Daily Emis. Limit (lb/Day)	7.9	2.9	7.2	0.7	3.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	-1051.0	0.0	0.0	0.0	0.0
Q2:	-1051.0	0.0	0.0	0.0	0.0
Q3:	-1051.0	0.0	0.0	0.0	0.0
Q4:	-1051.0	0.0	0.0	0.0	0.0
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-1624-72-3	Last Updated
Facility: E&B NATURAL RESOURCES MGMT	03/12/2012 TORID

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	47.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.1
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-4759.0
Q2:	0.0	0.0	0.0	0.0	-4759.0
Q3:	0.0	0.0	0.0	0.0	-4759.0
Q4:	0.0	0.0	0.0	0.0	-4759.0
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-1624-178-2	Last Updated
Facility: E&B NATURAL RESOURCES MGMT	03/12/2012 TORID

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	179.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
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-1624-218-1	Last Updated
Facility: E&B NATURAL RESOURCES MGMT	03/12/2012 TORID

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	8078.0	339.0	950.0	43956.0	7484.0
Daily Emis. Limit (lb/Day)	44.9	1.9	5.3	244.2	41.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	380.0	165.0	410.0	448.0	127.0
Q2:	380.0	165.0	410.0	448.0	127.0
Q3:	380.0	165.0	410.0	448.0	127.0
Q4:	380.0	165.0	410.0	448.0	127.0
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 and Base Document ATCs

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1624-25-1

EXPIRATION DATE: 06/30/2013

SECTION: 32 TOWNSHIP: 27S RANGE: 27E

EQUIPMENT DESCRIPTION:

NON-COMPLIANT DORMANT 23.0 MMBTU/HR STRUTHERS GAS-FIRED STEAM GENERATOR #2 W/OXYGEN CONTROLLER/ANALYZER: DIS# 27544-66 (MIDWAY PREMIER)

PERMIT UNIT REQUIREMENTS

1. In accordance with the provisions of Rule 4305 Section 7.4, amended 12/19/96, this unit may only be operated after the permittee has submitted an application for Authority to Construct for any modification necessary to comply with Rule 4305. [District Rule 4305]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
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. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
5. This unit shall be fired on natural gas only. [District Rule 2201]
6. Natural gas combusted in steam generator shall not exceed 128,947 MMBtu per year. [District NSR Rule]
7. Total sulfur content of natural gas combusted shall not exceed 0.75 grain/100 scf. [District NSR Rule]
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 30 ppmvd NO_x @ 3% O₂ (equivalent to 0.036 lb-NO_x/MMBtu), 0.004 lb-SO_x/MMBtu, 0.010 lb-PM₁₀/MMBtu, 0.001 lb-CO/MMBtu, or 0.005 lb-VOC/MMBtu. [District Rules 2201 and 4305]
9. Upon recommencing operation, compliance source testing for NO_x, CO and fuel gas sulfur content shall be conducted annually (or as approved by the District) within 60 days prior to the permit anniversary. [District Rule 1070]
10. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081]
11. Official test results and field data of compliance tests shall be submitted to the District within 60 days after collection. [District Rule 1081]
12. Records of the monthly amount of fuel used and fuel gas sulfur content shall be maintained. [District Rule 2201]
13. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and 4305]

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1624-72-2

EXPIRATION DATE: 06/30/2013

SECTION: NE21 TOWNSHIP: 25S RANGE: 27E

EQUIPMENT DESCRIPTION:

1,000 BBL FIXED ROOF CRUDE OIL STORAGE TANK, BLACKHAWK LEASE

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. To maintain status as a small producer, permittee's crude oil production shall average less than 6000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rules 3020 & 4623]
3. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623]
4. 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 4623]
5. Instead of testing each uncontrolled fixed roof tank, the permittee may conduct a TVP test of the organic liquid stored in a representative tank provided the requirements of Sections 6.2.1.1.1 through 6.2.1.1.5 of Rule 4623 are met. [District Rule 4623]
6. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623]
7. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623]
8. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623]
9. 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 4623]
10. 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]
11. 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]

