San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

MAR 0 6 2012

Bill Oliver
San Joaquin Facilities Management
5400 Rosedale Hwy
Bakersfield, CA 93308

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: S-1114893

Dear Mr. Oliver:

Enclosed for your review and comment is the District's analysis of San Joaquin Facilities Management's application for an Authority to Construct for a 10 MMBtu/hr produced gas flare, at the Canfield Ranch Unit (South Gosford Lease) within the NW/4 of Section 25, Township 30S, Range 26E.

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

www.valleyair.org www.healthyairliving.com

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

MAR 0 6 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-1114893

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of San Joaquin Facilities Management's application for an Authority to Construct for a 10 MMBtu/hr produced gas flare, at the Canfield Ranch Unit (South Gosford Lease) within the NW/4 of Section 25, Township 30S, Range 26E.

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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AIR POLLUTION CONTROL DISTRICT

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MAR 0 6 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-1114893

Dear Mr. Rios:

Enclosed for your review and comment is the District's analysis of San Joaquin Facilities Management's application for an Authority to Construct for a 10 MMBtu/hr produced gas flare, at the Canfield Ranch Unit (South Gosford Lease) within the NW/4 of Section 25, Township 30S, Range 26E.

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

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

Sincerely,

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

Bakersfield Californian

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

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Authority to Construct to San Joaquin Facilities Management for a 10 MMBtu/hr produced gas flare, at the Canfield Ranch Unit (South Gosford Lease) within the NW/4 of Section 25, Township 30S, Range 26E.

The analysis of the regulatory basis for this proposed action, Project #S-1114893, 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

New Flare

Facility Name:	San Joaquin Facilities Management		
Mailing Address:	5400 Rosedale Hwy	Engineer:	David Torii
	Bakersfield, CA 93308	Lead Engineer:	Rich Karrs
Contact Person:	Bill Oliver, Scott Faulkenburg (Petro Tech)		
Telephone:	661-631-8713 (635-0465)		
Application #(s):	S-2980-43-2, '44-2, '46-2 and '76-0		
Project #:	1114893		
Deemed Complete:	1/5/12		

RWK 2-27-12

I. Proposal

San Joaquin Facilities Management (SJFM) has requested an Authority to Construct (ATC) permit for the installation of a 10 MMBtu/hr produced gas flare which will serve the tank vapor control system listed on S-2980-60. To mitigate the flare's emission increase tank S-2980-43, '44 and '46's throughputs will be reduced and the permits for tank S-2980-25 and IC engine '65 will be surrendered.

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 4001	New Source Performance Standards (4/14/99)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 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 4311	Flares (6/18/09)
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 flare will be located at the Canfield Ranch Unit (South Gosford Lease) within the NW/4 of Section 25, Township 30S, Range 26E in SJFM's Light Oil Central stationary source. 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

Produced gas and oil are processed in tanks which are served by the vapor control system listed on tank S-2980-60 which currently routes the separated gas to a gas sales line. With this project, the gas can be routed to the sales line or the proposed flare. Please see the process flow diagram in Appendix B.

V. Equipment Listing

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

S-2980-25-1: 125 BBL SUMP TANK

S-2980-43-1: 210 BBL FIXED ROOF LIGHT OIL STORAGE TANK #5391 - ARCO LEASE

S-2980-44-1: 210 BBL FIXED ROOF LIGHT OIL STORAGE STOCK TANK #5392 - ARCO LEASE

S-2980-46-1: 250 BBL FIXED ROOF LIGHT OIL STORAGE TANK #5394 - ARCO LEASE

S-2980-65-0: DORMANT 147 BHP MINNEAPOLIS MOLINE MODEL HD800-6A NATURAL GAS-FIRED IC ENGINE (WELL 12-25)

Proposed ATCs:

S-2980-43-1: MODIFICATION OF 210 BBL FIXED ROOF LIGHT OIL STORAGE TANK #5391 - ARCO LEASE: LOWER THROUGHPUT

S-2980-44-1: MODIFICATION OF 210 BBL FIXED ROOF LIGHT OIL STORAGE STOCK TANK #5392 - ARCO LEASE: LOWER THROUGHPUT

S-2980-46-1: MODIFICATION OF 250 BBL FIXED ROOF LIGHT OIL STORAGE TANK #5394 - ARCO LEASE: LOWER THROUGHPUT

S-2980-76-0: 10 MMBTU/HR PRODUCED GAS FLARE WITH AUTO IGNITION, SERVING VAPOR CONTROL SYSTEM LISTED ON S-2980-60, CANFIELD RANCH UNIT (SOUTH GOSFORD LEASE)

Post Project Equipment Description:

S-2980-43-1: 210 BBL FIXED ROOF LIGHT OIL STORAGE TANK #5391 - ARCO LEASE

S-2980-44-1: 210 BBL FIXED ROOF LIGHT OIL STORAGE STOCK TANK #5392 - ARCO LEASE

S-2980-46-1: 250 BBL FIXED ROOF LIGHT OIL STORAGE TANK #5394 - ARCO LEASE

S-2980-76-0: 10 MMBTU/HR PRODUCED GAS FLARE WITH AUTO IGNITION, SERVING VAPOR CONTROL SYSTEM LISTED ON S-980-60, CANFIELD RANCH UNIT (SOUTH GOSFORD LEASE)

VI. Emission Control Technology Evaluation

The subject flare has the potential to emit NOx, SOx, PM10, CO, and VOC emissions due to the incineration of produced gas generated by oil production activities.

The flare is equipped with a Coanda-effect tip which draws in large amounts of air in order to increase turbulent mixing of fuel and air which promotes complete hydrocarbon combustion. This reduces carbon monoxide (CO) emissions and smoke/particulate matter (PM10) which are caused by high temperatures and incomplete combustion.

To ensure that combustible gases are incinerated, the flare's outlet is equipped with an automatic ignition system.

VII. General Calculations

A. Assumptions

Tank S-2980-25:

- Operational time: 24 hours per day
- Tank temperature, (unheated)
- Throughput: 50 barrels per day (PTO)
- TVP: 11 psia (allowed by Rule 4623)

Tanks S-2980-43, 44 and '46:

- Operational time: 24 hours per day
- Tank temperature, (unheated)
- TVP: 11 psia (allowed by Rule 4623)

Pre-project:

- Throughput: 150 barrels per day (PTO)

Post-project:

- Throughput: 75 barrels per day (proposed)

IC Engine S-2980-65:

- Operational time: 24 hours per day
- Horsepower: 145 bhp
- Engine efficiency: 30%

Flare S-2980-76-0

- Operational time: 24 hours per day
- Flared gas higher heating value: 1000 Btu/scf
- Flare gas S content: 5 gr S/100 scf (Supplemental application form)
- Pilot Gas: process gas (Supplemental application form)
- Emissions from pilot gas combustion are assumed to be negligible
- Flared gas pressure is < 5 psig (Supplemental application form)

B. Emission Factors

Tank Emission Factors:

Both the daily and annual PE's for each tank will be based on the results from the District's Microsoft Excel spreadsheets for Tank Emissions - Fixed Roof Crude Oil greater than 26°.

Flare emission factors:

Pollutant	Emission Factor	Source
NOx	0.068 lb/MMBtu	FYI 83
SOx	5.0 gr S/100 scf 1.4 lb/MMBtu	Supplemental application form (mass balance*)
PM10	0.008 lb/MMBtu	FYI 83
CO	0.370 lb/MMBtu	FYI 83
VOC	0.063 lb/MMBtu	FYI 83

*SOx = (5.0 gr S/100 scf)(10^6 scf fuel/MMSCF)(lb/7000 gr)(MMSCF/1000 MMBtu)(64 lb-SO_2/32 lb-S)
= 0.014 lb/MMBtu

Engine S-2980-65		
Pollutant	Emission Factor (g/hp-hr)	Source
NOx	50 ppmv @ 15% O2 (0.3595 g/hp-hr)	PTO
SO_X	0.0094	Mass Balance Equation Below**
PM_{10}***	0.033	AP-42 (7/00) Table 3.2-2
CO	1.84	AP-42 (7/00) Table 3.2-2
VOC	0.389	AP-42 (7/00) Table 3.2-2

*g/bhp-hr equivalent of lb/MMBtu values are calculated as follows (ex. for SO_X):

$$4.08 \quad \frac{lb}{MMBtu} \times \frac{1\,MMBtu}{1{,}000{,}000\,Btu} \times \frac{2{,}542.5\,Btu}{bhp-hr} \times \frac{1\,bhp\,input}{0.35\,bhp\,out} \times \frac{453.6\,g}{lb} = 13.4 \quad \frac{g-NO_x}{bhp-hr}$$

**SO_X is calculated as follows:

$$0.00285 \quad \frac{lb-SO_x}{MMBtu} \times \frac{1\,MMBtu}{1{,}000{,}000\,Btu} \times \frac{2{,}542.5\,Btu}{bhp-hr} \times \frac{1\,bhp\,input}{0.35\,bhp\,out} \times \frac{453.6\,g}{lb} = \quad 0.0094 \quad \frac{g-SO_x}{bhp-hr}$$

***PM_{10} value includes both filterable (7.71×10^{-5} lb/MMBtu) and condensable (9.91×10^{-3} lb/MMBtu) emissions.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since flare S-2980-76 is a new emissions unit, PE1 = 0 for all pollutants.

