San Joaquin Valley
Unified Air Pollution Control District

Southern Regional Office * 2700 M St., Suite 275 * Bakersfield, CA 93301

split and reissued as S-1442-1 & 1443-1 Project 1000598 - MRB

Emission Reduction Credit Certificate
S-417-1

Issued To: San Joaquin Facilities Management
Issue Date: December 6, 1996

Location of Reduction: Light Oil Western Stationary Source
SE 1/4 of Section 31, Township 28S, Range 22E

For VOC Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
52331 lbs.	47077 lbs.	51194 lbs.	56504 lbs.

[X] NOTE: This certificate does not include ethane emissions.

Method Of Reduction
[ ] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Unit
[X] Other: Installation of vapor recovery on four oil production storage tanks.

David L. Crow, APCO

Seyed Sadredin
Director of Permit Services

Date 12/6/96

MPE

Notice of

Final Action

PROOF OF PUBLICATION

STATE OF CALIFORNIA
COUNTY OF KERN

I AM A CITIZEN OF THE UNITED STATES AND A RESIDENT OF THE COUNTY AFORESAID: I AM OVER THE AGE OF EIGHTEEN YEARS, AND NOT A PARTY TO OR INTERESTED IN THE ABOVE ENTITLED MATTER. I AM THE ASSISTANT PRINCI PAL CLERK OF THE PRINTER OF THE BAKERSFIELD CALIFORNIAN, A NEWSPAPER OF GENERAL CIRCULATION, PRINTED AND PUBLISHED DAILY IN THE CITY OF BAKERSFIELD COUNTY OF KERN, AND WHICH NEWSPAPER HAS BEEN ADJUDGED A NEWSPAPER OF GENERAL CIRCULATION BY THE SUPERIOR COURT OF THE COUNTY OF KERN, STATE OF CALIFORNIA, UNDER DATE OF FEBRUARY 5, 1952, CASE NUMBER 57610;THAT THE NOTICE, OF WHICH THE ANNEXED IS A PRINTED COPY, HAS BEEN PUBLISHED IN EACH REGULAR AND ENTIRE ISSUE OF SAID NEWSPAPER AND NOT IN ANY SUPPLEMENT THEREOF ON THE FOLLOWING DATES, TO WIT:

Dec 13

ALL IN THE YEAR 1996

I CERTIFY (OR DECLARE) UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT.

Frances Ashley

Signature

DATED AT BAKERSFIELD CA.

Dec 13, 1996

NOTICE OF FINAL ACTION FOR THE ISSUANCE OF EMISSION REDUCTION CREDIT CERTIFICATES

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District has issued emission reduction credit certificates to San Joaquin Facilities Management for the installation of a vapor control system located at Cal Canal in Western Kern County (SE 1/4 of Section 31, Township 28S, Range 22E). The amount of emission reductions is 104 tons Volatile Organic Compounds per year.
The analysis of the regulatory basis for Project #960784, and of the resulting effect on ambient air quality, is available for public inspection at SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, SOUTHERN REGION, 2700 M STREET, SUITE 275, BAKERSFIELD, CALIFORNIA 93301
December 13, 1996 (3962)

PROOF OF PUBLICATION

BAKERSFIELD CALIFORNIAN

NOTICE OF FINAL ACTION
FOR THE ISSUANCE OF
EMISSION REDUCTION CREDIT CERTIFICATES

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District has issued emission reduction credit certificates to San Joaquin Facilities Management for the installation of a vapor control system located at Cal Canal in Western Kern County (SE 1/4 of Section 31, Township 28S, Range 22E). The amount of emission reductions is 104 tons Volatile Organic Compounds per year.

The analysis of the regulatory basis for Project #950784, and of the resulting effect on ambient air quality, is available for public inspection at SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, SOUTHERN REGION, 2700 M STREET, SUITE 275, BAKERSFIELD, CALIFORNIA 93301.

ACCT#: 1SAN51

PROOF of Story '#3362' Requested by 10ELAINE (SF302L) on 12/10/96 12:28:22

Ad # #3362 Ad type C Basket LEGAL Holds: Censor H Credit R
Entered By 10ELAINE On 12/10/96 at 10:31 For 10ELAINE
Account 1SAN51 Class 520 Dis Sales 10 Ins Sales 10
Name EY A.P.C.D. SAN JOAQUIN VALL Phone (805) 8613682
Addr 2700 M STREET STE 275 GB/PO 950784
City BAKERSFIELD State CA Zip 93301
Ad Start 12/13/96 Times 1 Stop 12/13/96 Rate L1
Run Days/Dates 13
30 Billing lines 2.49 Inches
Total $39.00 Adcost 39.00

RECEIVED
DEC 1 0 1996
SAN JOAQUIN VALLEY UNIFIED
APCD-SOUTHERN REGION

Remarks:

LN#	OUTPUT TEXT
1	
2	NOTICE OF
3	FINAL ACTION FOR THE
4	ISSUANCE OF EMISSION
5	REDUCTION CREDIT
6	CERTIFICATES
7	
8	NOTICE IS HEREBY GIVEN that
9	the San Joaquin Valley Unified
10	Air Pollution Control District has
11	issued emission reduction credit
12	certificates to San Joaquin Facili-
13	ties Management for the installa-
14	tion of a vapor control system
15	located at Cal Canol in Western
16	Kern County (SE 1/4 of Section 31,
17	Township 28S, Range 22E). The
18	amount of emission reductions is
19	104 tons Volatile Organic Com-
20	pounds per year.
21	The analysis of the regulatory
22	basis for Project #950784, and of
23	the resulting effect on ambient air
24	quality, is available for public
25	inspection at SAN JOAQUIN VAL-
26	LEY UNIFIED AIR POLLUTION
27	CONTROL DISTRICT, SOUTH-
28	ERN REGION, 2700 M STREET,
29	SUITE 275, BAKERSFIELD,
30	CALIFORNIA 93301
31	December 13, 1996 (3362)

ATTN: ART TYLER

BAKERSFIELD CALIFORNIAN
LEGAL DESK

ELAINE
395-7313

MPE

PROOF OF PUBLICATION

STATE OF CALIFORNIA
COUNTY OF KERN

I AM A CITIZEN OF THE UNITED STATES AND A RESIDENT OF THE COUNTY AFORESAID: I AM OVER THE AGE OF EIGHTEEN YEARS, AND NOT A PARTY TO OR INTERESTED IN THE ABOVE ENTITLED MATTER. I AM THE ASSISTANT PRINCI PAL CLERK OF THE PRINTER OF THE BAKERSFIELD CALIFORNIAN, A NEWSPAPER OF GENERAL CIRCULATION, PRINTED AND PUBLISHED DAILY IN THE CITY OF BAKERSFIELD COUNTY OF KERN, AND WHICH NEWSPAPER HAS BEEN ADJUDGED A NEWSPAPER OF GENERAL CIRCULATION BY THE SUPERIOR COURT OF THE COUNTY OF KERN, STATE OF CALIFORNIA, UNDER DATE OF FEBRUARY 5, 1952, CASE NUMBER 57610;THAT THE NOTICE, OF WHICH THE ANNEXED IS A PRINTED COPY, HAS BEEN PUBLISHED IN EACH REGULAR AND ENTIRE ISSUE OF SAID NEWSPAPER AND NOT IN ANY SUPPLEMENT THEREOF ON THE FOLLOWING DATES, TO WIT:

8/16

ALL IN THE YEAR 1996

I CERTIFY (OR DECLARE) UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT.

Shannon Alsher

Signature

DATED AT BAKERSFIELD CA

8/16/96

NOTICE OF PRELIMINARY DECISION FOR THE PROPOSED ISSUANCE OF EMISSION REDUCTION CREDIT CERTIFICATES

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of emission reduction credit certificates to San Joaquin Facilities Management for the installation of a vapor recovery system on four oil field storage tanks located at Cal Canal in Western Kern County (Southeast quarter of Section 31, Township 28S, Range 22E). The amount of emission reductions proposed is 207,106 pounds of Volatile Organic Compounds per year. The analysis of the regulatory basis for this certificate, and of the resulting effect on ambient air quality, is available for public inspection at the District office at the address below. Written comments on Project #950784 must be submitted within 30 days of the publication date of this notice to SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, SOUTHERN REGION, 2700 M STREET, SUITE 275, BAKERSFIELD, CALIFORNIA 93301
August 16, 1996 (16500)

PROOF OF PUBLICATION

BAKERSFIELD CALIFORNIAN

NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
EMISSION REDUCTION CREDIT CERTIFICATES

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of emission reduction credit certificates to San Joaquin Facilities Management for the installation of a vapor recovery system on four oil field storage tanks located at Cal Canal in Western Kern County (Southeast quarter of Section 31, Township 28S, Range 22E). The amount of emission reductions proposed is 207,106 pounds of Volatile Organic Compounds per year.