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



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1624-178-1

ISSUANCE DATE: 02/09/2012

LEGAL OWNER OR OPERATOR: E&B NATURAL RESOURCES MGMT

MAILING ADDRESS: ATTN: GREG YOUNGBLOOD
1600 NORRIS ROAD
BAKERSFIELD, CA 93308

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: NE21 **TOWNSHIP:** 28 S **RANGE:** 27 E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 5,000 BBL FIXED ROOF CRUDE OIL WASH TANK WITH VAPOR RECOVERY SYSTEM (BLACKHAWK LEASE): CONNECT TANKS S-1624-46 AND 47 TO THE VAPOR RECOVERY SYSTEM

CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. The tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in leak-free condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a gas pipeline distribution system, or an approved VOC destruction device that reduces the inlet VOC emissions by at least 95% by weight as determined by the test method specified in Section 6.4.7. [District Rules 2201 and 4623]
3. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 4623]
4. The tank shall be equipped with a fixed roof with no holes or openings. [District Rules 2201 and 4623]
5. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rule 4623]
6. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]

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

DAVID WARNER, Director of Permit Services

S-1624-178-1; Mar 15 2012 10:55AM - TORID : Joint Inspection NOT Required

7. Except as otherwise provided in this permit, any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]
8. Fugitive VOC emissions rate shall be calculated using CAPCOA California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities Table IV-2c, Oil and Gas Production Screening Value Ranges Emission Factors (Feb 1999), from the total number of components from this tank. [District Rule 2201]
9. VOC fugitive emissions from the vapor service components associated with tank and tank vapor control system shall not exceed 0.5 lb/day. [District Rule 2201]
10. The permittee shall maintain records of number and type of components installed and calculated fugitive emissions. Permittee shall update such records when new components are installed. [District Rule 2201]
11. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1624-218-0

ISSUANCE DATE: 02/09/2012

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

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: SW5 **TOWNSHIP:** 28S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

JOHN ZINK 250 MMBTU/DAY AIR ASSIST FLARE WITH MODEL EEF-FA-8 FLARE TIP SERVING TANK VAPOR RECOVERY SYSTEM AND TEOR SYSTEM (BLACKWELL LEASE)

CONDITIONS

1. Assist air blower shall be capable of providing at least 20% of stoichiometric combustion air requirement. [District Rule 2080]
2. Flare air-assist blower shall be maintained and operated for smokeless combustion, i.e. no visible emissions in excess of 5% opacity or 1/4 Ringelmann except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. [District Rules 2201 and 4311]
3. Flare shall be operated with a flame present at all times, and kept in operation when emissions may be vented to them. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. [District Rule 2201]
4. The flare shall be operated according to the manufacturer's specifications, a copy of which shall be maintained on site. [District Rule 2201]
5. Flare shall use purge gas for purging. [District Rule 4311]
6. Flare shall be equipped with recording, volumetric flow meters that shall be used to individually monitor and record the volumes of produced gas and pilot gas combusted in this unit. [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