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

Tanks PE1*		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
S-2980-25-1	10.3	3749
S-2980-43-1	20.5	7499
S-2980-44-1	20.5	7499
S-2980-46-1	25.1	9175

*see calculations in Appendix D

Engine S-2980-65 PE1				
	Emission Factor (g/hp-hr)	bhp	lb/day	lb/year
NOx	0.3595	147	2.8	1021
SOx	0.0094		0.1	27
PM10	0.033		0.3	94
CO	1.84		14.3	5224
VOC	0.389		3.0	1104

Total PE1 (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
S-2980-25-1	0	0	0	0	3749
S-2980-43-1	0	0	0	0	7499
S-2980-44-1	0	0	0	0	7499
S-2980-46-1	0	0	0	0	9175
S-2990-65-0	1021	27	94	5224	1104
Total PE1	1021	27	94	5224	29,026

2. Post Project Potential to Emit (PE2)

Tanks PE2*		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
S-2980-25-1	0	0
S-2980-43-2	16.3	5945
S-2980-44-2	16.3	5945
S-2980-46-2	20.9	7620

*see calculations in Appendix E

Flare S-2980-76-0 PE2				
	Emission Factor (lb/MMBtu)	MMBtu/hr	lb/day	lb/year
NOx	0.068	10.0	16.3	5957
SOx	0.014		3.4	1226
PM10	0.008		1.9	701
CO	0.370		88.8	32412
VOC	0.063		15.1	5519

Total PE2 (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
S-2980-25-1	0	0	0	0	0
S-2980-43-2	0	0	0	0	5945
S-2980-44-2	0	0	0	0	7620
S-2980-46-2	0	0	0	0	5945
S-2980-65-0	0	0	0	0	0
S-2980-76-0	5957	1226	701	32412	5519
Total PE2	5957	1226	701	32412	25,029

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.

SSPE1 (lb/year)					
Permit Unit	NO_X	SO_X	PM_{10}	CO	VOC
SSPE1 PTOs*	10,740	34	1104	25,823	>>20,000
ERC S-1253-2	1993	0	0	0	
ERC S-1253-3	0	0	0	2963	
ERC S-1253-4	0	0	119	0	
ERC S-1509-2	169	0	0	0	
ERC S-1509-3	0	0	0	831	
ERC S-1509-4	0	0	34	0	
SSPE1 Total	12,902	34	1257	29,617	>>20,000

*see calculations in Appendix F

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

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

PE1- PE2 (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
Project PE1	1021	27	94	5224	29,026
Project PE2	5957	1226	701	32412	25,029
PE2 – PE1	4936	1199	607	27188	-3997

SSPE2 (lb/year)					
Permit Unit	NO_X	SO_X	PM_{10}	CO	VOC
SSPE1	12,902	34	1257	29,617	>>20,000
Project PE2 – PE1	4936	1199	607	27,188	-3997
SSPE2	17,838	1233	1864	56,805	>>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	12,902	34	1257	29,617	>20,000
SSPE2	17,838	1233	1864	56,805	>20,000
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	Yes

As seen in the table above, the facility is an existing Major Source for VOC emissions and will remain so as result of this project.

6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

As shown in Section VII.C.5 above, the facility is not a Major Source for NOx, SOx, PM10 and CO pollutant; therefore BE=PE1 for NOx, SOx, PM10 and CO

Since flare S-2980-76 is a new emissions unit, its BE = PE1 = 0 for all pollutants.

a. BE VOC

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

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.

Tanks S-2980-25, '43, '44 and '46 are equipped with PV-vent set to within 10% of maximum allowable pressure, which meets the requirements for achieved-in-practice BACT for VOC emissions (see BACT Guideline 7.3.1 in Appendix G). Therefore, BE=PE1.

IC engine S-2980-65 is not a Highly-Utilized, Fully-Offset or Clean Emissions Unit. Furthermore, it was not operated during the Baseline Period; therefore, its BE is zero.

7. SB 288 Major Modification

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

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?
VOC	25,029	50,000	No

8. Federal Major Modification

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

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

Step 1

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

Federal Major Modification Thresholds for Emission Increases			
New Unit	Total Emissions Increases (lb-VOC/yr)	Thresholds (lb-VOC/yr)	Federal Major Modification?
S-2980-76-0	5519	0	Yes

*If there is any emission increases in NO_x or VOC, this project is a Federal Major Modification and no further analysis is required.

9. Quarterly Net Emissions Change (QNEC)

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

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless 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

The only new emissions unit in this project is the flare. The flare will be used as a vapor incineration device for the tank battery TVCSs.

According to BACT Guideline 7.3.1 (in Appendix G), the flare is the final VOC-destruction device for Technologically Feasible BACT for oil tanks.

Consequently, the flare is considered to be BACT for the oil tank TVCSs, and pursuant to District practice, additional BACT on the flare (which is BACT for the tanks) will not be required. Therefore BACT is not triggered.

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

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

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

AIPE = PE2 – HAPE

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

HAPE = PE1 x (EF2/EF1)

Where,

PE1 = The emissions unit's 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))

Tanks S-2980-43, '44 and '46 are being modified in this project:

The tanks' EF will not change in this project, therefore AIPE = PE2 – PE1.

As the tanks' PE2 < PE1, the AIPEs are not greater than 2.0 lb/day for VOC emissions for any tank. Therefore BACT is not triggered.

d. SB 288/Federal Major Modification

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

Only the flare results in a VOC increase; however, as shown above in section VIII.A.1.a, the flare is not subject to BACT. Therefore BACT is not triggered.

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	17,838	1233	1864	56,805	>>20,000
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 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) = (Σ[PE2 – BE] + ICCE) x DOR, for all new or modified emissions units in the project,

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

BE = 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 determined in Section VII.C.6 above, the BE for the equipment in this project is as follows:

	BE (lb-VOC/yr)
S-2980-25-1	3749
S-2980-43-1	7499
S-2980-44-1	7499
S-2980-46-1	9175
S-2990-65-0	0
Total BE	27,922

The PE2 is as follows:

	PE2 (lb-VOC/yr)
S-2980-25-1	0
S-2980-43-1	5945
S-2980-44-1	7620
S-2980-46-1	5945
S-2980-65-0	0
S-2980-76-0	5519
Total BE	25,029

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

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

PE2 (VOC) = 25,029 lb/year
BE (VOC) = 27,922 lb/year

Offsets Required (lb/year) = [25,029 – 27,922] x DOR
= -2893 lb VOC/year x DOR = 0

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

C. Public Notification

1. Applicability

Public noticing is required for:
a. New Major Sources, Federal Major Modifications, and 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 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. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant, therefore public noticing for PE > 100 lb/day purposes is not required.

c. Offset Threshold

The 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	12,902	17,838	20,000 lb/year	No
SO_X	34	1233	54,750 lb/year	No
PM_{10}	1257	1864	29,200 lb/year	No
CO	29,617	56,805	200,000 lb/year	No
VOC	>20,000	>20,000	20,000 lb/year	No

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

d. SSIPE > 20,000 lb/year

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

SSIPE Public Notice Thresholds					
Pollutant	PE1 (lb/year)	PE2 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO_x	1021	5957	4936	20,000 lb/year	No
SO_x	27	1226	1199	20,000 lb/year	No
PM_{10}	94	701	607	20,000 lb/year	No
CO	5224	32,412	27,188	20,000 lb/year	yes
VOC	29,026	25,029	-3997	20,000 lb/year	No

As demonstrated above, the SSIPE 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 Federal Major Mod and for SSIPE >20,000 purposes. 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:

Tanks S-2980-43-2, 44-2 and '46-2:

- Monthly average daily throughput of oil stored in tank shall be less than 75 barrels. [District Rule 2201] N

- This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 11 psia under all storage conditions. [District Rules 2201 and 4623] N

Flare S-2980-76-0:

- Total quantity of produced gas combusted in flare shall not exceed 240 MMBtu/day. [District Rule 2201] N

- Emission rates from flare shall not exceed any of the following: PM10: 0.008 lb/MMBtu, SOx (as SO2): 0.07262 lb/MMBtu, NOx (as NO2): 0.068 lb/MMBtu, VOC: 0.063 lb/MMBtu, CO: 0.37 lb/MMBtu. [District NSR Rule]

- Sulfur content of produced gas combusted shall not exceed 5 gr/100 scf [District Rule 2201]

E. Compliance Assurance

1. Source Testing

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

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:

Tanks S-2980-43-2, 44-2 and '46-2:

- {2497} Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the

tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] N

- {2490} 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] N

Flare S-2980-76-0:

- Permittee shall measure and record sulfur content of flared gas at least annually. [District Rule 2201] N

- Permittee shall keep accurate daily and annual records of flare gas volumes, sulfur content, and higher heating value of flared gas and such records shall be retained for a period of 5 years and be made readily available for District inspection upon request. [District Rule 2201] 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 H of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO_X, CO, and SO_X. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_X, CO, or SO_X.

Technical Services performed modeling for criteria pollutants CO, NOx, SOx and PM_{10}; as well as a RMR. The emission rates used for criteria pollutant modeling were 3.7 lb/hr CO, 0.68 lb/hr NOx, 0.14 lb/hr SOx, and 0.08 lb/hr PM_{10}. The engineer supplied the maximum fuel rate for the IC engine used during the analysis.

Analysis Parameters Unit 76-0			
Source Type	Point	**Location Type**	Urban
Stack Height (m)	10.2	**Closest Receptor (m)**	153.1
Stack Diameter. (m)	1.33	**Type of Receptor**	Residential
Stack Exit Velocity (m/s)	6.41	**Max Hours per Year**	8760
Stack Exit Temp. (°K)	299.1	**Fuel Type**	NG
Burner Rating (MMBtu/hr)	15.4		

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[2]	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.
[1]The 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.
[2]The 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. SJFM compliance certification is included in Appendix I.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install a new flare.