The analysis of the regulatory basis for this certificate, and of the resulting effect on ambient air quality, is available for public inspection at the District office at the address below. Written comments on Project #950784 must be submitted within 30 days of the publication date of this notice to **SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, SOUTHERN REGION, 2700 M STREET, SUITE 275, BAKERSFIELD, CALIFORNIA 93301.**

ACCT#: 1SAN51

MPE

Notice of

Preliminary Decision

PROOF OF PUBLICATION

STATE OF CALIFORNIA
COUNTY OF KERN

I AM A CITIZEN OF THE UNITED STATES AND A RESIDENT OF THE COUNTY AFORESAID: I AM OVER THE AGE OF EIGHTEEN YEARS, AND NOT A PARTY TO OR INTERESTED IN THE ABOVE ENTITLED MATTER. I AM THE ASSISTANT PRINCI PAL CLERK OF THE PRINTER OF THE BAKERSFIELD CALIFORNIAN, A NEWSPAPER OF GENERAL CIRCULATION, PRINTED AND PUBLISHED DAILY IN THE CITY OF BAKERSFIELD COUNTY OF KERN, AND WHICH NEWSPAPER HAS BEEN ADJUDGED A NEWSPAPER OF GENERAL CIRCULATION BY THE SUPERIOR COURT OF THE COUNTY OF KERN, STATE OF CALIFORNIA, UNDER DATE OF FEBRUARY 5, 1952, CASE NUMBER 57610; THAT THE NOTICE, OF WHICH THE ANNEXED IS A PRINTED COPY, HAS BEEN PUBLISHED IN EACH REGULAR AND ENTIRE ISSUE OF SAID NEWSPAPER AND NOT IN ANY SUPPLEMENT THEREOF ON THE FOLLOWING DATES, TO WIT:

May 3,

ALL IN THE YEAR 1996

I CERTIFY (OR DECLARE) UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT.

Francis Alsher

Signature

DATED AT BAKERSFIELD CA

May 3, 1996

NOTICE OF PRELIMINARY DECISION FOR THE PROPOSED ISSUANCE OF EMISSION REDUCTION CREDIT CERTIFICATES

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of emission reduction credit certificates to San Joaquin Facilities Management for the installation of a vapor recovery system on four oil field storage tanks located at Cal Canal in Western Kern County (Southeast quarter of Section 31, Township 28S, Range 22E). The amount of emission reductions proposed is 1,750 pounds of volatile organic compounds per year. The analysis of the regulatory basis for this certificate, and of the resulting effect on ambient air quality, is available for public inspection at the District office at the address below. Written comments on Project #950784 must be submitted within 30 days of the publication date of this notice to SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, SOUTHERN REGION, 2700 M STREET, SUITE 275, BAKERSFIELD, CALIFORNIA 93301.
May 3, 1996 (23221)

RECEIVED
MAY 7 1996
SAN JOAQUIN VALLEY UNIFIED
APCD–SOUTHERN REGION

PROOF OF PUBLICATION

BAKERSFIELD CALIFORNIAN

NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
EMISSION REDUCTION CREDIT CERTIFICATES

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of emission reduction credit certificates to San Joaquin Facilities Management for the installation of a vapor recovery system on four oil field storage tanks located at Cal Canal in Western Kern County (Southeast quarter of Section 31, Township 28S, Range 22E). The amount of emission reductions proposed is 1,750 pounds of volatile organic compounds per year.

The analysis of the regulatory basis for this certificate, and of the resulting effect on ambient air quality, is available for public inspection at the District office at the address below. Written comments on Project #950784 must be submitted within 30 days of the publication date of this notice to SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, SOUTHERN REGION, 2700 M STREET, SUITE 275, BAKERSFIELD, CALIFORNIA 93301.

ACCT#: 1SAN51

FAXED TO Mat Erhardt - Southern Region

PROOF of Story '#23221' Requested by 10ELAINE (#F502L) on 5/01/96 15:23:31

Ad # #23221 Ad type C Basket CREDIT LIMIT Holds: Censor H Credit L
Entered By 10ELAINE On 5/01/96 at 15:23 for 10ELAINE
Account 1SAN51 Class 520 Dis Sales/10 / Ins Sales 10
Name EY A.P.C.D. SAN JOAQUIN VALL Phone (805) 8613682
Addr 2700 M STREET STE 275 GB/PO #950784
City BAKERSFIELD State CA Zip 93301
Ad Start 5/03/96 Times 1 Stop 5/03/96 Rate 1
Run Days/Dates 2
39 Billing lines 3.24 Inches
Total $48.36 Adcost 48.36

Remarks:

LN#	OUTPUT TEXT
1	
2	NOTICE OF
3	PRELIMINARY DECISION
4	FOR THE PROPOSED
5	ISSUANCE OF EMISSION
6	REDUCTION CREDIT
7	CERTIFICATES
8	
9	NOTICE IS HEREBY GIVEN that
10	the San Joaquin Valley Unified
11	Air Pollution Control District so-
12	licits public comment on the pro-
13	posed issuance of emission
14	reduction credit certificates to
15	San Joaquin Facilities Manage-
16	ment for the installation of a
17	vapor recovery system on four oil
18	field storage tanks located at Cal
19	Canal in Western Kern County
20	(Southeast quarter of Section 31,
21	Township 28S, Range 22E). The
22	amount of emission reductions
23	proposed is 1,750 pounds of vola-
24	tile organic compounds per year.
25	The analysis of the regulatory
26	basis for this certificate, and of
27	the resulting effect on ambient air
28	quality, is available for public
29	inspection at the District office at
30	the address below. Written com-
31	ments on Project #950784 must be
32	submitted within 30 days of the
33	publication date of this notice to
34	SAN JOAQUIN VALLEY UNI-
35	FIED AIR POLLUTION CON-
36	TROL DISTRICT, SOUTHERN
37	REGION, 2700 M STREET,
38	SUITE 275, BAKERSFIELD,
39	CALIFORNIA 93301.

BAKERSFIELD CALIFORNIAN
LEGAL DESK

RECEIVED
MAY 1 1996
SAN JOAQUIN VALLEY UNIFIED
APCD-SOUTHERN REGION

San Joaquin Valley
Unified Air Pollution Control District

December 6, 1996

RECEIVED

DEC 1 1 1996

SAN JOAQUIN VALLEY UNIFIED
APCD-SOUTHERN REGION

Bill Oliver
Operations Manager
San Joaquin Facilities Management
1100 Mohawk Street, Suite 150
Bakersfield, CA 93309

RE: Notice of Final Action - Emissions Reduction Credit Certificates
Project #950784

Dear Mr. Oliver:

The District has made its final decision to issue an Emissions Reduction Credit Certificate to San Joaquin Facilities Management for the installation of a vapor control on four oil field storage tanks located at Cal Canal in Western Kern County. The amount of emission reductions is 104 tons of Volatile Organic Compounds per year. The certificate S-417-1 and a copy of the Notice of Final Action are enclosed.

No comments were received within the 30-day public comment period.

Thank you for your cooperation in this matter. Should you have any questions, please contact Mr. Thomas Goff, Permit Services Manager - Southern Region, at (805) 862-5200.

Sincerely,

Seyed Sadredin
Director of Permit Services

MPE/adt
Enclosures
Certified Mail #Z 051 670 861
c: Thomas Goff, Permit Services Manager - Southern Region

David L. Crow
Executive Director/Air Pollution Control Officer
1999 Tuolumne Street, Suite 200 • Fresno, CA 93721 • (209) 497-1000 • Fax (209) 233-2057

Northern Region
4230 Kiernan Avenue, Suite 130 • Modesto, CA 95356
(209) 545-7000 • Fax (209) 545-8652

Central Region
1999 Tuolumne Street, Suite 200 • Fresno, CA 93721
(209) 497-1000 • Fax (209) 233-2057

Southern Region
2700 M Street, Suite 275 • Bakersfield, CA 93301
(805) 862-5200 • Fax (805) 862-5201

San Joaquin Valley
Unified Air Pollution Control District

December 6, 1996

Raymond Menebroker, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812-2815

RE: Notice of Final Action - Emissions Reduction Credit Certificates
Project #950784

Dear Mr. Menebroker:

The District has made its final decision to issue an Emissions Reduction Credit Certificate to San Joaquin Facilities Management for the installation of a vapor control on four oil field storage tanks located at Cal Canal in Western Kern County. The amount of emission reductions is 104 tons of Volatile Organic Compounds per year. The certificate S-417-1 and a copy of the Notice of Final Action are enclosed.

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Sincerely,

Seyed Sadredin
Director of Permit Services

MPE/adt
Enclosures
c: Thomas Goff, Permit Services Manager - Southern Region

David L. Crow
Executive Director/Air Pollution Control Officer
1999 Tuolumne Street, Suite 200 • Fresno, CA 93721 • (209) 497-1000 • Fax (209) 233-2057

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(805) 862-5200 • Fax (805) 862-5201

San Joaquin Valley
Unified Air Pollution Control District

December 6, 1996

Ken Bigos, Chief
Stationary Source Branch
NSSA-5-1
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

RE: Notice of Final Action - Emissions Reduction Credit Certificates
Project #950784

Dear Mr. Bigos:

The District has made its final decision to issue an Emissions Reduction Credit Certificate to San Joaquin Facilities Management for the installation of a vapor control on four oil field storage tanks located at Cal Canal in Western Kern County. The amount of emission reductions is 104 tons of Volatile Organic Compounds per year. The certificate S-417-1 and a copy of the Notice of Final Action are enclosed.