DAVID WARNER, Director of Permit Services

S-1624-218-0 : Mar 15 2012 10:55AM - TORID : Joint Inspection NOT Required

7. 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. The pilot need not be present when the flare is isolated for required flare maintenance. [District Rule 4311, 5.3]
8. Flare shall be equipped with an automatic flow sensing 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 and unforeseen or necessary planned power outages. [District Rule 4311]
9. The sulfur content of gas combusted in the flare shall not exceed 1 gr/100 scf. [District Rule 2201]
10. Maximum amount of gas combusted shall not exceed 250 MMBtu/day nor 5300 MMBtu/yr. [District Rule 2201]
11. Emissions from the flare shall not exceed any of the following limits (based on total gas combusted): NO_x (as NO₂): 0.068 lb/MMBtu; PM₁₀: 0.008 lb/MMBtu; CO: 0.37 lb/MMBtu; or VOC: 0.063 lb/MMBtu. [District Rule 2201]
12. Measured heating value and quantity of gas flared shall be used to determine compliance with heat input limits. [District Rule 2201]
13. Permittee shall submit and have approved by the APCO a flare minimization plan prior to operating the flare authorized by this permit.. [District Rule 4311]
14. Flaring shall be consistent with the operator's approved flare minimization plan (FMP), pursuant to Section 6.5 of Rule 4311, and all commitments listed in that plan have been met. This standard shall not apply if the APCO determines that the flaring is caused by an emergency as defined by Section 3.7 of Rule 4311 and is necessary to prevent an accident, hazard or release of vent gas directly to the atmosphere. [District Rule 4311]
15. 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 operator shall maintain records pursuant to Section 6.1.7 of Rule 4311. Flares that the operator can verify, based on permit conditions, are not capable of producing reportable flare events pursuant to Section 6.2.2 of Rule 4311 shall not be required to monitor vent gas flow to the flare. [District Rule 4311]
16. To show compliance with sulfur emission limits (ppmv as H₂S), the gas being flared shall be tested weekly for sulfur content. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for the flared gas, then the compliance testing frequency shall be semi-annually. If the semi-annual sulfur content test fails to show compliance, weekly testing shall resume. [District Rule 2201]
17. The sulfur content of the gas being flared shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rules 1070 and 2201]
18. Permittee shall maintain accurate records of flared gas higher heating value, daily and annual quantities of produced gas, pilot gas, and sweep gas combusted in the flare, and flared gas concentration of H₂S. [District Rules 1070 and 2201]
19. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]
20. ATC shall be implemented concurrently with or subsequent to ATCs S-1624-46-3 and '-47-3. [District Rule 2201]

APPENDIX C
S-1627-72-2 Emission Calculations

E&B Natural Resources Management, Inc.
Blackhawk Lease

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1624-72-0
facility tank I.D.	#7
nearest city (1: Bakersfield, 2: Fresno, 3: Stockton)	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	100
is this a constant-level tank? (yes, no)	No
will flashing losses occur in this tank (only if first-line tank)? (yes, no)	no
breather vent pressure setting range (psi)	0.06
diameter of tank (feet)	21.5
capacity of tank (bbl)	1,000
conical or dome roof? (c, d)	c
shell height of tank (feet)	16
average liquid height (feet)	9
are the roof and shell the same color? (yes, no)	yes
For roof:	
color (1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White)	4
condition (1: Good, 2: Poor)	1
-----This row only used if shell is different color from roof-----	4
-----This row only used if shell is different color from roof-----	1

1,037

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		1,000
maximum annual fluid throughput (bbl)		365,000
-----This row only used if flashing losses occur in this tank-----		1,000
-----This row only used if flashing losses occur in this tank-----		365,000
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, T _{ax} (°F)		77.65
daily minimum ambient temperature, T _{an} (°F)		53.15
daily total solar insolation factor, I (Btu/ft ² -day)		1648.9
atmospheric pressure, Pa (psia)		14.47
(psia)	99.0	0.9259
(psia)	88.2	0.6653
water vapor pressure at average liquid surface temperature (T _{la}), P _{va} (psia)	93.6	0.7903
roof outage, H _{ro} (feet)		0.2240
vapor space volume, V _v (cubic feet)		2622.66
paint factor, alpha		0.68
vapor density, W _v (lb/cubic foot)		0.0084
daily vapor temperature range, delta T _v (degrees Rankine)		49.04
vapor space expansion factor, K _e		0.1032

Results	lb/year	lb/day
Standing Storage Loss	832	2.28
Working Loss	18,250	50.00
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	19,082	52.3

Summary Table	
Permit Number	S-1624-72-0
Facility Tank I.D.	#7
Tank capacity (bbl)	1,000
Tank diameter (ft)	21.5
Tank shell height (ft)	16
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	1,000
Maximum Annual Fluid Throughput (bbl/year)	365,000
Maximum Daily Oil Throughput (bbl/day)	1,000
Maximum Annual Oil Throughput (bbl/year)	---
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	52.3
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	19,082