Since the project will provide a flare 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 NOx, VOCs, CO, and PM_{10}; 50 tons per year SO2; 5 tons per year of a single HAP; 12.5 tons per year of any combination of HAPs; 50 percent of any lesser threshold for a single HAP as the EPA may establish by rule; and 50 percent of the major source threshold for any other regulated air pollutant not listed in Rule 2530.

Rule 4001 New Source Performance Standards (NSPS)

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

This subpart applies to oil tanks with a capacity greater than 10,000 barrels. Since the tanks in this project do not exceed 10,000 barrels, this subpart is not applicable to this project.

There are no Subparts of 40 CFR 60 applicable to Flares.

Rule 4101 Visible Emissions

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

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

Rule 4102 Nuisance

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

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

Discussion of T-BACT

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

Rule 4201 Particulate Matter Concentration

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

The concentration of particulate matter in the flare's exhaust can be calculated given the following data:

F-Factor for Natural Gas: 8,578 dscf/MMBtu at 60 °F
PM_{10} Emission Factor: 0.026 lb-PM_{10}/MMBtu
Percentage of PM as PM_{10} in Exhaust: 100%
Exhaust Oxygen (O_2) Concentration: 3%
Excess Air Correction to F Factor = 20.9 ÷ (20.9 - 3) = 1.17

$$\frac{\left(\frac{0.008\,lb\cdot PM}{MMBtu}\times\frac{7{,}000\,grain}{lb}\right)}{\frac{8{,}578\,ft^3}{MMBtu}\times 1.17}=0.006\frac{grain\cdot PM}{ft^3}$$

Since 0.006 grain/dscf is less than 0.1 grain/dscf, compliance with District Rule 4201 is expected and the following condition will be listed on the flare's permit to ensure compliance.

- {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO_2, NO_2, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas and LPG combustion are less than 1 μm in diameter.

The following table compares the Flare's emissions with Rule 4301 limits.

Rule 4301 Limits			
Pollutant	Flare Emissions (lb/hr)	Rule 4301 Limits (lb/hr)	Compliant?
NO_2	0.7	140	Yes
SO_2	0.1	200	Yes
Total PM	0.1	200	Yes

Since none of the Rule 4301 limits are exceeded, compliance with Rule 4301 is expected. Since the proposed emission limits already placed on the flare permit are much more stringent, no additional conditions will be listed.

Rule 4311 - Flares

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

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

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

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

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

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

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

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

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

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

Section 5.6 states that open flares (air-assisted, steam-assisted, or non-assisted) in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the

provisions of 40 CFR 60.18. The requirements of this section shall not apply to Coanda effect flares. Flare S-2980-76 is a Coanda effect flare; therefore, this section does not apply.

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

Section 5.8 states that Effective on and after July 1, 2011, flaring is prohibited unless it is consistent with an approved flare minimization plan (FMP), pursuant to Section 6.5, and all commitments listed in that plan have been met. Subsection 6.5.1 states that by July 1, 2010, the operator of a petroleum refinery flare or any flare that has a flaring capacity of greater than or equal to 5.0 MMBtu per hour shall submit a flare minimization plan (FMP) to the APCO for approval. Section 6.5.3 states that an updated FMP shall be submitted by the operator pursuant to Section 6.5 addressing new or modified equipment, prior to installing the equipment. Updated FMP submittals are only required if: The equipment change would require an authority to construct (ATC) and would impact the emissions from the flare, and the ATC is deemed complete after June 18, 2009, and the modification is not solely the removal or decommissioning of equipment that is listed in the FMP, and has no associated increase in flare emissions. Therefore, an updated FMP is required. The following condition will be listed on the ATC to ensure compliance:

- An updated Flare Minimization Plan shall be submitted for this flare prior to its installation. [District Rule 4311] N

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

Section 5.10 states that Effective on and after July 1, 2011, the operator of a flare subject to flare minimization requirements pursuant to Section 5.8 shall monitor the vent gas flow to the flare with a flow measuring device or other parameters as specified in the Permit to Operate. Section 5.10 is not effective till after July 1, 2011. The following conditions will be listed on the ATC to ensure compliance:

- Flare shall be equipped with operational produced gas volume flow meter. [District Rule 2201]

- Permittee shall keep accurate daily and annual records of flare gas volumes, sulfur content, and higher heating value of flared gas and such records shall be retained for a period of 5 years and be made readily available for District inspection upon request. [District Rule 2201] N

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

Compliance with the rule is expected.

Rule 4623, *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.

According to the information provided by the applicant, SJFM produces on average less than 6,000 barrels per day of crude oil from all operations within the county and does not engage in refining, transportation, or marketing of refined petroleum products. Therefore, under Section 3.29 of this rule and District Rule 1020, Section 3.45, this facility is a small producer.

Applicant also states that the crude oil TVP is 11.0 psia and the tanks are between 210 and 250 bbl capacity. Daily throughput is 75 bbls. Therefore the following conditions will apply:

- This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 11 psia under all storage conditions. [District Rules 2201 & 4623] N

- {2487} This tank shall be in a leak-free condition. 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. [District Rule 4623] N

- {2486} This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in leak-free condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623] N

- {2497} Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] N

- 2490} 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] N

Compliance with the requirements of this rule is expected.

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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 ATC in **Appendix J**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-2980-43-2	3020-05S-B	8,820 GALLON STORAGE TANK	$44
S-2980-44-2	3020-05S-B	8,820 GALLON STORAGE TANK	$44
S-2980-46-2	3020-05S-B	10,500 GALLON STORAGE TANK	$44
S-2980-76-0	3020-02-G	10 MMBtu/hr	$815

APPENDIX A
Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

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

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

$PE2_{quarterly}$ = $PE2_{annual}$ ÷ 4 quarters/year

$PE1_{quarterly}$= $PE1_{annual}$ ÷ 4 quarters/year

Quarterly NEC [QNEC]					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
S-2980-43-2	5945	1486	7499	1875	-389
S-2980-44-2	5945	1486	7499	1875	-389
S-2980-46-2	7620	1905	9175	2294	-389

S-2980-76-0 Quarterly NEC [QNEC]					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO_X	5957	1489	0	0	1489
SO_X	1226	307	0	0	307
PM_{10}	701	175	0	0	175
CO	32412	8103	0	0	8103
VOC	5519	1380	0	0	1380

Application Emissions

Permit #: S-2980-43-2	Last Updated
Facility: SAN JOAQUIN FACILITIES MGMT	02/11/2012 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	5945.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	16.3
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-389.0
Q2:	0.0	0.0	0.0	0.0	-389.0
Q3:	0.0	0.0	0.0	0.0	-389.0
Q4:	0.0	0.0	0.0	0.0	-389.0
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-2980-44-2	**Last Updated**
Facility: SAN JOAQUIN FACILITIES MGMT	02/11/2012 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	5945.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	16.3
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-389.0
Q2:	0.0	0.0	0.0	0.0	-389.0
Q3:	0.0	0.0	0.0	0.0	-389.0
Q4:	0.0	0.0	0.0	0.0	-389.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-2980-46-2	**Last Updated**
Facility: SAN JOAQUIN FACILITIES MGMT	02/11/2012 TORID

Equipment Pre-Baselined: NO

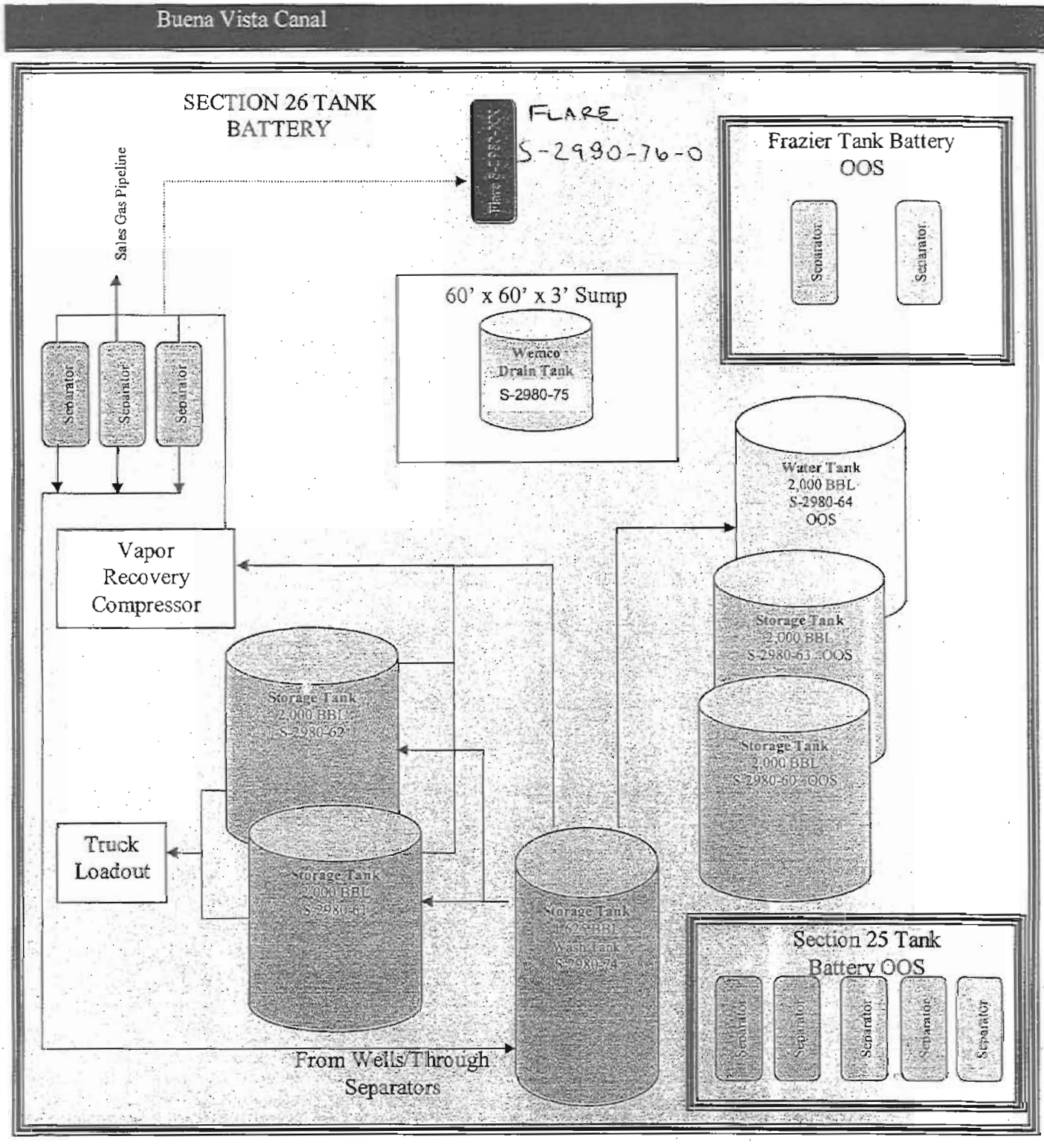
	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	7620.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	20.9
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-389.0
Q2:	0.0	0.0	0.0	0.0	-389.0
Q3:	0.0	0.0	0.0	0.0	-389.0
Q4:	0.0	0.0	0.0	0.0	-389.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