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Sincerely,

Seyed Sadredin
Director of Permit Services

MPE/adt
Enclosures
c: Thomas Goff, Permit Services Manager - Southern Region

David L. Crow
Executive Director/Air Pollution Control Officer
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Southern Region
2700 M Street, Suite 275 • Bakersfield, CA 93301
(805) 862-5200 • Fax (805) 862-5201

TELEPHONE CONVERSATION: DATE: September 13, 1996
TIME: 2:45 PM

APCD REPRESENTATIVE: MAT EHRHARDT, AQE II
WITH: Jennifer Fox
TITLE:
COMPANY: EPA
PHONE #: (415) 744-1257

SUBJECT: Public comment for project 950784

SUMMARY: No comments

TELEPHONE CONVERSATION: DATE: September 19, 1996
TIME: 8:30 AM

APCD REPRESENTATIVE: MAT EHRHARDT, AQE II
WITH: Alex Krichovsky
TITLE:
COMPANY: CARB
PHONE #: (916) 327-5626

SUBJECT: Public comment for project 950784

SUMMARY: No comments

San Joaquin Valley
Unified Air Pollution Control District

August 13, 1996

RECEIVED

AUG 15 1996

SAN JOAQUIN VALLEY UNIFIED
APCD-SOUTHERN REGION

Mr. Bill Oliver
Operations Manager
San Joaquin Facilities Management
1100 Mohawk Street, Suite 150
Bakersfield CA 93309

RE: Preliminary Public Notice - Emissions Reduction Credit Certificates
Project #950784

Dear Mr. Oliver:

Enclosed for your review and comment is the District's analysis of San Joaquin Facilities's request for Emission Reduction Credits (ERCs) resulting from the installation of vapor control on four oil field storage tanks located at Cal Canal in Western Kern County. The amount of this banking certificate has been revised due to comments received during the public comment period. The calculation of the actual emission reductions will be based on site specific data for the tanks.

Also enclosed is a copy of Preliminary Notice which will be published in approximately three days from the date of this letter.

Publication will start a 30 day public comment period. Please submit your written comments on our analysis, as soon as possible, to provide ample time for our review and consideration.

Thank you for your cooperation in this matter. Should you have any questions, please contact Mr. Mat Ehrhardt of Permit Services at (805) 862-5200.

Sincerely,

Seyed Sadredin
Director of Permit Services

ME:cga
Enclosures
cc: Thomas Goff, Permit Services Manager - Southern Region

David L. Crow
Executive Director/ Air Pollution Control Officer
1999 Tuolumne Street, Suite 200 Fresno, CA 93721 • (209) 497-1000 • FAX (209) 233-2057

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Southern Region
2700 M Street, Suite 275 • Bakersfield, CA 93301
(805) 862-5200 • FAX (805) 862-5201

San Joaquin Valley
Unified Air Pollution Control District

August 13, 1996

Mr. Raymond Menebroker, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812-2815

RE: Preliminary Public Notice - Emissions Reduction Credit Certificates
Project # 950784

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Sincerely,

Seyed Sadredin
Director of Permit Services

ME:cga
Enclosures
cc: Thomas Goff, Permit Services Manager - Southern Region

David L. Crow
Executive Director/ Air Pollution Control Officer
1999 Tuolumne Street, Suite 200 Fresno, CA 93721 • (209) 497-1000 • FAX (209) 233-2057

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Southern Region
2700 M Street, Suite 275 • Bakersfield, CA 93301
(805) 862-5200 • FAX (805) 862-5201

San Joaquin Valley
Unified Air Pollution Control District

August 13, 1996

Mr. Ken Bigos, Chief
Stationary Source Branch
NSSA-5-1
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

RE: Preliminary Public Notice - Emissions Reduction Credit Certificates
Project #950784

Dear Mr. Bigos:

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Sincerely,

Seyed Sadredin
Director of Permit Services

ME:cga
Enclosures
cc: Thomas Goff, Permit Services Manager - Southern Region

David L. Crow
Executive Director/ Air Pollution Control Officer
1999 Tuolumne Street, Suite 200 Fresno, CA 93721 • (209) 497-1000 • FAX (209) 233-2057

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Southern Region
2700 M Street, Suite 275 • Bakersfield, CA 93301
(805) 862-5200 • FAX (805) 862-5201

SAN JOAQUIN FACILITIES MANAGEMENT, INC.

FACSIMILE TRANSMITTAL

TO: Matt Ehrhardt DATE: 5/24/96

COMPANY: SJVUAPCD FAX #: 862-5201

TIME: 8:30 Am

SUBJECT: 5/23/96 letter - ERC's

FROM: Bill Oliver

San Joaquin Facilities Management, Inc.

Telephone: (805) 631-8713 Fax: (805) 631-8719

Number of pages (including transmittal page) 4

1100 Mohawk Street, Suite 150, Bakersfield, CA 93309
(805) 631-8713 Fax: (805) 631-8719

SJFM
SAN JOAQUIN FACILITIES MANAGEMENT, INC.

May 23, 1996

SJVUAPCD
Attn: Mr. Thomas Goff
Manager of Permit Services
2700 M Street, Suite 275
Bakersfield, CA 93301

Subject: Public Notice: Cal Canal Vapor Recovery System ERC's
Project #950784

Dear Mr. Goff:

Thank you for meeting with us on the subject ERC's. It is apparent from your public notice analysis and our discussion of May 22, 1996, that there is a misunderstanding of lease operation during the portion of the two year time period that Texaco operated the lease. This has apparently led to your not giving us all the emission credits we deserve for controlling this emission source. Therefore, we request that we be given all the emission credits we requested adjusted as necessary for the proposed control measure. Of course, we expect to receive all the credits if the control measure is adopted without requiring controls on these tanks. Following is our understanding of the issues:

- During part of the baseline period (10/91-6/93), Texaco operated a gas lift system on gas well #1-31. It was shut down in June or early July 1993 by Texaco. A small compressor with an IC engine was operated which used some of the gas in the sales gas line to Chevron. Gas remaining in the sales gas line was still purchased by Chevron. Gas was injected into the well to help carry additional liquids to the surface. This was not a gas reinjection system such as operated at Elk Hills to pressurize the strata to force crude oil to the surface. The effect of this system is that more gas would be separated in the gas oil separator used for #1-31 well and may have added more gas to the crude oil tanks for this lease then we documented. This operation didn't effect the pressure setting on the gas oil separators which is set based on Chevron's compressor station intake pressure which hasn't changed since 1990. See attached letter from Chevron.
- No booster compressor was used by Texaco or ourselves during the two year period to boost the gas pressure in the sales gas

1100 Mohawk Street, Suite 150, Bakersfield, CA 93309
(805) 631-8713 Fax: (805) 631-8719

line to the Chevron compressor station. The pressure is in the same range now as then. See attached letter from Chevron.

- Rule 4623 was adopted on December 17, 1992 and required final compliance by July 1, 1994. SJFM, inc. is exempt from Rule 4623 and purchased the lease effective August 1, 1993. There was no vapor recovery system on any of the Cal Canal leases purchased by SJFM, inc. The latest draft of the proposed revisions to Rule 4623 maintain the exemption for small producers.
- The amount of gas contained in the crude oil leaving the gas oil separators is pressure dependent. The lease was operated by Texaco and is operated now supplying gas directly to Chevron's compressor station. The gas line pressure has to be sufficient to meet the intake pressure at Chevron's compressor station thereby determining the amount of gas left in the crude oil. The Pierson lease separator is subject to the same Chevron pressure limits, but is sold to Chevron through a separate sales line and meter.
- The District needs to adjust the amount of ERC's based on ethane being no longer a VOC. Test data has already been submitted showing the amount of ethane.

In conclusion, SJFM, Inc. installed and is operating a vapor recovery system not required by current rules. A large emission reduction has occurred which is much more than calculated by AP-42 due to the gassy nature of this crude oil (actually a gas field with liquids). This has been documented by recovery of gas from the tanks using the same pressure operating parameters as used during the two year time period. This actual documentation more accurately represents the emission reduction that occurred. Therefore, we request that the District revise their calculations to account for the actual emission reduction that has occurred and give us the additional ERC's. If you have any questions or require further information, please notify us immediately.

Sincerely,

Bill Oliver
Operations Manager

cc: Jack Caufield

Chevron

Chevron U.S.A. Production
Western Business Unit

May 23, 1996

San Joaquin Facilities Management, Inc.

Re: Delivery Pressure at TF110 Cal Canal and TF166 Pearson
Attn: *Mr. Bill Oliver*

Dear Sir:

The gas delivered into Chevron's gas system through meters TF110 and TF166 at section 31, T28S, R22E M.D.B.M. for the period in question 1990 to present has been delivered at pressures between 100 - 150 psi (pounds per square inch). The gas delivered through TF110 and TF166 must be above the operating line pressure in order to enter our gas system. Chevron's gas system at these points operates between 90 - 120 psi consistently and this gas feeds into the intake of our compressor P205. Low pressure on the system would cause this compressor to go down. Occidental Petroleum, Texaco and now San Joaquin Facilities have owned, produced, and delivered gas into Chevron's gas system at these delivery points in the past. There have been no operational or mechanical changes that would have caused this gas gathering system to have operated at a lower pressure during the period in question.