APPENDIX D
S-1627-72-3 Emission Calculations

COMPONENT COUNTS FOR TANK

E&B Natural Resources Management, Inc.
 Blackhawk Lease
 Fugitive Emission Calculations

Number of Components	Flange		Valve		Threaded Connection		Pump Seals		Open Ended Lines		Others		Total		
	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	
S-1624-XX 2,000 bbl Stock		22		16		90	0	0		2			1	0	131

Emission Factors - (AP-42: CAPCOA Table IV-2c)	Flange		Valve		Threaded Connection		Pump Seals		Open Ended Lines		Others	
	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas
<10,000 ppmv - kg/hr/source	2.30E-05	2.80E-05	1.40E-05	3.50E-05	8.00E-06	1.20E-05	0.00E+00	9.96E-04	1.50E-05	2.40E-05	5.70E-05	1.47E-04
>10,000 ppmv - kg/hr/source	0.00E+00	6.10E-02	0.00E+00	1.39E-01	0.00E+00	2.59E-02	0.00E+00	8.90E-02	7.11E-02	5.49E-02	0.00E+00	1.38E-01
<10,000 ppmv - lb/yr/source	0.44	0.54	0.27	0.67	0.15	0.23	-	19.19	0.29	0.46	1.10	2.83
>10,000 ppmv - lb/yr/source	-	1,175.59	-	2,671.10	-	499.14	-	1,715.21	1,370.24	1,058.03	-	2,651.83
<10,000 ppmv - lb/yr/source	1.214E-03	1.478E-03	7.392E-04	1.848E-03	4.224E-04	6.336E-04	0.000E+00	5.259E-02	7.920E-04	1.267E-03	3.010E-03	7.762E-03
>10,000 ppmv - lb/yr/source	0.000E+00	3.221E+00	0.000E+00	7.318E+00	0.000E+00	1.368E+00	0.000E+00	4.699E+00	3.754E+00	2.899E+00	0.000E+00	7.265E+00

Emissions - lb/year	Flange		Valve		Threaded Connection		Pump Seals		Open Ended Lines		Others		Total - lb/year		Total	Tons/yr
	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas		
S-1624-XX 2,000 bbl Stock	8	12	8	11	28	21	-	-	-	-	6	3	50	46	96	0.05
															96	

Emissions - lb/day	Flange		Valve		Threaded Connection		Pump Seals		Open Ended Lines		Others		Total - lb/day		Total	Tons/day
	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas		
S-1624-XX 2,000 bbl Stock	0.02	0.03	0.02	0.03	0.08	0.06	-	-	-	-	0.02	0.01	0.14	0.13	0.26	0.00
															0.13	0.00

Emission Factors - (AP-42: CAPCOA Table IV-2c)	Flange		Valve		Threaded Connection		Pump Seals		Open Ended Lines		Others	
	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas	Heavy Oil	Gas
<10,000 ppmv - lb/day/source												
>10,000 ppmv - lb/day/source												
<10,000 ppmv - lb/yr/source	2.345E+01	2.855E+01	1.428E+01	3.569E+01	8.158E+00	1.224E+01	0.000E+00	1.016E+03	1.530E+01	2.447E+01	5.812E+01	1.499E+02
>10,000 ppmv - lb/yr/source	0.000E+00	6.220E+04	0.000E+00	1.413E+05	0.000E+00	2.641E+04	0.000E+00	9.075E+04	7.250E+04	5.598E+04	0.000E+00	1.403E+05

**APPENDIX E
HRA/AAQA**

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Steve Roeder – Permit Services
 From: Yu Vu – Technical Services
 Date: March 9, 2012
 Facility Name: E & B Natural Resources
 Location: 34740 Merced Ave., Bakersfield, CA
 Application #(s): S-1624-218-1
 Project #: S-1120528