APPENDIX B
Process Flow Diagram

SAN JOAQUIN FACILITIES MANAGEMENT

BUSINESS NAME: **Canfield Ranch Lease**
SCALE: NONE

Facility Diagram S-2980



APPENDIX C
Current PTOs

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-2980-25-1 **EXPIRATION DATE:** 04/30/2014

SECTION: 30 **TOWNSHIP:** 30S **RANGE:** 26E

EQUIPMENT DESCRIPTION:
125 BBL SUMP TANK

PERMIT UNIT REQUIREMENTS

1. Formerly S-1552-22-0
2. Crude oil throughput shall not exceed 50 barrels per day based on a monthly average. [District Rule 4623]
3. Permittee shall maintain monthly records of average daily crude oil throughput and shall submit such information to the APCO 30 days prior to the expiration date indicated in the Permit to Operate. [District Rule 4623]
4. 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]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-2980-43-1 **EXPIRATION DATE:** 04/30/2014

SECTION: SW10 **TOWNSHIP:** 29S **RANGE:** 26E

EQUIPMENT DESCRIPTION:
210 BBL FIXED ROOF LIGHT OIL STORAGE TANK #5391 - ARCO LEASE

PERMIT UNIT REQUIREMENTS

1. Monthly average daily throughput of oil stored in tank shall be less than 150 barrels. [District Rule 4623, 5.1.2]
2. Formerly permit S-2960-2-0
3. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623]
4. This tank shall be in a gas-tight condition. A gas-tight condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623. [District Rule 4623]
5. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623]
6. 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]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-2980-44-1 **EXPIRATION DATE:** 04/30/2014

SECTION: SW10 **TOWNSHIP:** 29S **RANGE:** 26E

EQUIPMENT DESCRIPTION:
210 BBL FIXED ROOF LIGHT OIL STORAGE STOCK TANK #5392 - ARCO LEASE

PERMIT UNIT REQUIREMENTS

1. Monthly average daily throughput of oil stored in tank shall be less than 150 barrels. [District Rule 4623, 5.1.2]
2. Formerly permit S-2960-3-0.
3. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623]
4. This tank shall be in a gas-tight condition. A gas-tight condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623. [District Rule 4623]
5. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623]
6. 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]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-2980-46-1 **EXPIRATION DATE:** 04/30/2014

SECTION: SW10 **TOWNSHIP:** 29S **RANGE:** 26E

EQUIPMENT DESCRIPTION:
250 BBL FIXED ROOF LIGHT OIL STORAGE TANK #5394 - ARCO LEASE

PERMIT UNIT REQUIREMENTS

1. Monthly average daily throughput of oil stored in tank shall be less than 150 barrels. [District Rule 4623, 5.1.2]
2. Formerly permit S-2960-5-0
3. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623]
4. This tank shall be in a gas-tight condition. A gas-tight condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623. [District Rule 4623]
5. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623]
6. 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]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-2980-65-0 **EXPIRATION DATE:** 04/30/2014

SECTION: NW 25 **TOWNSHIP:** 30S **RANGE:** 26E

EQUIPMENT DESCRIPTION:
DORMANT 147 BHP MINNEAPOLIS MOLINE MODEL HD800-6A NATURAL GAS-FIRED IC ENGINE (WELL 12-25)

PERMIT UNIT REQUIREMENTS

1. No modification to this unit shall be performed without an Authority to Construct for such modification, except for changes specified in condition 3 below. [District Rule 2010]
2. The fuel supply line shall be physically disconnected from this unit. [District Rules 4701 and 4702]
3. This equipment shall not be operated for any reason until an Authority to Construct permit is issued approving all necessary retrofits required to comply with the applicable requirements of District Rule 4702 and all other applicable District regulations. [District Rule 4702]
4. Particulate emissions shall not exceed 0.1 gr/dscfm at the point of discharge. [District Rule 4201]
5. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801, 3.0]
6. NOx emissions shall not exceed 50 ppmv @ 15% 02. [District Rule 4702]
7. CO emissions shall not exceed 1000 ppmv @ 15% O2 or such higher value as is demonstrated during a compliance source test or during alternate monitoring, but, in any case, shall not exceed 2000 ppmv @ 15% O2. [District Rule 4701 and District NSR Rule]
8. All units in a group for which representative units are annually source tested NOx and CO emissions shall have received the same maintenance and tune-up procedures as representative unit(s) and the selection of the representative unit(s) is approved by the APCO prior to testing. [District Rule 4701 & District Rule 2520, 9.4.2]
9. Representative unit source tested shall be rotated so that each engine is tested at least once every five years, during years that it is operated. [District Rule 4701]
10. The District must be notified 30 days prior to any source testing and a test plan shall be submitted for District approval al least 15 days prior to such testing. [District Rule 1081, 7.1]
11. Source testing shall be witnessed or authorized by District personnel and sample collection shall be by an ARB certified testing laboratory. Test results must be submitted to the District within 60 day of source testing. [District Rule 1081, 7.2, 7.3]
12. Valve clearance and ignition timing shall be checked, recorded and, if necessary, adjusted to within manufacturer's specifications, at least once every 3 calendar months of engine operation. [Rule 4701]
13. Permittee shall maintain records of the dates the ignition timing and valve clearance are checked. Permittee shall also maintain records of the manufacturer's recommended timing, valve clearance, and the measured timing and valve clearance, both before and after adjustment. [District Rule 4701]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

14. If records indicate that the ignition timing or valve clearance is not maintained within the manufacturer's specifications, the District may require the permittee to conduct a source test to verify compliance with emission limits. [District Rule 4701]
15. Exhaust concentrations of NOx (as NO2), CO, and O2 shall be monitored at least once a every six months using a District-approved portable analyzer. [District Rule 4701]
16. The portable emissions analyzer(s) shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be recorded, including the date of calibration. The calibration date shall be less than six (6) months prior to the date the exhaust concentrations are measured and recorded. [District Rule 4701]
17. Concentration shall not be taken until the temperature of sample acquisition probe has been exposed to the stack gas for at least 150% of the response time of the analyzer. All measurements shall be taken in three times in succession. [District Rule 4701]
18. If water vapor is not removed prior to measurements, the absolute humidity in the gas stream must be determined so the gas concentration can be reported on a dry basis. [District Rule 4701]
19. If the water vapor creates an interference with the measurements of any component, then the water vapor must be removed from the gas stream prior to concentration measurements. [District Rule 4701]
20. If the NOx or CO concentrations corrected to 15% O2, as measured by the portable emissions analyzer, exceed the allowable limits, the permittee shall return the emissions to the acceptable range within one (1) hour after detection. If the portable analyzer readings continue to exceed the allowable emission limits, the permittee shall immediately notify the District and conduct a certified emissions source test within 60 days, using District-approved test methods, to demonstrate compliance with the applicable emission limits. [District Rule 4701]
21. Permittee shall maintain records of all NOx, CO and O2 concentrations measured with the portable analyzer, the date the concentration was measured, and a description of any corrective action taken to keep emissions within the acceptable range. Permittee shall maintain a record of the dates on which the valves and ignition timing were checked and, if necessary, adjusted. [District Rule 4701]
22. All records shall be retained for a minimum of 5 years, and shall be made available for District Inspection upon request. [District Rule 1070]

APPENDIX D
Pre-Project Tank Emission Calculations

FOR REFERENCE PAINT TABLE

PAINT COLOR	SHADE/ TYPE	PAINT FACTORS PAINT CONDITION GOOD	POOR
ALUMINUM	SPECULAR	0.39	0.49
ALUMINUM	DIFFUSE	0.60	0.66
GRAY	LIGHT	0.54	0.63
GRAY	MEDIUM	0.68	0.74
RED	PRIMER	0.89	0.91
WHITE	--NONE--	0.17	0.34