If there are any questions, please call me at (805) 395 - 6342.

Regards,

P.E. Ayers
Gas Coordination

SJFM

SAN JOAQUIN FACILITIES MANAGEMENT, INC.

RECEIVED

MAY 29 1996

SAN JOAQUIN VALLEY UNIFIED APCD-SOUTHERN REGION

May 23, 1996

SJVUAPCD
Attn: Mr. Thomas Goff
Manager of Permit Services
2700 M Street, Suite 275
Bakersfield, CA 93301

Subject: Public Notice: Cal Canal Vapor Recovery System ERC's
Project #950784

Dear Mr. Goff:

Thank you for meeting with us on the subject ERC's. It is apparent from your public notice analysis and our discussion of May 22, 1996, that there is a misunderstanding of lease operation during the portion of the two year time period that Texaco operated the lease. This has apparently led to your not giving us all the emission credits we deserve for controlling this emission source. Therefore, we request that we be given all the emission credits we requested adjusted as necessary for the proposed control measure. Of course, we expect to receive all the credits if the control measure is adopted without requiring controls on these tanks. Following is our understanding of the issues:

- During part of the baseline period (10/91-6/93), Texaco operated a gas lift system on gas well #1-31. It was shut down in June or early July 1993 by Texaco. A small compressor with an IC engine was operated which used some of the gas in the sales gas line to Chevron. Gas remaining in the sales gas line was still purchased by Chevron. Gas was injected into the well to help carry additional liquids to the surface. <u>This was not a gas reinjection system such as operated at Elk Hills to pressurize the strata to force crude oil to the surface</u>. The effect of this system is that more gas would be separated in the gas oil separator used for #1-31 well and may have added more gas to the crude oil tanks for this lease than we documented. This operation didn't effect the pressure setting on the gas oil separators which is set based on Chevron's compressor station intake pressure which hasn't changed since 1990. See attached letter from Chevron.
- No booster compressor was used by Texaco or ourselves during the two year period to boost the gas pressure in the sales gas

1100 Mohawk Street, Suite 150, Bakersfield, CA 93309
(805) 631-8713 Fax: (805) 631-8719

line to the Chevron compressor station. The pressure is in the same range now as then. See attached letter from Chevron.

- Rule 4623 was adopted on December 17, 1992 and required final compliance by July 1, 1994. SJFM, inc. is exempt from Rule 4623 and purchased the lease effective August 1, 1993. There was no vapor recovery system on any of the Cal Canal leases purchased by SJFM, inc. The latest draft of the proposed revisions to Rule 4623 maintain the exemption for small producers.
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- The District needs to adjust the amount of ERC's based on ethane being no longer a VOC. Test data has already been submitted showing the amount of ethane.

In conclusion, SJFM, Inc. installed and is operating a vapor recovery system not required by current rules. A large emission reduction has occurred which is much more than calculated by AP-42 due to the gassy nature of this crude oil (actually a gas field with liquids). This has been documented by recovery of gas from the tanks using the same pressure operating parameters as used during the two year time period. This actual documentation more accurately represents the emission reduction that occurred. Therefore, we request that the District revise their calculations to account for the actual emission reduction that has occurred and give us the additional ERC's. If you have any questions or require further information, please notify us immediately.

Sincerely,

Bill Oliver
Operations Manager

cc: Jack Caufield

Chevron

Chevron U.S.A. Production
Western Business Unit

May 23, 1996

San Joaquin Facilities Management, Inc.

Re: Delivery Pressure at TF110 Cal Canal and TF166 Pearson
Attn: Mr. Bill Oliver

Dear Sir:

The gas delivered into Chevron's gas system through meters TF110 and TF166 at section 31, T28S, R22E M.D.B.M. for the period in question 1990 to present has been delivered at pressures between 100 - 150 psi (pounds per square inch). The gas delivered through TF110 and TF166 must be above the operating line pressure in order to enter our gas system. Chevron's gas system at these points operates between 90 - 120 psi consistently and this gas feeds into the intake of our compressor P205. Low pressure on the system would cause this compressor to go down. Occidental Petroleum, Texaco and now San Joaquin Facilities have owned, produced, and delivered gas into Chevron's gas system at these delivery points in the past. There have been no operational or mechanical changes that would have caused this gas gathering system to have operated at a lower pressure during the period in question.

If there are any questions, please call me at (805) 395 - 6342.

Regards,

P.E. Ayers
Gas Coordination

San Joaquin Valley Unified
Air Pollution Control District

May 1, 1996

Bill Oliver
Operations Manager
San Joaquin Facilities Management
1100 Mohawk Street, Suite 150
Bakersfield, CA 93309

RE: Preliminary Public Notice - Emissions Reduction Credit Certificates
Project #950784

Dear Mr. Oliver:

Enclosed for your review and comment is the District's analysis of San Joaquin Facilities's request for Emission Reduction Credits (ERCs) resulting from the installation of vapor control on four oil field storage tanks located at Cal Canal in Western Kern County.

The Preliminary Public Notice 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. Should you have any questions, please contact Mat Ehrhardt of Permit Services at (805) 862-5200.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:ad
Enclosure
c: Thomas Goff, Permit Services Manager - Southern Region

San Joaquin Valley Unified
Air Pollution Control District

May 1, 1996

Ray Menebroker, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812-2815

RE: Preliminary Public Notice - Emissions Reduction Credit Certificates
Project # 950784

Dear Mr. Menebroker:

Enclosed for your review and comment is the District's analysis of San Joaquin Facilities's request for Emission Reduction Credits (ERCs) resulting from the installation of vapor control on four oil field storage tanks located at Cal Canal in Western Kern County.

The Preliminary Public Notice 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. Should you have any questions, please contact Mat Ehrhardt of Permit Services at (805) 862-5200.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:ad
Enclosure
c: Thomas Goff, Permit Services Manager - Southern Region

David L. Crow
Executive Director/Air Pollution Control Officer
1999 Tuolumne Street, Suite 200 Fresno, CA 93721 • (209) 497-1000 • FAX (209) 233-2057

Northern Region
4230 Kiernan Avenue, Suite 130 • Modesto, CA 95356
(209) 545-7000 • FAX (209) 233-8652

Central Region
1999 Tuolumne Street, Suite 200 • Fresno, CA 93721
(209) 497-1000 • FAX (209) 233-2057

Southern Region
2700 M Street, Suite 275 • Bakersfield, CA 93301
(805) 862-5200 • FAX (805) 862-5201

San Joaquin Valley Unified
Air Pollution Control District

May 1, 1996

Ken Bigos, Chief
Stationary Source Branch
NSSA-5-1
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

RE: Preliminary Public Notice - Emissions Reduction Credit Certificates
Project #950784

Dear Mr. Bigos:

Enclosed for your review and comment is the District's analysis of San Joaquin Facilities's request for Emission Reduction Credits (ERCs) resulting from the installation of vapor control on four oil field storage tanks located at Cal Canal in Western Kern County.

The Preliminary Public Notice 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. Should you have any questions, please contact Mat Ehrhardt of Permit Services at (805) 862-5200.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:ad
Enclosure
c: Thomas Goff, Permit Services Manager - Southern Region

TELEPHONE CONVERSATION:

DATE: 10/13/95
TIME: 10:00 AM

APCD REPRESENTATIVE: MAT EHRHARDT, AQE II
WITH: Bill Oliver
TITLE: Operations Manager
COMPANY: SJFM
PHONE #: 631-8713

SUBJECT: Cal Canal Vapor Recovery System Design

SUMMARY: Asked Bill how he measured the gas flowrate. He stated that there is a orifice meter which measures the gas coming from the storage tanks.

I asked if the system used any Make-up gas (Texaco system design had it). He stated no.

Asked if the compressor operated continuously.

He stated that it operated at 1.5 oz. and shuts down at 0.1 oz.

SJFM

SAN JOAQUIN FACILITIES
MANAGEMENT, INC.

September 27, 1995

Mr. Thomas Goff
Permit Services Manager
SJVUAPCD
2700 M. Street, Suite 275
Bakersfield CA 93301

Re: Cal Canal Vapor Recovery System Emission Reduction Credits

Dear Mr. Goff:

Attached is a $650.00 check and an application for emission reduction credits for the installation of the Cal Canal vapor recovery system. This facility is exempt from Rule 4623 since we are a small producer and the tanks have less than 150 barrels of oil throughput. In Jack Caufield's Memorandum of July 26, 1996 to Sam Parks of the District's staff, we demonstrated the percent efficiency met the proposed efficiency of the vapor recovery system by calculating the fugitive emissions compared to the volume of vapors recovered. This completed the project. See attached calculation sheets. Note, we have revised the fugitive emissions using the latest AP-42 (Oil Production, August 1995).

If you have any questions or need further information, please feel free to call.

Sincerely,

Bill Oliver

Bill Oliver
Operations Manager

cc: Jack Caufield

JC:js

1100 Mohawk Street, Suite 150, Bakersfield, CA 93309
(805) 631-8713 Fax: (805) 631-8719

CAUFIELD
ENTERPRISES

FAX TRANSMITTAL MEMO

TO: Mat EHRHARDT FAX# 862-5201

FROM: Jack Caufield PHONE/FAX# 805/589-0483

DATE: 6/25/96

NO. OF PAGES 2 including cover

COMMENTS: ERC data requested. Call if you have any questions.