A. RMR SUMMARY

RMR Summary			
Categories	NG Flare (Unit 218-1)	Project Totals	Facility Totals
Prioritization Score	0.25	0.25	>1
Acute Hazard Index	0.00	0.00	0.02
Chronic Hazard Index	0.00	0.00	0.73
Maximum Individual Cancer Risk (10 ⁻⁶)	3.63	3.63	6.45
T-BACT Required?	Yes		
Special Permit Conditions?	Yes		

Proposed Permit Conditions

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

Unit # 218-1

- Unit 218-1 shall not operate within 1,000 ft. of a business or residential receptor. [District Rules 2201]

T-BACT is required for this unit because of emissions of PAHs which are VOCs. In accordance with District policy, BACT for this unit will be considered to be T-BACT.

B. RMR REPORT

I. Project Description

Technical Services received a request on March 5, 2012, to perform a Risk Management Review and Ambient Air Quality Analysis for a proposed modification to a natural gas flare.

The applicant is proposing to increase the throughput of the flare by 10.4 MMBtu/hr and 7,500-118,800 MMBtu/year. Since the 118,800 MMBtu/hr increase is more conservative, it was the only annual value used for this analysis.

II. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Since the total facility prioritization score was greater than one, a refined health risk assessment was required. Emissions calculated using the District's "NG Flare External Combustion" spreadsheet were input into the HEARTs database. The AERMOD model was used, with the parameters outlined below and meteorological data for 2005-2009 from Bakersfield 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 Hot Spots Analysis and Reporting Program (HARP) risk assessment module to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters Unit 218-1			
Source Type	Point	Location Type	Rural
Stack Height (m)	5.486	Closest Receptor (m)	304.8
Stack Diameter. (m) ¹	0.565	Type of Receptor	Residential
Stack Exit Velocity (m/s) ¹	20	Max Hours per Year	8760
Stack Exit Temp. (°K) ¹	1273	Fuel Type	NG
Throughput Increase (MMBtu/hr)	10.4		

¹ As determined using FYI-69

Technical Services also performed modeling for criteria pollutants CO, NO_x, SO_x and PM₁₀ and PM_{2.5}. The emission rates used for criteria pollutant modeling were 3.9 lb/hr CO, 0.7 lb/hr NO_x, 0.03 lb/hr SO_x, 0.3 lb/hr PM₁₀ and 0.3 lb/hr PM_{2.5}.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Diesel ICE	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass ¹	X	X	X	Pass
SO _x	Pass	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass ²	Pass ²
PM _{2.5}	X	X	X	Pass ²	Pass ²

*Results were taken from the attached PSD spreadsheet.

¹The project was compared to the 1-hour NO₂ National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures.

²The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk associated with the project is greater than 1.0 in a million, but less than 10 in a million. **In accordance with the District's Risk Management Policy, the project is approved with Toxic Best Available Control Technology (T-BACT).**

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

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

IV. Attachments

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

APPENDIX F
BACT Guideline

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 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**

APPENDIX G
Compliance Certification

E&B Natural Resources

March 12, 2012

Mr. David Tori
Permit Services
San Joaquin Valley Unified APCD
34946 Flyover Court
Bakersfield, CA 93308

RECEIVED

MAR 12 2012
SJVAPCD
Southern Region

Subject: Project Number S-1120528 – (S-1624) Flare Volume Increase - Compliance Certification

Dear Mr. Tori:

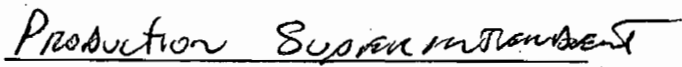
I hereby certify that all major Stationary Sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in California, which are subject to emission limitations, are in compliance or on a schedule for compliance with all applicable emission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

Alternative siting analysis is required for any project, which constitutes a New Major Source or a Federal Major Modification.