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

METEOROLOGICAL DATA CODES	
AREA	CODE
BAKERSFIELD	0
FRESNO	1
STOCKTON	2

PRESS [TAB] TO SKIP TO NEXT MODIFIABLE CELL

GIVEN AND ASSUMED DATA	
USING THE CODES ABOVE, WHAT REGION PERMIT	---
NUMBERS DO YOU WANT TO USE? (0, 1, OR 2)	0
USING THE CODES ABOVE, WHAT AREA METEOROLOGICAL	---
DATA DO YOU WANT TO USE? (0, 1, 2, ...)	0
REID VAPOR PRESSURE (psia)	9.50
VAPOR MOLECULAR WEIGHT (Mv)	50.00
USING THE CODES ABOVE, WHAT	---
TYPE OF ORGANIC LIQUID (0, 1, 2, ...)	0
VOC CONTROL EFFICIENCY	1.00
TANK SHELL DIAMETER (FEET)	8.60
TANK SHELL HEIGHT, Hs (FEET)	12.00
VENT VACUUM (ENTER "-" FOLLOWED BY A VALUE IN PSIG)	-0.03
VENT PRESSURE (POSITIVE psig)	0.03
TANK ID	
TANK USE	Stock
SJVUAPCD PERMIT#	S-2980-25
CONE OR DOME ROOF (C/D)	C
MAXIMUM TOTAL DAILY THROUGHPUT (BBL/DAY)	50.00
MIN LIQUID HEIGHT (USE 0.0 FT FOR DEFAULT)	2.00
TANK ROOF PAINT CONDITION, GOOD OR POOR (G/P)	G
TANK ROOF PAINT COLOR, SEE ABOVE (A/G/R/W)	G
TANK ROOF PAINT SHADE, SEE ABOVE (S/D/L/M/P/N)	M
TANK SHELL PAINT CONDITION, GOOD OR POOR (G/P)	G
TANK SHELL PAINT COLOR, SEE ABOVE (A/G/R/W)	G
TANK SHELL PAINT SHADE, SEE ABOVE (S/D/L/M/P/N)	M

MODIFIABLE DATA	
---	---
---	---
---	Y
---	--N/R--
---	3.0
CONE ROOF	---
GIVEN ROOF HEIGHT OR SLOPE (H/S)	S
---	0.94
TANK CONE ROOF SLOPE, Sr (DEFAULT=0.0625) (ft/ft)	0.0625
---	---
---	1.00
DO YOU WANT TO ENTER A MAX LIQUID HEIGHT? (Y/N)	N
---	18.00
DEFAULT MAX LIQUID HEIGHT (SHELL HT - 2.0 FT)	10.00
DO YOU WANT TO ENTER AN AVERAGE LIQUID HEIGHT? (Y/N)	Y
---	---
ENTER AVERAGE LIQUID HEIGHT (ft)	8.0
IS TANK CONSTANT LEVEL? (Y/N)	N
---	0.33
ARE THE CONTENTS OF THE TANK HEATED? (Y/N)	N
---	160

TANK ID	TANK USE	SJVUAPCD PERMIT #	TANK TYPE H OR V	SHELL DIMENSIONS D (FT)	SHELL DIMENSIONS Hs (FT)	CAPACITY (BBL)	ROOF TYPE (C/D)	VENT PSIG VAC.	VENT PSIG PRESS.
0	Stock	S-2980-25	VERTICAL	8.6	12.0	124.2	CONE	-0.03	0.03

TANK ROOF COND.	TANK ROOF COLOR	PAINT FACTOR	LIQUID DATA TYPE	LIQUID DATA Ht=H(lx)	LIQUID DATA Kp	LIQUID DATA RVP	CONSTANT LEVEL?	VAPOR MOL. WT.	VOC CNTRL %EFF (w/w)
GOOD	GRAY	0.68	CRUDE	10.0	0.75	9.50	NO	50.00	4.0

UNCONTROLLED EMISSIONS

CALENDAR QUARTER	CALENDAR MONTH	SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/MON)	TURNOVER PER MON.	FAC-(Kn)	VOC (LBM/MONTH) Ls	VOC (LBM/MONTH) Lw	VOC (LBM/MONTH) TOTAL (Lt)	TOTAL (LBM/QTR)
FIRST	JANUARY	63.30	7.34	1550	18.73	0.303	50.83	129.11	179.94	
	FEBRUARY	67.50	7.86	1400	16.91	0.303	68.77	124.93	193.70	
	MARCH	71.54	8.39	1550	18.73	0.303	109.67	147.65	257.32	630.96
SECOND	APRIL	76.59	9.09	1500	18.12	0.303	158.52	154.82	313.33	
	MAY	82.17	9.92	1550	18.73	0.303	236.74	174.50	411.24	
	JUNE	86.51	10.60	1500	18.12	0.303	303.01	180.46	483.46	1208.04
THIRD	JULY	88.94	10.99	1550	18.73	0.303	356.55	193.45	550.00	
	AUGUST	87.00	10.68	1550	18.73	0.303	296.14	187.85	483.98	
	SEPTEMBER	82.28	9.93	1500	18.12	0.303	196.63	169.17	365.80	1399.78
FOURTH	OCTOBER	75.71	8.97	1550	18.73	0.303	128.41	157.79	286.20	
	NOVEMBER	67.78	7.90	1500	18.12	0.303	69.40	134.49	203.89	
	DECEMBER	62.82	7.28	1550	18.73	0.303	47.78	128.08	175.86	665.95

CONTROLLED EMISSIONS (BASED ON MONTHLY CALCULATIONS)

CALENDAR QUARTER	CALENDAR MONTH	SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/QTR)	TURNOVER PER QTR.	FAC-(Kn)	VOC (LBM/QTR) Ls	VOC (LBM/QTR) Lw	VOC (LBM/QTR) TOTAL (Lt)
FIRST	JAN-MAR	67.44	7.86	4500	54	0.303	220	386	606
SECOND	APR-JUN	81.76	9.87	4550	55	0.303	670	489	1160
THIRD	JUL-SEP	86.07	10.53	4600	56	0.303	815	528	1344
FOURTH	OCT-DEC	68.77	8.05	4600	56	0.303	236	404	639
QUARTERLY AVERAGE		76.01	9.08	4563			485	452	937
DAILY AVERAGE (LB/DAY, BASED ON MONTHLY CALCULATIONS)							5.3	5.0	10.3
ANNUAL EMISSIONS (LB/YEAR, BASED ON MONTHLY CALCULATIONS)							1942	1807	3749

Tank Emission Calculation Spreadsheet, version 01/23/03

FOR REFERENCE PAINT TABLE

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

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

METEOROLOGICAL DATA CODES	
AREA	CODE
BAKERSFIELD	0
FRESNO	1
STOCKTON	2

PRESS [TAB] TO SKIP TO NEXT MODIFIABLE CELL

GIVEN AND ASSUMED DATA	
USING THE CODES ABOVE, WHAT REGION PERMIT NUMBERS DO YOU WANT TO USE? (0, 1, OR 2)	0
USING THE CODES ABOVE, WHAT AREA METEOROLOGICAL DATA DO YOU WANT TO USE? (0, 1, 2, ...)	0
REID VAPOR PRESSURE (psia)	9.50
VAPOR MOLECULAR WEIGHT (Mv)	50.00
USING THE CODES ABOVE, WHAT TYPE OF ORGANIC LIQUID (0, 1, 2, ...)	0
VOC CONTROL EFFICIENCY	0.00
TANK SHELL DIAMETER (FEET)	9.30
TANK SHELL HEIGHT, Hs (FEET)	16.50
VENT VACUUM (ENTER "-" FOLLOWED BY A VALUE IN PSIG)	-0.03
VENT PRESSURE (POSITIVE psig)	0.03
TANK ID	
TANK USE	Stock
SJVUAPCD PERMIT#	S-2980-43 & 44
CONE OR DOME ROOF (C/D)	C
MAXIMUM TOTAL DAILY THROUGHPUT (BBL/DAY)	150.00
MIN LIQUID HEIGHT (USE 0.0 FT FOR DEFAULT)	2.00
TANK ROOF PAINT CONDITION, GOOD OR POOR (G/P)	G
TANK ROOF PAINT COLOR, SEE ABOVE (A/G/R/W)	G
TANK ROOF PAINT SHADE, SEE ABOVE (S/D/L/M/P/N)	M
TANK SHELL PAINT CONDITION, GOOD OR POOR (G/P)	G
TANK SHELL PAINT COLOR, SEE ABOVE (A/G/R/W)	G
TANK SHELL PAINT SHADE, SEE ABOVE (S/D/L/M/P/N)	M

MODIFIABLE DATA	
---	---
---	---
---	Y
---	--N/R--
---	3.0
CONE ROOF	---
GIVEN ROOF HEIGHT OR SLOPE (H/S)	S
---	0.94
TANK CONE ROOF SLOPE, Sr (DEFAULT=0.0625) (ft/ft)	0.0625
---	---
---	1.00
DO YOU WANT TO ENTER A MAX LIQUID HEIGHT? (Y/N)	N
---	18.00
DEFAULT MAX LIQUID HEIGHT (SHELL HT - 2.0 FT)	14.50
DO YOU WANT TO ENTER AN AVERAGE LIQUID HEIGHT? (Y/N)	Y
---	---
ENTER AVERAGE LIQUID HEIGHT (ft)	8.0
IS TANK CONSTANT LEVEL? (Y/N)	N
---	0.33
ARE THE CONTENTS OF THE TANK HEATED? (Y/N)	N
---	160