Thanks
Jack

RECEIVED
JUN 25 1996
SAN JOAQUIN VALLEY UNIFIED
APCD-SOUTHERN REGION

CC: SJFM

1904 KATHRYN COURT • BAKERSFIELD, CA 93312 Phone/Fax (805) 589-0483

Month	S-2246-9	S-2246-10	S-2246-7	S-2246-
8/94	553	553	2440	2993
9/94	277	277	1815	2092
10/94	487	487	2024	2511
11/94	599	599	2677	3276
12/94	411	411	2654	3065

SJFM

SAN JOAQUIN FACILITIES MANAGEMENT, INC.

FACSIMILE TRANSMITTAL

TO: Mat Ehrhardt DATE: 6/18/96

COMPANY: SJVUAPCD FAX #: 862-5201

TIME: 2:50 pm

SUBJECT: Monthly Gas Volumes for Cal Canal / Pierson — 9/93 → 12/95

FROM: Bill Olsen

San Joaquin Facilities Management, Inc.

Telephone: (805) 631-8713 Fax: (805) 631-8719

Number of pages (including transmittal page) 2

1100 Mohawk Street, Suite 150, Bakersfield, CA 93309
(805) 631-8713 Fax: (805) 631-8719

GAS VOLUMES – MCF/MO.

CAL CANAL/PIERSON

1993-1995

	1993		1994		1995		
	#110	#166	#110	#166	#110	#166	
JAN			7530	3413	6773	3571	
FEB			7794	3078	5626	3403	
MAR			6326	2989	6482	3973	
APR			6584	2913	5480	3402	
MAY			7707	2939	6047	3647	
JUN			7063	3585	5894	3449	
JUL			6615	3027	6214	3918	
AUG			7119	3270	~~6700~~	~~3642~~	RVSD 9/13/95 6612 & 3635
SEP	4798	3778	6927	2828	5899	3740	
OCT	6094	4108	6809	3228	5928	3869	
NOV	6867	3306	6979	2727	6014	3593	
DEC	6389	3882	7252	2856	7008	3033	

#110 – Cal Canal

#166 – Pierson

FAXed to SSVUAPCD's
Mat Ehrhardt 6/18/96

San Joaquin Valley
Unified Air Pollution Control District

February 21, 1996

Bill Oliver
Operations Manager
San Joaquin Facilities Management
1100 Mohawk Street, Suite 150
Bakersfield, CA 93309

Re: **Project # 950784**
Project Description: Cal Canal Vapor Recovery System Emission Reduction Credit (ERC) Certificate Application.

Dear Mr. Oliver:

The Air Pollution Control District is in receipt of the additional information requested regarding the above-referenced project, and has again reviewed the application for completeness.

Based on this review, the application now appears to be complete. However, during the processing of this application, the District may request additional information to clarify, correct or otherwise supplement the information on file.

Thank you for your cooperation. Should you have any questions, please telephone Mr. Thomas Goff of Permit Services at (805) 861-3682.

Sincerely,

Seyed Sadredin
Director of Permit Services

Thomas E. Goff, P.E.
Permit Services Manager - Southern Region

MPE

David L. Crow
Executive Director/Air Pollution Control Officer
1999 Tuolumne Street, Suite 200 • Fresno, CA 93721 • (209) 497-1000 • FAX (209) 233-2057

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4230 Kiernan Avenue, Suite 130 • Modesto, CA 95356
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Southern Region
2700 M Street, Suite 275 • Bakersfield, CA 93301
(805) 861-3682 • Fax (805) 861-2060

CAUFIELD ENTERPRISES

January 28, 1996

Mr. Thomas Goff, P.E.
Permit Service Manager - Southern Region
San Joaquin Valley Unified Air Pollution Control District
Bakersfield, CA 93301

Re: Project # 950784
Project Description: Cal Canal Vapor Recovery System
Emission Reduction Credit (ERC) Certificate Application

Dear Mr. Goff:

This is in response to your letter of November 1, 1995. Lease operation was the same before and after installation of the vapor recovery system. Lease operation is slightly different from Texaco's operation since SJFM eliminated the Pierson Lease tanks and their emissions by shutting down the tanks and sending the oil to the Chevron Lease wash tank, creating an additional emission reduction from the Pierson Lease tanks.

Attached is thruput data for the tanks when operated by Texaco and drawings. Also attached is thruput data for 1995 showing thruput in the same tanks. We have also included a copy of the memo to Hans Hu which completed the project, starting the time clock for the 180 days. We didn't calculate tank emissions, since we believe the majority of gas recovered is gas released due to the pressure drop in the tanks. The Pierson Lease still has the original oil/gas separator in operation. The Pierson Lease oil now goes directly to the S-2246-7 wash tank.

San Joaquin Facilities Management has made major modifications to their operations benefiting air quality. If you have any questions or need further information, I suggest we meet and discuss the issues. Thank you for considering our request.

Sincerely,

Jack Caufield

Jack Caufield
Environmental Consultant

1904 KATHRYN COURT • BAKERSFIELD, CA 93312 Phone/Fax (805) 589-0483

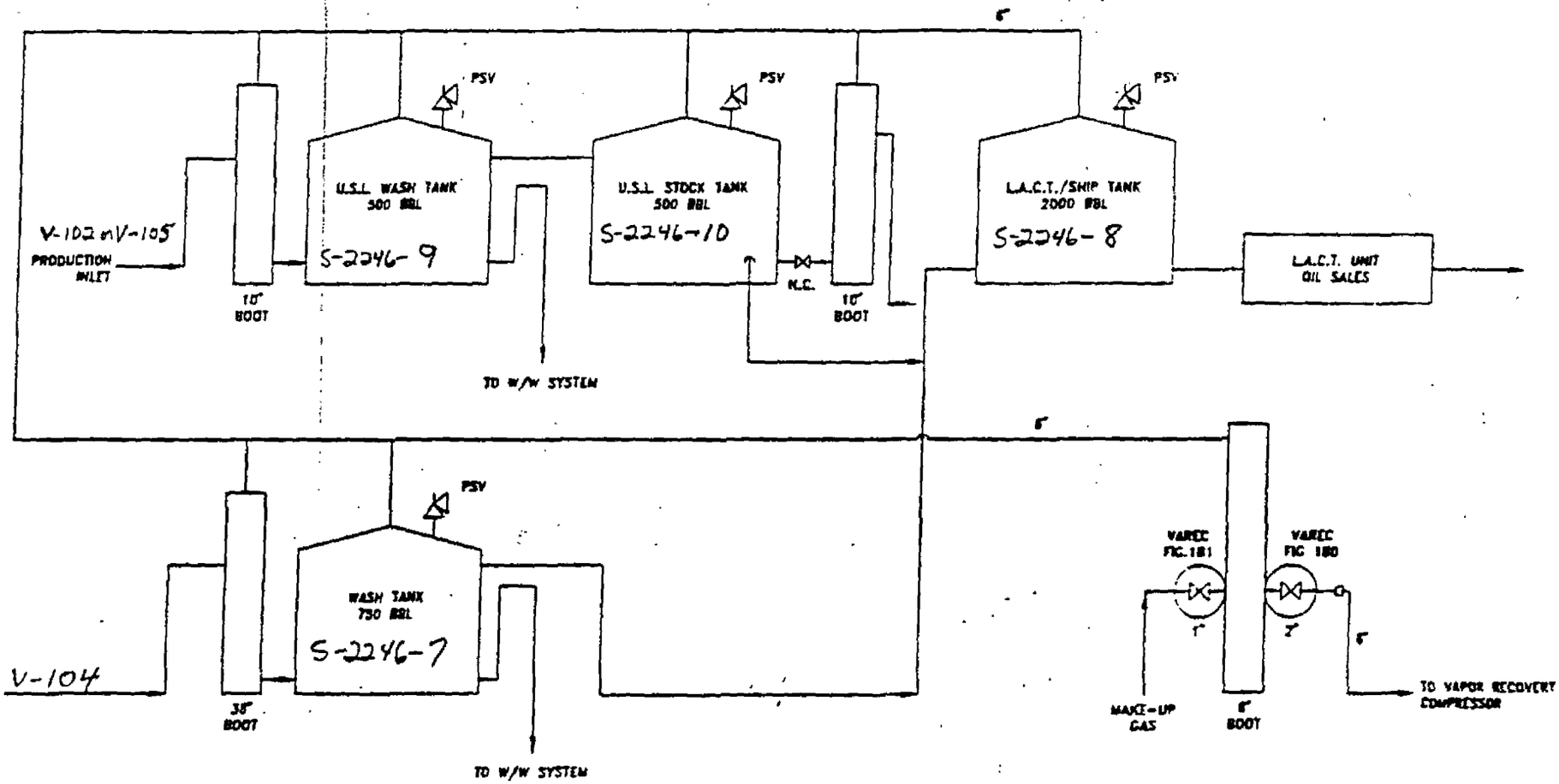
	S-2246-9	S-2246-10	S-2246-7	S-2246-8
month	0.1 *	0.1	0.1 *	0.1
10/91	502	502	2251	2753
11/91	516	516	2208	2724
12/91	499	499	2131	2630
1/92	527	527	1751	2278
2/92	481	481	2054	2535
3/92	439	439	2251	2690
4/92	429	429	1907	2336
5/92	485	485	1787	2272
6/92	275	275	2268	2543
7/92	455	455	2501	2956
8/92	405	405	2500	2905
9/92	428	428	1874	2302
AVG	453.4	453.4	2123.6	2577
10/92	442	442	2017	2459
11/92	470	470	2132	2602
12/92	436	436	2105	2541
1/93	459	459	2084	2543
2/93	449	449	2059	2508
3/93	446	446	1471	1917
4/93	453	453	1394	1847
5/93	460	460	1621	2081
6/93	402	402	1545	1947
7/93	539	539	1479	2018
8/93	471	471	1516	1987
9/93	517	517	1434	1951
AVG	462	462	1738	2200