The current project occurs at an existing facility. The applicant proposes to increase the throughput for an existing flare supporting the production in the Poso Creek oilfield.

Since the project will provide additional capacity for an existing source, utilizing 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.


Signature


Title

APPENDIX H
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1624-25-3

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

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: 32 TOWNSHIP: 27S RANGE: 27E

EQUIPMENT DESCRIPTION:

MODIFICATION OF NON-COMPLIANT DORMANT 23.0 MMBTU/HR STRUTHERS GAS-FIRED STEAM GENERATOR #2
W/OXYGEN CONTROLLER/ANALYZER: DIS# 27544-66 (MIDWAY PREMIER): LOWER NOX TO 9 PPM

CONDITIONS

1. {4558} Operation of the unit is not authorized until modifications are made to comply with District Rules as authorized by an Authority to Construct. [District Rule 2010]
2. The fuel line shall be physically disconnected from the unit. [District Rule 2080]
3. {4560} While dormant, normal source testing shall not be required. [District Rule 2080]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {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]
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. This unit shall be fired on natural gas only. [District Rule 2201]
8. Natural gas combusted in steam generator shall not exceed 128,947 MMBtu per year. [District NSR Rule]
9. Total sulfur content of natural gas combusted shall not exceed 0.75 grain/100 scf. [District NSR Rule]

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

DAVID WARNER, Director of Permit Services

S-1624-25-3 : Mar 15 2012 10:51AM - TORID : Joint Inspection NOT Required

10. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 3% O₂ (equivalent to 0.011 lb-NO_x/MMBtu), 0.004 lb-SO_x/MMBtu, 0.010 lb-PM₁₀/MMBtu, 0.001 lb-CO/MMBtu, or 0.005 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320]
11. Upon recommencing operation, compliance source testing for NO_x, CO and fuel gas sulfur content shall be conducted annually (or as approved by the District) within 60 days prior to the permit anniversary. [District Rule 1070]
12. {294} Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081]
13. Official test results and field data of compliance tests shall be submitted to the District within 60 days after collection. [District Rule 1081]
14. Records of the monthly amount of fuel used and fuel gas sulfur content shall be maintained. [District Rule 2201]
15. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305 and 4306]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1624-26-3

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

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: 32 TOWNSHIP: 27S RANGE: 27E

EQUIPMENT DESCRIPTION:

MODIFICATION OF NON-COMPLAINT DORMANT 30.0 MMBTU/HR STRUTHERS GAS-FIRED STEAM GENERATOR #1
W/OXYGEN CONTROLLER/ANALYZER - DIS# 39095-86 (MIDWAY PREMIER): LOWER NOX TO 9 PPM

CONDITIONS

1. {4558} Operation of the unit is not authorized until modifications are made to comply with District Rules as authorized by an Authority to Construct. [District Rule 2010]
2. The fuel line shall be physically disconnected from the unit. [District Rule 2080]
3. {4560} While dormant, normal source testing shall not be required. [District Rule 2080]
4. This unit shall be fired on natural gas only. [District Rule 2201]
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. {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]
7. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
8. Natural gas combusted in steam generator shall not exceed 168,192 MMBtu per year. [District NSR Rule]
9. Total sulfur content of natural gas combusted shall not exceed 1.0 grain/100 scf. [District Rules 2201 and 4801]

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

DAVID WARNER, Director of Permit Services

S-1624-26-3: Mar 15 2012 10:51AM - TORID : Joint Inspection NOT Required

10. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 3% O₂ (equivalent to 0.011 lb-NO_x/MMBtu), 0.004 lb-SO_x/MMBtu, 0.010 lb-PM₁₀/MMBtu, 0.001 lb-CO/MMBtu, or 0.005 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320]
11. Upon recommencing operation, compliance source testing for NO_x, CO and fuel gas sulfur content shall be conducted annually (or as approved by the District) within 60 days prior to the permit anniversary. [District Rule 1070]
12. {294} Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081]
13. Official test results and field data of compliance tests shall be submitted to the District within 60 days after collection. [District Rule 1081]
14. Records of the monthly amount of fuel used and fuel gas sulfur content shall be maintained. [District Rule 2201]
15. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305 and 4306]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1624-72-3