TANK ID	TANK USE	SJVUAPCD PERMIT #	TANK TYPE H OR V	SHELL DIMENSIONS D (FT)	SHELL DIMENSIONS Hs (FT)	CAPACITY (BBL)	ROOF TYPE (C/D)	VENT PSIG VAC.	VENT PSIG PRESS.
0	Stock	S-2980-43 & 44	VERTICAL	9.3	16.5	199.6	CONE	-0.03	0.03

TANK ROOF COND.	TANK ROOF COLOR	PAINT FACTOR	LIQUID DATA TYPE	LIQUID DATA Ht=H(lx)	LIQUID DATA Kp	LIQUID DATA RVP	CONSTANT LEVEL?	VAPOR MOL. WT.	VOC CNTRL %EFF (w/w)
GOOD	GRAY	0.68	CRUDE	14.5	0.75	9.50	NO	50.00	0.0

UNCONTROLLED EMISSIONS

CALENDAR QUARTER	CALENDAR MONTH	SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/MON)	TURNOVER PER MON.	FAC-(Kn)	VOC (LBM/MONTH) Ls	VOC (LBM/MONTH) Lw	VOC (LBM/MONTH) TOTAL (Lt)	TOTAL (LBM/QTR)
FIRST	JANUARY	63.30	7.34	4650	30.75	0.250	74.52	319.28	393.80	
	FEBRUARY	67.50	7.86	4200	27.77	0.250	99.77	308.94	408.71	
	MARCH	71.54	8.39	4650	30.75	0.250	157.55	365.13	522.69	1325.20
SECOND	APRIL	76.59	9.09	4500	29.76	0.250	225.10	382.85	607.95	
	MAY	82.17	9.92	4650	30.75	0.250	332.13	431.53	763.66	
	JUNE	86.51	10.60	4500	29.76	0.250	421.34	446.25	867.59	2239.20
THIRD	JULY	88.94	10.99	4650	30.75	0.250	493.43	478.38	971.81	
	AUGUST	87.00	10.68	4650	30.75	0.250	411.39	464.52	875.92	
	SEPTEMBER	82.28	9.93	4500	29.76	0.250	275.80	418.34	694.14	2541.87
FOURTH	OCTOBER	75.71	8.97	4650	30.75	0.250	182.71	390.19	572.90	
	NOVEMBER	67.78	7.90	4500	29.76	0.250	100.62	332.57	433.18	
	DECEMBER	62.82	7.28	4650	30.75	0.250	70.13	316.74	386.88	1392.96

CONTROLLED EMISSIONS (BASED ON MONTHLY CALCULATIONS)

CALENDAR QUARTER	CALENDAR MONTH	SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/QTR)	TURNOVER PER QTR.	FAC-(Kn)	VOC (LBM/QTR) Ls	VOC (LBM/QTR) Lw	VOC (LBM/QTR) TOTAL (Lt)
FIRST	JAN-MAR	67.44	7.86	13500	89	0.250	332	993	1325
SECOND	APR-JUN	81.76	9.87	13650	90	0.250	979	1261	2239
THIRD	JUL-SEP	86.07	10.53	13800	91	0.250	1181	1361	2542
FOURTH	OCT-DEC	68.77	8.05	13800	91	0.250	353	1040	1393
QUARTERLY AVERAGE		76.01	9.08	13688			711	1164	1875
DAILY AVERAGE (LB/DAY, BASED ON MONTHLY CALCULATIONS)							7.8	12.8	20.5
ANNUAL EMISSIONS (LB/YEAR, BASED ON MONTHLY CALCULATIONS)							2845	4655	7499

Tank Emission Calculation Spreadsheet, version 01/23/03

FOR REFERENCE PAINT TABLE

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

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

METEOROLOGICAL DATA CODES	
AREA	CODE
BAKERSFIELD	0
FRESNO	1
STOCKTON	2

PRESS [TAB] TO SKIP TO NEXT MODIFIABLE CELL

GIVEN AND ASSUMED DATA	
USING THE CODES ABOVE, WHAT REGION PERMIT NUMBERS DO YOU WANT TO USE? (0, 1, OR 2)	0
USING THE CODES ABOVE, WHAT AREA METEOROLOGICAL DATA DO YOU WANT TO USE? (0, 1, 2, ...)	0
REID VAPOR PRESSURE (psia)	9.50
VAPOR MOLECULAR WEIGHT (Mv)	50.00
USING THE CODES ABOVE, WHAT TYPE OF ORGANIC LIQUID (0, 1, 2, ...)	0
VOC CONTROL EFFICIENCY	0.00
TANK SHELL DIAMETER (FEET)	15.00
TANK SHELL HEIGHT, Hs (FEET)	8.00
VENT VACUUM (ENTER "-" FOLLOWED BY A VALUE IN PSIG)	-0.03
VENT PRESSURE (POSITIVE psig)	0.03
TANK ID	S-2980-46
TANK USE	Stock Tank
SJVUAPCD PERMIT#	
CONE OR DOME ROOF (C/D)	C
MAXIMUM TOTAL DAILY THROUGHPUT (BBL/DAY)	150.00
MIN LIQUID HEIGHT (USE 0.0 FT FOR DEFAULT)	2.00
TANK ROOF PAINT CONDITION, GOOD OR POOR (G/P)	G
TANK ROOF PAINT COLOR, SEE ABOVE (A/G/R/W)	G
TANK ROOF PAINT SHADE, SEE ABOVE (S/D/L/M/P/N)	M
TANK SHELL PAINT CONDITION, GOOD OR POOR (G/P)	G
TANK SHELL PAINT COLOR, SEE ABOVE (A/G/R/W)	G
TANK SHELL PAINT SHADE, SEE ABOVE (S/D/L/M/P/N)	M

MODIFIABLE DATA	
---	---
---	---
---	Y
---	-N/R-
---	3.0
CONE ROOF	---
GIVEN ROOF HEIGHT OR SLOPE (H/S)	S
---	0.94
TANK CONE ROOF SLOPE, Sr (DEFAULT=0.0625) (ft/ft)	0.0625
---	---
---	1.00
DO YOU WANT TO ENTER A MAX LIQUID HEIGHT? (Y/N)	N
---	18.00
DEFAULT MAX LIQUID HEIGHT (SHELL HT - 2.0 FT)	6.00
DO YOU WANT TO ENTER AN AVERAGE LIQUID HEIGHT? (Y/N)	Y
---	---
ENTER AVERAGE LIQUID HEIGHT (ft)	6.0
IS TANK CONSTANT LEVEL? (Y/N)	N
---	0.33
ARE THE CONTENTS OF THE TANK HEATED? (Y/N)	N
---	160

TANK ID	TANK USE	SJVUAPCD PERMIT #	TANK TYPE H OR V	SHELL DIMENSIONS D (FT)	SHELL DIMENSIONS Hs (FT)	CAPACITY (BBL)	ROOF TYPE (C/D)	VENT PSIG VAC.	VENT PSIG PRESS.
S-2980-46	Stock Tank	0.00	VERTICAL	15.0	8.0	251.8	CONE	-0.03	0.03

TANK ROOF COND.	TANK ROOF COLOR	PAINT FACTOR	LIQUID DATA TYPE	LIQUID DATA Ht=H(lx)	LIQUID DATA Kp	LIQUID DATA RVP	CONSTANT LEVEL?	VAPOR MOL. WT.	VOC CNTRL %EFF (w/w)
GOOD	GRAY	0.68	CRUDE	6.0	0.75	9.50	NO	50.00	0.0

UNCONTROLLED EMISSIONS

CALENDAR QUARTER	CALENDAR MONTH	SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/MON)	TURNOVER PER MON.	FAC-(Kn)	VOC (LBM/MONTH) Ls	VOC (LBM/MONTH) Lw	VOC (LBM/MONTH) TOTAL (Lt)	TOTAL (LBM/QTR)
FIRST	JANUARY	63.30	7.34	4650	36.94	0.236	114.87	301.51	416.39	
	FEBRUARY	67.50	7.86	4200	33.36	0.236	157.11	291.76	448.86	
	MARCH	71.54	8.39	4650	36.94	0.236	253.12	344.82	597.94	1463.19
SECOND	APRIL	76.59	9.09	4500	35.74	0.236	370.43	361.55	731.98	
	MAY	82.17	9.92	4650	36.94	0.236	560.61	407.52	968.13	
	JUNE	86.51	10.60	4500	35.74	0.236	724.71	421.42	1146.13	2846.24
THIRD	JULY	88.94	10.99	4650	36.94	0.236	857.44	451.77	1309.20	
	AUGUST	87.00	10.68	4650	36.94	0.236	709.06	438.68	1147.74	
	SEPTEMBER	82.28	9.93	4500	35.74	0.236	465.76	395.07	860.82	3317.77
FOURTH	OCTOBER	75.71	8.97	4650	36.94	0.236	299.45	368.48	667.93	
	NOVEMBER	67.78	7.90	4500	35.74	0.236	158.68	314.07	472.74	
	DECEMBER	62.82	7.28	4650	36.94	0.236	107.83	299.12	406.95	1547.63

CONTROLLED EMISSIONS (BASED ON MONTHLY CALCULATIONS)