	S-2246-9	S-2246-10	S-2246-7	S-2246-8
Month	0.1 *	0.1	0.1 *	0.1
1/95	442	442	2616	3058
2/95	404	404	2259	2663
3/95	446	446	2648	3094
4/95	373	373	2406	2779
5/95	459	459	2437	2896
6/95	404	404	2199	2603
7/95	426	426	2032	2458
8/95	416	416	2488	2904
9/95	357	357	1763	2120
10/95	414	414	2242	2656
11/95	509	509	2508	3017
12/95	374	374	2370	2744
AVG	418.7	418.7	2330.7	2749.3

* Tanks S-2246-9 + S-2246-7 are constant level wash tanks which also receive water. Only the oil contributes to emissions.

Note: In 1995 the oil from the Pierson lease is included in S-2246-7 & 8. In 1991–93, it went to separate tanks with separate emissions! SJFM has taken the Pierson lease tanks out of service/reducing emissions also.

1991 – 9/93

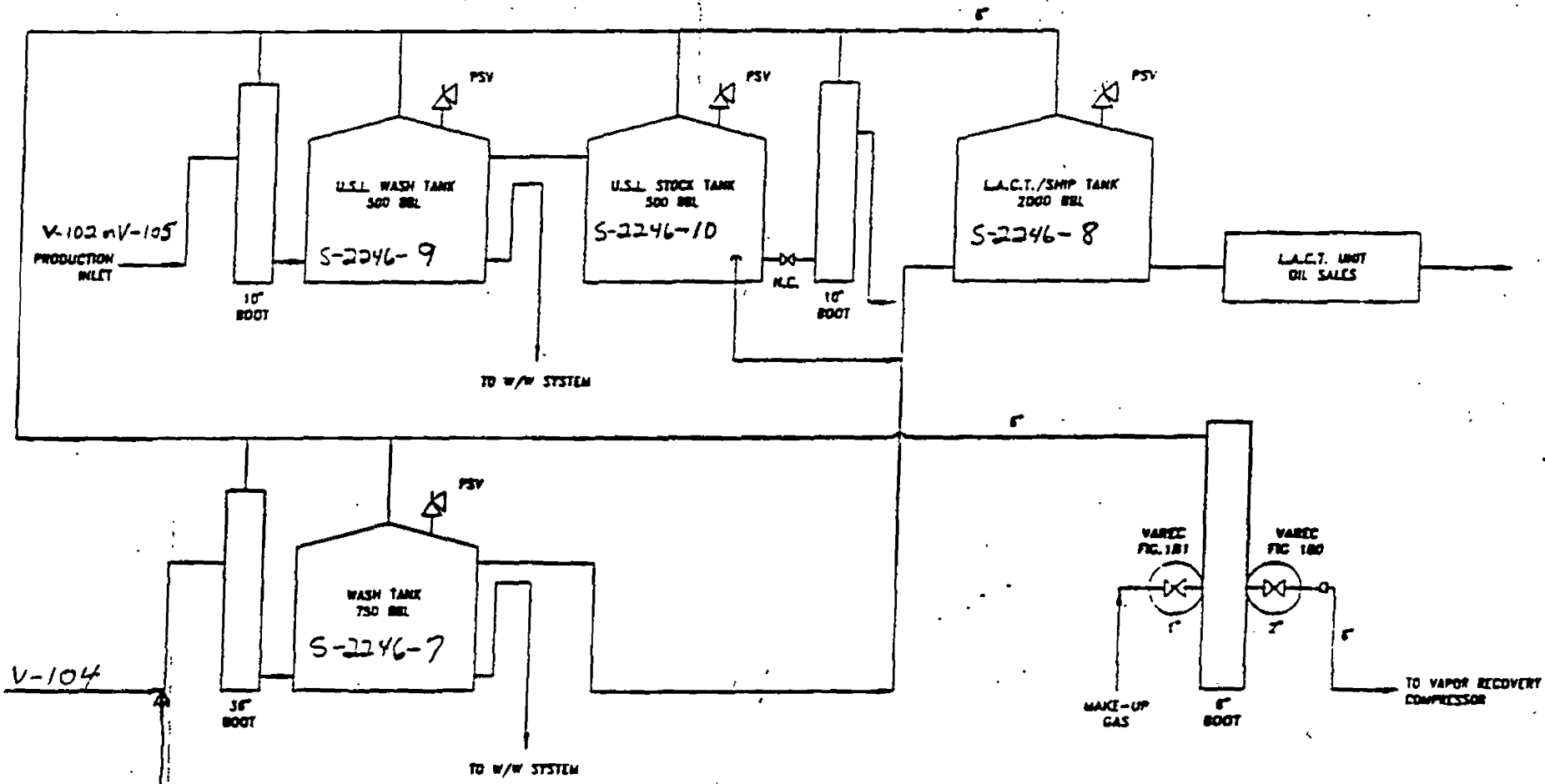


TEXACO
TEXACO EXPLORATION & PRODUCTION INC.
DENVER DIVISION – McKITTRICK AREA

CAL CANAL – CHEVRON
DEHYDRATION FACILITIES
VAPOR RECOVERY SYSTEM

DRAWN BY :	DATE :	BY :	DRAWING NO
SSW/LLD	12/18/91	SSW	C:\LAURIE\CCCHEV
FILE NO. :	DESC NO. :	SCALE : NONE	SHEET 1 OF 1

1995



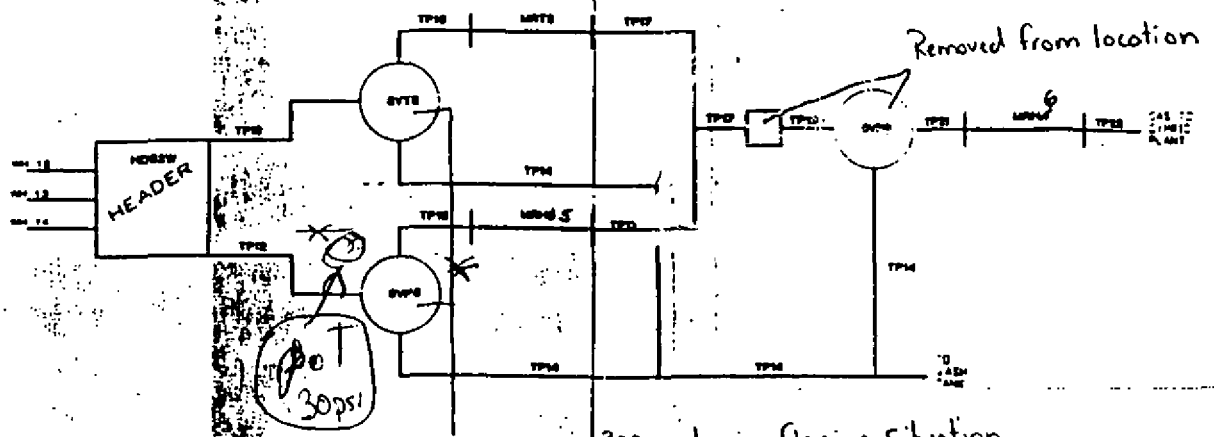
PIERSON SEPARATORS (GAS/OIL)