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

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: NE21 **TOWNSHIP:** 25S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 1,000 BBL FIXED ROOF CRUDE OIL STORAGE TANK, BLACKHAWK LEASE: CONNECT TO VAPOR RECOVERY SYSTEM LISTED ON S-1624-178

CONDITIONS

1. To maintain status as a small producer, permittee's crude oil production shall average less than 6000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rules 3020 & 4623]
2. The tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in leak-free condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a gas pipeline distribution system, or an approved VOC destruction device that reduces the inlet VOC emissions by at least 95% by weight as determined by the test method specified in Section 6.4.7. [District Rules 2201 and 4623]
3. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201 and 4623]
4. The tank shall be equipped with a fixed roof with no holes or openings. [District Rules 2201 and 4623]

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-1624-72-3; Mar 15 2012 11:02AM - TORID : Joint Inspection NOT Required

5. 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]
6. {2502} Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a gas-tight cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]
7. Except as otherwise provided in this permit, any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]
8. Fugitive VOC emissions rate shall be calculated using CAPCOA California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities Table IV-2c, Oil and Gas Production Screening Value Ranges Emission Factors (Feb 1999), from the total number of components from this tank. [District Rule 2201]
9. VOC fugitive emissions from the components in gas service on the tank shall not exceed 0.2 lb/day. [District Rule 2201]
10. The permittee shall maintain records of number and type of components installed and calculated fugitive emissions. Permittee shall update such records when new components are installed. [District Rule 2201]
11. {2503} Permittee shall record and maintain monthly records of average daily crude oil throughput and shall make such records readily available for District inspection upon request for a period of five years. [District Rule 4623]
12. ATC shall be implemented concurrently with or subsequent to ATC S-1624-178-2. [District Rule 2201]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1624-178-2

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

LOCATION: HEAVY OIL CENTRAL
CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF 5,000 BBL FIXED ROOF CRUDE OIL WASH TANK WITH VAPOR RECOVERY SYSTEM
(BLACKHAWK LEASE): CONNECT TANK S-1624-72 TO THE VAPOR RECOVERY SYSTEM

CONDITIONS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. The tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in leak-free condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a gas pipeline distribution system, or an approved VOC destruction device that reduces the inlet VOC emissions by at least 95% by weight as determined by the test method specified in Section 6.4.7. [District Rules 2201 and 4623]
3. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 4623]
4. The tank shall be equipped with a fixed roof with no holes or openings. [District Rules 2201 and 4623]
5. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rule 4623]
6. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

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DAVID WARNER, Director of Permit Services

S-1624-178-2; Mar 15 2012 10:51 AM - TORID : Joint Inspection NOT Required

7. Except as otherwise provided in this permit, any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]
8. Fugitive VOC emissions rate shall be calculated using CAPCOA California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities Table IV-2c, Oil and Gas Production Screening Value Ranges Emission Factors (Feb 1999), from the total number of components from this tank. [District Rule 2201]
9. VOC fugitive emissions from the vapor service components associated with tank and tank vapor control system shall not exceed 0.5 lb/day. [District Rule 2201]
10. The permittee shall maintain records of number and type of components installed and calculated fugitive emissions. Permittee shall update such records when new components are installed. [District Rule 2201]
11. {3246} All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]
12. This ATC shall be implemented concurrently with or subsequent to ATC S-1624-178-1. [District Rule 2201]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1624-218-1

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

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: SW5 TOWNSHIP: 28S RANGE: 27E

EQUIPMENT DESCRIPTION:

MODIFICATION OF JOHN ZINK 660 MMBTU/DAY AIR ASSIST FLARE WITH MODEL EEF-FA-8 FLARE TIP SERVING TANK VAPOR RECOVERY SYSTEM AND TEOR SYSTEM (BLACKWELL LEASE): INCREASE THROUGHPUT LIMIT TO 660 MMBTU/DAY AND 118,800 MMBTU/YEAR