CALENDAR QUARTER	CALENDAR MONTH	SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/QTR)	TURNOVER PER QTR.	FAC-(Kn)	VOC (LBM/QTR) Ls	VOC (LBM/QTR) Lw	VOC (LBM/QTR) TOTAL (Lt)
FIRST	JAN-MAR	67.44	7.86	13500	107	0.236	525	938	1463
SECOND	APR-JUN	81.76	9.87	13650	108	0.236	1656	1190	2846
THIRD	JUL-SEP	86.07	10.53	13800	110	0.236	2032	1286	3318
FOURTH	OCT-DEC	68.77	8.05	13800	110	0.236	566	982	1548
QUARTERLY AVERAGE		76.01	9.08	13688			1195	1099	2294
DAILY AVERAGE (LB/DAY, BASED ON MONTHLY CALCULATIONS)							13.1	12.0	25.1
ANNUAL EMISSIONS (LB/YEAR, BASED ON MONTHLY CALCULATIONS)							4779	4396	9175

Tank Emission Calculation Spreadsheet, version 01/23/03

APPENDIX E
Post-Project Tank Emission Calculations

FOR REFERENCE PAINT TABLE

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

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

METEOROLOGICAL DATA CODES	
AREA	CODE
BAKERSFIELD	0
FRESNO	1
STOCKTON	2

PRESS [TAB] TO SKIP TO NEXT MODIFIABLE CELL

GIVEN AND ASSUMED DATA	
USING THE CODES ABOVE, WHAT REGION PERMIT NUMBERS DO YOU WANT TO USE? (0, 1, OR 2)	0
USING THE CODES ABOVE, WHAT AREA METEOROLOGICAL DATA DO YOU WANT TO USE? (0, 1, 2, ...)	0
REID VAPOR PRESSURE (psia)	9.50
VAPOR MOLECULAR WEIGHT (Mv)	50.00
USING THE CODES ABOVE, WHAT TYPE OF ORGANIC LIQUID (0, 1, 2, ...)	0
VOC CONTROL EFFICIENCY	0.00
TANK SHELL DIAMETER (FEET)	9.30
TANK SHELL HEIGHT, Hs (FEET)	16.50
VENT VACUUM (ENTER "-" FOLLOWED BY A VALUE IN PSIG)	-0.03
VENT PRESSURE (POSITIVE psig)	0.03
TANK ID	
TANK USE	Stock
SJVUAPCD PERMIT#	S-2980-43 & 44
CONE OR DOME ROOF (C/D)	C
MAXIMUM TOTAL DAILY THROUGHPUT (BBL/DAY)	75.00
MIN LIQUID HEIGHT (USE 0.0 FT FOR DEFAULT)	2.00
TANK ROOF PAINT CONDITION, GOOD OR POOR (G/P)	G
TANK ROOF PAINT COLOR, SEE ABOVE (A/G/R/W)	G
TANK ROOF PAINT SHADE, SEE ABOVE (S/D/L/M/P/N)	M
TANK SHELL PAINT CONDITION, GOOD OR POOR (G/P)	G
TANK SHELL PAINT COLOR, SEE ABOVE (A/G/R/W)	G
TANK SHELL PAINT SHADE, SEE ABOVE (S/D/L/M/P/N)	M

MODIFIABLE DATA	
---	---
---	---
---	Y
---	--N/R--
---	3.0
CONE ROOF	---
GIVEN ROOF HEIGHT OR SLOPE (H/S)	S
---	0.94
TANK CONE ROOF SLOPE, Sr (DEFAULT=0.0625) (ft/ft)	0.0625
---	---
---	1.00
DO YOU WANT TO ENTER A MAX LIQUID HEIGHT? (Y/N)	N
---	18.00
DEFAULT MAX LIQUID HEIGHT (SHELL HT - 2.0 FT)	14.50
DO YOU WANT TO ENTER AN AVERAGE LIQUID HEIGHT? (Y/N)	Y
---	---
ENTER AVERAGE LIQUID HEIGHT (ft)	8.0
IS TANK CONSTANT LEVEL? (Y/N)	N
---	0.33
ARE THE CONTENTS OF THE TANK HEATED? (Y/N)	N
---	160

TANK ID	TANK USE	SJVUAPCD PERMIT #	TANK TYPE H OR V	SHELL DIMENSIONS D (FT)	SHELL DIMENSIONS Hs (FT)	CAPACITY (BBL)	ROOF TYPE (C/D)	VENT PSIG VAC.	VENT PSIG PRESS.
0	Stock	S-2980-43 & 44	VERTICAL	9.3	16.5	199.6	CONE	-0.03	0.03

TANK ROOF COND.	TANK ROOF COLOR	PAINT FACTOR	LIQUID DATA TYPE	LIQUID DATA Ht=H(lx)	LIQUID DATA Kp	LIQUID DATA RVP	CONSTANT LEVEL?	VAPOR MOL. WT.	VOC CNTRL %EFF (w/w)
GOOD	GRAY	0.68	CRUDE	14.5	0.75	9.50	NO	50.00	0.0

UNCONTROLLED EMISSIONS

CALENDAR QUARTER	CALENDAR MONTH	SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/MON)	TURNOVER PER MON.	FAC-(Kn)	VOC (LBM/MONTH) Ls	VOC (LBM/MONTH) Lw	VOC (LBM/MONTH) TOTAL (Lt)	TOTAL (LBM/QTR)
FIRST	JANUARY	63.30	7.34	2325	15.37	0.332	74.52	212.65	287.18	
	FEBRUARY	67.50	7.86	2100	13.89	0.332	99.77	205.77	305.54	
	MARCH	71.54	8.39	2325	15.37	0.332	157.55	243.20	400.75	993.46
SECOND	APRIL	76.59	9.09	2250	14.88	0.332	225.10	254.99	480.09	
	MAY	82.17	9.92	2325	15.37	0.332	332.13	287.42	619.55	
	JUNE	86.51	10.60	2250	14.88	0.332	421.34	297.22	718.56	1818.21
THIRD	JULY	88.94	10.99	2325	15.37	0.332	493.43	318.62	812.05	
	AUGUST	87.00	10.68	2325	15.37	0.332	411.39	309.39	720.79	
	SEPTEMBER	82.28	9.93	2250	14.88	0.332	275.80	278.63	554.43	2087.27
FOURTH	OCTOBER	75.71	8.97	2325	15.37	0.332	182.71	259.89	442.60	
	NOVEMBER	67.78	7.90	2250	14.88	0.332	100.62	221.51	322.12	
	DECEMBER	62.82	7.28	2325	15.37	0.332	70.13	210.96	281.10	1045.81

CONTROLLED EMISSIONS (BASED ON MONTHLY CALCULATIONS)

CALENDAR QUARTER	CALENDAR MONTH	SURFACE T(la) F	CALC TVP @ T(la)	RATE (BBL/QTR)	TURNOVER PER QTR.	FAC-(Kn)	VOC (LBM/QTR) Ls	VOC (LBM/QTR) Lw	VOC (LBM/QTR) TOTAL (Lt)
FIRST	JAN-MAR	67.44	7.86	6750	45	0.332	332	662	993
SECOND	APR-JUN	81.76	9.87	6825	45	0.332	979	840	1818
THIRD	JUL-SEP	86.07	10.53	6900	46	0.332	1181	907	2087
FOURTH	OCT-DEC	68.77	8.05	6900	46	0.332	353	692	1046
QUARTERLY AVERAGE		76.01	9.08	6844			711	775	1486
DAILY AVERAGE (LB/DAY, BASED ON MONTHLY CALCULATIONS)							7.8	8.5	16.3
ANNUAL EMISSIONS (LB/YEAR, BASED ON MONTHLY CALCULATIONS)							2845	3100	5945

Tank Emission Calculation Spreadsheet, version 01/23/03

APPENDIX F
SSPE1 Calculations

Detailed SSPE1Report

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	2980	0	1						0
S	2980	1	1					37	0
S	2980	5	1					183	0
S	2980	25	1					~~4243~~ 3749	0
S	2980	26	1					4243	0
S	2980	27	1					4243	0
S	2980	28	1					4243	0
S	2980	29	2					12337	0
S	2980	31	1					12337	0
S	2980	32	1					5027	0
S	2980	33	1					5027	0
S	2980	34	1					5027	0
S	2980	36	4	0	0	0	0	8724	0
S	2980	42	1					8724	0
S	2980	43	1					7499	0
S	2980	44	1					7499	0
S	2980	45	1					9175	0
S	2980	46	1					9175	0
S	2980	47	5	4294	0	326	3607	2300	0
S	2980	48	4					183	0
S	2980	49	3	0	0	0	0	183	0
S	2980	50	3					402	0
S	2980	52	4	78	7	9	426	72	0
S	2980	53	0	0	0	0	0	7483	0
S	2980	54	0	0	0	0	0	7483	0
S	2980	55	2	0	0	0	0	8614	0

Notes:

Blank values for a particular permit unit do not necessarily relfect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	2980	56	1					37	0
S	2980	57	1					37	0
S	2980	58	0	4453	0	548	949	256	0
S	2980	59	0	219	0	37	184	37	0
S	2980	60	0						0
S	2980	61	0						0
S	2980	62	0						0
S	2980	63	0						0
S	2980	64	0						0
S	2980	65	0	1696	27	184	20657		0
S	2980	66	0						0
S	2980	67	0						0
S	2980	68	0						0
S	2980	69	0						0
S	2980	71	0						0
S	2980	74	0						0
S	2980	75	0					40	0
	SSPE (lbs)			10740	34	1104	25823	~~92798~~ 139619	

Notes:

Blank values for a particular permit unit do not necessarily relfect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

APPENDIX G
BACT Guideline 7.3.1

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 7.3.1*

Last Update 10/1/2002

Petroleum and Petrochemical Production - Fixed Roof Organic Liquid Storage or Processing Tank, < 5,000 bbl Tank capacity **

Pollutant	Achieved in Practice or contained In the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	PV-vent set to within 10% of maximum allowable pressure	99% control (Waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of noncondensable vapors to gas pipeline; reinjection to formation (if appropriate wells are available); or equal).	