TEXACO
TEXACO EXPLORATION & PRODUCTION INC.
DENVER DIVISION - McKITTRICK AREA

CAL CANAL - CHEVRON
DEHYDRATION FACILITIES
VAPOR RECOVERY SYSTEM

SSW/LLU	12/18/91	SSW	C:\LAURIE\CCCHEV
			NONE

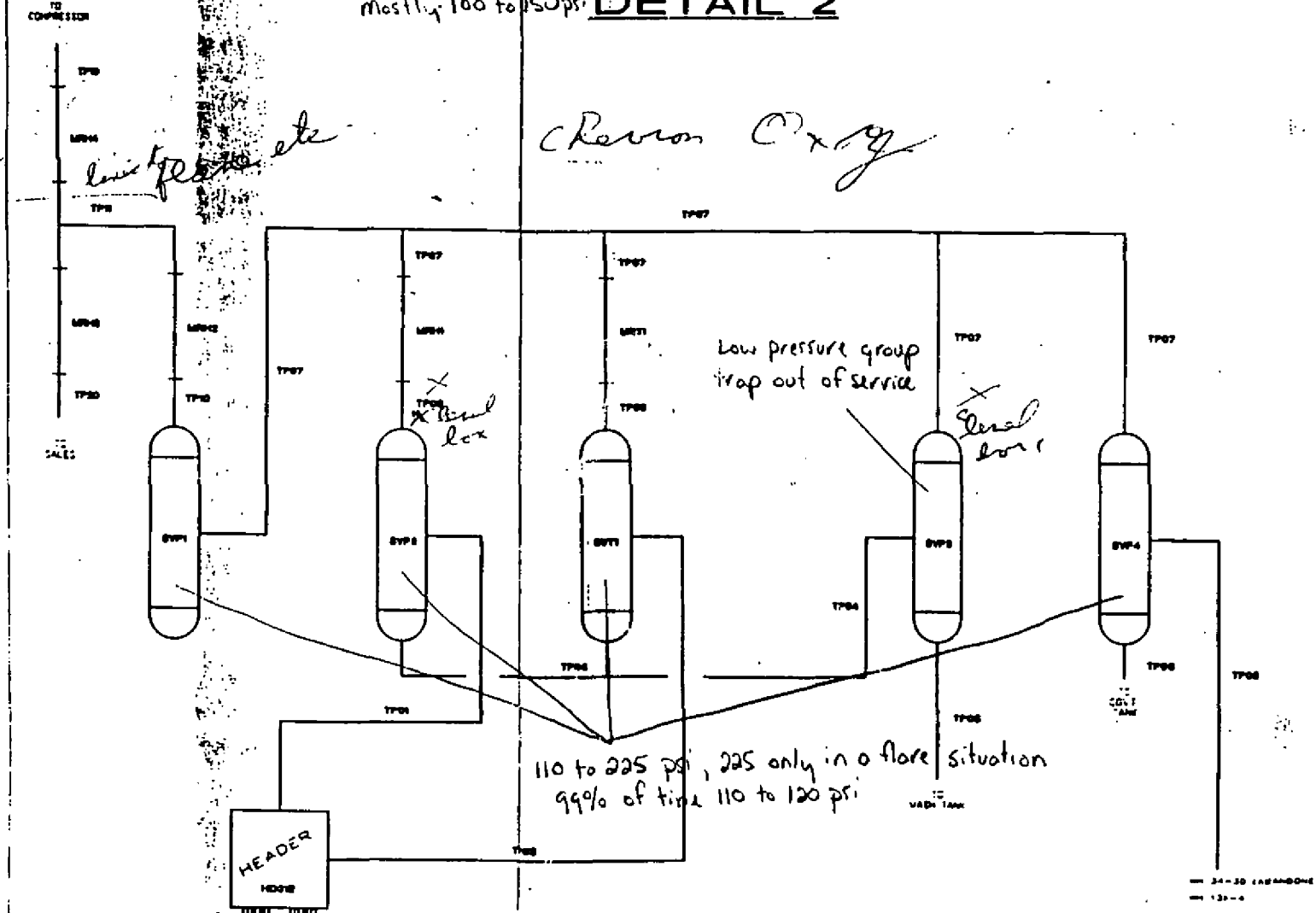
Pierson



100 to 300 psi, 300 only in flaring situation
Mostly 100 to 150psi

DETAIL 2

Chevron Oxy



110 to 225 psi, 225 only in a flare situation
99% of time 110 to 120 psi

DETAIL 1

CAUFIELD ENTERPRISES

FAX TRANSMITTAL MEMO

TO: Sam Parks, SJVUAPCD FAX# 805/861-2060

FROM: Jack Caufield JFC PHONE/FAX# 805/589-0483

DATE: 7/26/95

NO. OF PAGES 5 including cover

COMMENTS:
Calculations as requested. Have an analysis of lease produced gas. Don't have an analysis of collected vapors. Expect them to be similar.

cc: Bill Oliver, SJFM, Inc.

1904 KATHRYN COURT • BAKERSFIELD, CA 93312 Phone/Fax (805) 589-0483

CAUFIELD ENTERPRISES

MEMORANDUM

DATE: July 26, 1995

TO: Sam Parks, SJVUAPCD

FROM: Jack Caufield, Caufield Enterprises 805/589-0483

RE: Cal Canal Vapor Recovery System Efficiency

CC: Bill Oliver, SJFM, INC.

We understand from Hans Hu and yourself that we need to calculate the efficiency of the vapor recovery system by calculating the fugitive emissions compared to the volume of vapors recovered. The valves and flanges are included in the valve and flange inspection program. Therefore, a control factor will be used. As discussed with Hans Hu, the potential to emit wasn't increased by placing the vapor recovery system in service, since the vapor recovery system piping had been used in the past. Please let me know if you need further information or need to discuss this further.

The vapor recovery piping consists of the following:

Component	Total Hydrocarbons
6 valves	.415 + .00593 = .42093
6 x .42093 x (1-.77) = .581 lb./day	
2 pancake valves	.1034 + .522 = .625
2 x .6254 x (1-.77) = .288	
15 flanges	.00822 + .000193 = .008413
15 x .008413 x (1-1)* = 0	
9 Unions	.0723 + .00177 = .07407
2 Dressler couplings	.0723 + .0177 = .07407
11 x .07407 (1-1)* = 0	
1 reciprocating compressor driven by electric motor**	

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Total hydrocarbons = .581 + .288 = .87 lb./day

Flow from tanks between 1/1/95 and 7/12/95 was 2910 MCF.

2910/193 days = 15.08 MCF/day

Based on the attached gas analysis of leases combined gases, the gas weights 17.75 CF/LB

(15.08 x 1000)/17.75 = 849.58 LB/day.

100 - .87/849.58 = 99.9 % total efficiency***

While we have complied with your request, we don't believe this is a valid representation of the percent recovered vapors. Much of this system operates at or near a vacuum, so the valve factors used overstate the remaining emissions, even using the efficiency factors.

* 100% control efficiency for connections per Lance Ericksen after original inspection.

** Crankcase vent controlled by venting to an oil drum

*** Total efficiency of all gas and other releases. The efficiency would be the same for non-methane hydrocarbons, since all gases are collected and sold.

SJFM

GAS VOLUMES

JULY 1995

CAL CANAL FIELD

Well Name	CHART NO.	DATE	(Blue) STATIC	(Red) DIFF	COEFF.	RUN TIME	QUANTITY	M.T.D. QUANTITY	Y.T.D. QUANTITY
Cal Canal Lease	3001	JUL 6/12 1995	6.400	5.000	0.2561	168	1377	2316	33310
Vapor Recovery	3004	JUL 6/12 1995	7.200	5.200	0.0621	50	116	200	2910
E. Ustan USL Lse	3006	JUL 6/12 1995	7.300	1.300	0.1925	168	307	526	8804
Pierson Fee	3013	JUL 6/12 1995	6.400	4.000	0.1906	168	820	1361	19881
Well #12 & 22	3018	JUL 6/12 1995	7.300	3.500	0.0391	168	168	235	2652

ZALCO LABORATORIES, INC.

Analytical & Consulting Services

San Joaquin Facilities Management
1100 Mohawk Street, Suite 150
Bakersfield, CA 93309

Lab. No.: 039645_001
Received: May 9, 1994
Reported: May 19, 1994

Attention: Bill Oliver

Sample Description: Separator Sample - Cal Comal - Main Header @ Orifice Meter @ Final Scrubber

* CHROMATOGRAPHIC ANALYSIS (21605) *

USE GAS ANALYSIS SUBMITTED WITH ORIGINAL APPLICATION — MPE

Components	Mole %	Wt %	G.P.M.
Air (N2+O2)	.145	.196	
Carbon Dioxide	4.885	10.083	
Methane	79.132	59.540	
Ethane	8.506	11.996	
Propane	4.157	8.597	1.143
IsoButane	.660	1.799	.215
N-Butane	1.429	3.897	.450
IsoPentane	.374	1.264	.136
N-Pentane	.378	1.281	.137
Hexanes+	.334	1.349	.143
Totals =	100.000	100.000	2.225

	SPECIFIC GRAVITY (Air = 1)	.7383
*	SPECIFIC VOLUME, cu.ft./lb	17.75
*	GROSS CALORIFIC VALUE, BTU/cu.ft.	1154.71
**	GROSS CALORIFIC VALUE, BTU/cu.ft.	1174.66
**	GROSS CALORIFIC VALUE, BTU/lb	20847.15
*	NET CALORIFIC VALUE, BTU/cu.ft.	1046.48
**	NET CALORIFIC VALUE, BTU/cu.ft.	1064.58
	COMPRESSIBILITY FACTOR '2' (60 F,1 ATM)	.9967

* Water Saturated

** Dry Gas @ 60 F

RECEIVED
MAY 21 '94

Analyst

Jim Etherton
Laboratory Director

Fresno
Kern
Kings
Madera

RECEIVED
1995
APCD—SOUTHERN REGION

Merced
San Joaquin
Stanislaus
Tulare

San Joaquin Valley Unified Air Pollution Control District

APPLICATION FOR:

[XX] EMISSION REDUCTION CREDIT (ERC)
[ ] CONSOLIDATION OF ERC CERTIFICATES
[ ] ERC WITHDRAWL
[ ] ERC TRANSFER OF OWNERSHIP

1. **ERC TO BE ISSUED TO:**
San Joaquin Facilities Management, Inc.