CONDITIONS

1. Unit 218-1 shall not operate within 1,000 ft. of a business or residential receptor. [District Rule 4102]
2. Assist air blower shall be capable of providing at least 20% of stoichiometric combustion air requirement. [District Rule 2080]
3. Flare air-assist blower shall be maintained and operated for smokeless combustion, i.e. no visible emissions in excess of 5% opacity or 1/4 Ringelmann except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. [District Rules 2201 and 4311]
4. Flare shall be operated with a flame present at all times, and kept in operation when emissions may be vented to them. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. [District Rule 2201]
5. The flare shall be operated according to the manufacturer's specifications, a copy of which shall be maintained on site. [District Rule 2201]
6. Flare shall use purge gas for purging. [District Rule 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

DAVID WARNER, Director of Permit Services

S-1624-218-1: Mar 15 2012 10:51AM - TORID : Joint Inspection NOT Required

7. Flare shall be equipped with recording, volumetric flow meters that shall be used to individually monitor and record the volumes of produced gas and pilot gas combusted in this unit. [District Rule 2201]
8. 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. The pilot need not be present when the flare is isolated for required flare maintenance. [District Rule 4311, 5.3]
9. Flare shall be equipped with an automatic flow sensing 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 and unforeseen or necessary planned power outages. [District Rule 4311]
10. {2333} 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] Federally Enforceable Through Title V Permit
11. The sulfur content of gas combusted in the flare shall not exceed 1 gr/100 scf. [District Rule 2201]
12. Maximum amount of gas combusted shall not exceed 660 MMBtu/day nor 118,800 MMBtu/yr. [District Rule 2201]
13. Emissions from the flare shall not exceed any of the following limits (based on total gas combusted): NO_x (as NO₂): 0.068 lb/MMBtu; PM₁₀: 0.008 lb/MMBtu; CO: 0.37 lb/MMBtu; or VOC: 0.063 lb/MMBtu. [District Rule 2201]
14. Measured heating value and quantity of gas flared shall be used to determine compliance with heat input limits. [District Rule 2201]
15. Permittee shall submit and have approved by the APCO a flare minimization plan prior to operating the flare authorized by this permit.. [District Rule 4311]
16. Permittee shall keep a copy of flare minimization plan on site for District inspection upon request. [District Rule 4311 and 40 CFR 60.18]
17. Flaring shall be consistent with the operator's approved flare minimization plan (FMP), pursuant to Section 6.5 of Rule 4311, and all commitments listed in that plan have been met. This standard shall not apply if the APCO determines that the flaring is caused by an emergency as defined by Section 3.7 of Rule 4311 and is necessary to prevent an accident, hazard or release of vent gas directly to the atmosphere. [District Rule 4311]
18. 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 operator shall maintain records pursuant to Section 6.1.7 of Rule 4311. Flares that the operator can verify, based on permit conditions, are not capable of producing reportable flare events pursuant to Section 6.2.2 of Rule 4311 shall not be required to monitor vent gas flow to the flare. [District Rule 4311]
19. To show compliance with sulfur emission limits (ppmv as H₂S), the gas being flared shall be tested weekly for sulfur content. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for the flared gas, then the compliance testing frequency shall be semi-annually. If the semi-annual sulfur content test fails to show compliance, weekly testing shall resume. [District Rule 2201]
20. The sulfur content of the gas being flared shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rules 1070 and 2201]
21. Permittee shall maintain accurate records of flared gas higher heating value, daily and annual quantities of produced gas, pilot gas, and sweep gas combusted in the flare, and flared gas concentration of H₂S. [District Rules 1070 and 2201]
22. {3246} All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]
23. This ATC shall be implemented concurrently with or subsequent to ATCs S-1624-25-3, '26-3 and '72-3. [District Rule 2201]

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