** Converted from Determinations 7.1.11 (10/01/02).

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

***This is a Summary Page for this Class of Source**

APPENDIX H
HRA/AAQA

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	David Torii – Permit Services
From:	Leland Villalvazo – Technical Services
Date:	February 13, 2012
Facility Name:	SJFM
Location:	Light Oil Central
Application #(s):	S-2980-76-0
Project #:	S-1114893

A. RMR SUMMARY

RMR Summary				
Categories	**Production Gas Flare (Unit 76-0)**		**Project Totals**	**Facility Totals**
Prioritization Score	0.001		0.001	>1.0
Acute Hazard Index	0.0		0.0	0.00
Chronic Hazard Index	0.12		0.12	0.0
Maximum Individual Cancer Risk (10^{-6})	0.0		0.0	0.78
T-BACT Required?	No			
Special Permit Conditions?	No			

Proposed Permit Conditions

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

Unit # 76-0

No special conditions are required.

B. RMR REPORT

I. Project Description

Technical Services received a request on February 13, 2012, to perform an Ambient Air Quality Analysis and a Risk Management Review for a 10 MMBTU production gas flare.

II. Analysis

Technical Services performed modeling for criteria pollutants CO, NOx, SOx and PM_{10}; as well as a RMR. The emission rates used for criteria pollutant modeling were 3.7 lb/hr CO, 0.68 lb/hr NOx, 0.14 lb/hr SOx, and 0.08 lb/hr PM_{10}. The engineer supplied the maximum fuel rate for the IC engine used during the analysis.

Analysis Parameters Unit 76-0			
Source Type	Point	**Location Type**	Urban
Stack Height (m)	10.2	**Closest Receptor (m)**	153.1
Stack Diameter. (m)	1.33	**Type of Receptor**	Residential
Stack Exit Velocity (m/s)	6.41	**Max Hours per Year**	8760
Stack Exit Temp. (°K)	299.1	**Fuel Type**	NG
Burner Rating (MMBtu/hr)	15.4		

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.
[1]The 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.
[2]The 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 factor associated with the project is less than 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

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.

The emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS.

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 I
Compliance Certification

SJFM

SAN JOAQUIN FACILITIES MANAGEMENT, INC.

February 13, 2012

Mr. Leonard Scandura
Manager of Permit Services
San Joaquin Valley Unified APCD
34946 Flyover Court
Bakersfield, CA 93308

Subject: **Project Number 1114893 – (S-2980) New 10 MMBTU Flare Compliance Certification**

Dear Mr. Scandura:

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

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 activate wells that will provide production capacity to existing operations at the site.

The project will provide production capacity to be used at the same location, the existing site will result in the least possible impact from the project.

Bill Oliver

Operations Manager

APPENDIX J
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-2980-43-2 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: SAN JOAQUIN FACILITIES MGMT
MAILING ADDRESS: 4520 CALIFORNIA AVENUE, SUITE 300
BAKERSFIELD, CA 93309

LOCATION: LIGHT OIL CENTRAL STATIONARY SOURCE
CA

SECTION: SW10 **TOWNSHIP:** 29S **RANGE:** 26E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 210 BBL FIXED ROOF LIGHT OIL STORAGE TANK #5391 - ARCO LEASE: LOWER THROUGHPUT

CONDITIONS

1. Monthly average daily throughput of oil stored in tank shall be less than 75 barrels. [District Rule 2201]
2. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 11 psia under all storage conditions. [District Rules 2201 and 4623]
3. {2486} This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623]
4. {2487} This tank shall be in a gas-tight condition. A gas-tight condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623. [District Rule 4623]
5. {2497} Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623]
6. {2490} 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]
7. Formerly permit S-2960-2-0

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-2980-43-2 : Feb 21 2012 9:41AM -- TORID : Joint Inspection Required with TORID

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-2980-44-2 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: SAN JOAQUIN FACILITIES MGMT
MAILING ADDRESS: 4520 CALIFORNIA AVENUE, SUITE 300
BAKERSFIELD, CA 93309

LOCATION: LIGHT OIL CENTRAL STATIONARY SOURCE
CA

SECTION: SW10 **TOWNSHIP:** 29S **RANGE:** 26E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 210 BBL FIXED ROOF LIGHT OIL STORAGE STOCK TANK #5392 - ARCO LEASE: LOWER THROUGHPUT

CONDITIONS

1. Monthly average daily throughput of oil stored in tank shall be less than 75 barrels. [District Rule 2201]
2. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 11 psia under all storage conditions. [District Rules 2201 and 4623]
3. {2486} This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623]
4. {2487} This tank shall be in a gas-tight condition. A gas-tight condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623. [District Rule 4623]
5. {2497} Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623]
6. {2490} 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]

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

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

7. Formerly permit S-2960-3-0.

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-2980-46-2 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: SAN JOAQUIN FACILITIES MGMT
MAILING ADDRESS: 4520 CALIFORNIA AVENUE, SUITE 300
BAKERSFIELD, CA 93309

LOCATION: LIGHT OIL CENTRAL STATIONARY SOURCE
CA

SECTION: SW10 **TOWNSHIP:** 29S **RANGE:** 26E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 250 BBL FIXED ROOF LIGHT OIL STORAGE TANK #5394 - ARCO LEASE: LOWER THROUGHPUT

CONDITIONS

1. Monthly average daily throughput of oil stored in tank shall be less than 75 barrels. [District Rule 2201]
2. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 11 psia under all storage conditions. [District Rules 2201 and 4623]
3. {2486} This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623]
4. {2487} This tank shall be in a gas-tight condition. A gas-tight condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623. [District Rule 4623]
5. {2497} Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623]
6. {2490} 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]
7. Formerly permit S-2960-5-0

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-2980-46-2 : Feb 21 2012 8:42AM – TORID : Joint Inspection Required with TORID

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-2980-76-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: SAN JOAQUIN FACILITIES MGMT
MAILING ADDRESS: 4520 CALIFORNIA AVENUE, SUITE 300
BAKERSFIELD, CA 93309

LOCATION: LIGHT OIL CENTRAL STATIONARY SOURCE
CA

SECTION: NW 25 **TOWNSHIP:** 30S **RANGE:** 26E

EQUIPMENT DESCRIPTION:
10 MMBTU/HR PRODUCED GAS FLARE WITH AUTO IGNITION, SERVING VAPOR CONTROL SYSTEM LISTED ON S-2980-60, CANFIELD RANCH UNIT (SOUTH GOSFORD LEASE)

CONDITIONS

1. Flare shall be equipped with a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device capable of continuously detecting at least one pilot flame or the flare flame is present. The flame detection device shall be kept operational at all times except during flare maintenance when the flare is isolated from gas flow. During essential planned power outages when the flare is operating, the pilot monitor is allowed to be non-functional if the flare flame is clearly visible to onsite operators. Effective on and after July 1, 2012, all pilot monitor downtime shall be reported annually pursuant to Rule 4311, section 6.2.3.6. [District Rule 4311]
2. A flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311]
3. Flare outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311]
4. If the flare uses a flow-sensing automatic ignition system and does not use a continuous flame pilot, the flare shall use purge gas for purging. [District Rule 4311]
5. An updated Flare Minimization Plan shall be submitted for this flare prior to its installation. [District Rule 4311]
6. 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, Ringlemann 1/4 or 5% opacity. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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7. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
8. Total quantity of produced gas combusted in flare shall not exceed 240 MMBtu/day. [District Rule 2201]
9. Emission rates from flare shall not exceed any of the following: PM10: 0.008 lb/MMBtu, SOx (as SO2): 0.07262 lb/MMBtu, NOx (as NO2): 0.068 lb/MMBtu, VOC: 0.063 lb/MMBtu, CO: 0.37 lb/MMBtu. [District NSR Rule]
10. Sulfur content of produced gas combusted shall not exceed 5 gr/100 scf [District Rule 2201]
11. Flare shall be equipped with operational produced gas volume flow meter. [District Rule 2201]
12. Flare shall be equipped with continuous pilot fired solely on propane or natural gas. [District Rules 2201 and 4311]
13. Measured heating value and quantity of flared gas shall be used to determine compliance with heat input limits. [District Rule 2201]
14. Higher heating value of flared gas and pilot gas shall be determined using ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 1070]
15. The gas sulfur content of combustion gas, purge gas, and pilot gas shall be determined using double GC for H2S and mercaptans or any of ASTM test methods D-1072, D-3246, D-4346, or D-6228 or by the gas/propane supplier. [District Rule 1081]
16. Permittee shall measure and record sulfur content of flared gas at least annually. [District Rule 2201]
17. Permittee shall keep accurate daily and annual records of flare gas volumes, sulfur content, and higher heating value of flared gas and such records shall be retained for a period of 5 years and be made readily available for District inspection upon request. [District Rule 2201]
18. Authorities to Construct (ATCs) S-2980-43-2, '44-2 nd '46-2 shall be implemented prior to or concurrently with the implementation of this ATC. [District Rule 2201]
19. PTOs S-2980-25 and '65 shall be canceled prior to or concurrently with the implementation of this ATC. [District Rule 2201]