2. **MAILING ADDRESS:**
Street/P.O. Box: 1100 Mohawk Street, Suite 150
City: Bakersfield State: CA Zip Code: 93309

3. **LOCATION OF REDUCTION:**
Street: SE 1/4 Section 31, T28S R22E
City:

4. **DATE OF REDUCTION:** 7/26/95

5. **PERMIT NO(S):** S-2246-7 to -10 **EXISTING ERC NO(S):**

6. **METHOD RESULTING IN EMISSION REDUCTION:**
[ ] SHUTDOWN [XX] RETROFIT [ ] PROCESS CHANGE [ ] OTHER
DESCRIPTION:

(Use additional sheets if necessary)

7. **REQUESTED ERCs (In Pounds Per Calendar Quarter):**

	VOC	NOx	CO	PM10	SOx	OTHER
1ST QUARTER	83041.5					
2ND QUARTER	79735.3					
3RD QUARTER	85745.7					
4TH QUARTER	122110.7					

8. **SIGNATURE OF APPLICANT:** Bill Oliver
TYPE OR PRINT TITLE OF APPLICANT: Operations Manager

9. **TYPE OR PRINT NAME OF APPLICANT:** Bill Oliver
DATE: 9/28/95
TELEPHONE NO: 805/631-8713

FOR APCD USE ONLY:

PAID
DATE STAMP
OCT 3 1995
SAN JOAQUIN VALLEY UNIFIED
APCD—SOUTHERN REGION

FILING FEE RECEIVED: $ 650.-
DATE PAID: 10-3-95
PROJECT NO.: ~~950765~~ 950784 2246

EMISSION REDUCTION CALCULATIONS

Potential Fugitive Emissions from vapor recovery system

The vapor recovery piping consists of the following:

Component Total Hydrocarbons (AP-42 8/95)

8 valves
8 x 4.5E-03 x 2.2 LB/kg x 24 x (1-.77) = .44 lb./day

15 flanges .00822 + .000193 = .008413
15 x 3.9E-4 x 2.2 LB/kg x 24 (1-1)* = 0
11 connections
11 x .07407 (1-1)* = 0
1 reciprocating compressor driven by electric motor**

Total hydrocarbons = .44 lb./day

* Using fugitive emission control factor recommended by the District (gas plant study). Per Lance Ericksen, District agrees with 100 % control for all flanges and connections with a control program

** Compressor operates at a vacuum, so no emissions expected.

Emissions by quarter:

3rd Qt. 1994-5 4th Qt.r 1994 1st Qt. 1995 2nd Qt. 1995

Gas Flow Rate (MCF)[2]:
1432 2032 1382 1327
Cubic foot /pound: 11.17
Weight percent non-methane hydrocarbons: 67.194% or 0.6714 weight fraction
1427 * 1000/11.17 * .6714 = 85773.3
2032 * 1000/11.17 * .6714 = 122138.3
1382 * 1000/11.17 * .6714 = 83068.5
1327 * 1000/11.17 * .6714 = 79762.6

Emissions (LB/quarter):
85773.3 122138.3 83068.5 79762.6

Less potential fugitive emissions (0.44 LB/day * 0.6714 = 0.30 lb./day non-methane hydrocarbons[1]
(92 * .30 = 27.6) (92 * .30 = 27.6) (90 * .30 = 27) (91 * .30 = 27.3)

Emission reduction in pounds per quarter:
85745.7 122110.7 83041.5 79735.3

(1) While we have reduced the emissions by the potential fugitive emissions, we don't believe this is a valid representation of the percent recovered vapors. Much of this system operates at or near a vacuum, so the valve factors used overstate the remaining emissions, even using the efficiency factors.
(2) Crude throughput was similar the previous year.

Gas Volumes by month	(MCF)
August 1994	250
September 1994	675
October 1994	693
November 1994	945
December 1994	394
January 1995	693
February 1995	332
March 1995	357
April 1995	387
May 1995	463
June 1995	477
July 1995	507

ZALCO LABORATORIES, INC.
Analytical & Consulting Services
4309 Armour Avenue
Bakersfield, California 93308
(805) 395-0539
FAX (805) 395-3069

Jean — FAX to Caulfield done 8/1/95
Jack
Rep
Bro 8/1/95

San Joaquin Facilities Management
1100 Mohawk Street, Suite 150
Bakersfield, CA 93309

Lab. No.: 044794_001
Received: Jul 25, 1995
Reported: Jul 31, 1995

Attention: Bill Oliver

mike file

Sample Description: Cal. Canal Vapor Recovery

* CHROMATOGRAPHIC ANALYSIS (Z 1535) *

Components	Mole %	Wt %	CHONS	Wt %
Hydrogen	0.000	0.000	CARBON	71.74
Carbon Dioxide (44)	8.610	11.243	HYDROGEN	16.76
Oxygen (32)	.748	.711	OXYGEN	8.89
Nitrogen (28)	3.136	2.607	NITROGEN	2.61
Carbon Monoxide	0.000	0.000	SULFUR	0.00
Hydrogen Sulfide	0.000	0.000		
Methane (16)	38.330	18.246	Totals	100.00
Ethane (30)	15.055	13.433	Total H/C	.23
Propane (44)	17.314	22.654		
IsoButane (58)	3.623	6.250		
N-Butane (58)	8.601	14.835		
IsoPentane (72)	2.087	4.467		
N-Pentane (72)	1.984	4.247		
Hexanes+ (86)	.511	1.308		
Totals =	100.000	100.000		

SPECIFIC GRAVITY (Air = 1)		1.1732
SPECIFIC VOLUME, cu.ft./lb	*	11.17
GROSS CALORIFIC VALUE, BTU/cu.ft.	*	1664.55
GROSS CALORIFIC VALUE, BTU/cu.ft.	**	1693.33
GROSS CALORIFIC VALUE, BTU/lb	**	18911.92
NET CALORIFIC VALUE, BTU/cu.ft.	**	1550.83
NET CALORIFIC VALUE, BTU/lb	**	17320.44
DSCF EXHAUST PER SCF FUEL (0% Oxygen)		14.6478
COMPRESSIBILITY FACTOR 'Z' (60 F,1 ATM)		.9914
EPA 'F' Factor @ 68 F:	8833.188 DSCF / MM Btu.	
KCAPCD 'F' Factor @ 60 F:	8700.691 DSCF / MM Btu.	

* Water Saturated ** Dry Gas @ 60 F, 14.73 psia

Analyst

Jim Etherton
Laboratory Director

ZALCO LABORATORIES, INC.
Analytical & Consulting Services

4309 Armour Avenue
Bakersfield, California 93308

(805) 395-0539
FAX (805) 395-3069

San Joaquin Facilities Management
1100 Mohawk Street, Suite 150
Bakersfield, CA 93309

Laboratory No: 44204
Date Received: 6-7-95
Date Reported: 6-9-95

Attention: Bill Oliver

Sample: Oil

Sample Description: See Below
Sampled by Brent on 6-7-95 at 1100 hours

Lab No.	Description	D 323/1 Reid Vapor Pressure @ 100 °F, psi
44204	Cal Canal at 69 °F	7.79

References:
1. Annual Book of ASTM Standards, 1990 vol.
2. State of California, Air Resources Board Technical Guidance Document to the Criteria and Guidelines Regulation for AB2588. EIB/TSD August 1989 pp. 216-217.

Jim Etherton
Lab Operations Manager

JE/lb

Notice 08/16/96

ERC APPLICATION REVIEW

Project 950784

Facility Name:	San Joaquin Facilities Management
Mailing Address:	1100 Mohawk Street, Suite 150 Bakersfield, CA 93309
Contact Name:	Jack Caufield (Consultant)/Bill Oliver (Operations Manager)
Telephone:	(805) 589-0483/(805) 631-8713
Engineer:	Mat Ehrhardt, AQE II
Date:	6/28/96
Reviewed By:	Lance Ericksen
Date:	
Certificate #(s):	S-417-1

I. SUMMARY:

San Joaquin Facilities Management has submitted an application to bank emission reduction credits for the installation of a vapor recovery system on four oil production storage tanks. The Authorities to Construct which authorized the installation of the vapor control system are S-2246-7-1, '-8-1, '-9-1 and '-10-1.

The following emission reductions have been found to qualify for banking:

	PM10 pounds	SOx pounds	NOx pounds	VOC pounds	CO pounds
1st Quarter	0	0	0	52331	0
2nd Quarter	0	0	0	47077	0
3rd Quarter	0	0	0	51194	0
4th Quarter	0	0	0	56504	0

II. APPLICABLE RULES:

Rule 2201: New and Modified Stationary Source Review Rule (June 15, 1995)

Rule 2301: Emission Reduction Credit Banking (December 17, 1992)

Rule 4623: Storage of Organic Liquids (December 17, 1992) *Exempt - Pursuant to Section 4.2.2*

III. PROJECT LOCATION:

The tanks are part of the Light Oil Western Stationary Source. The tanks are located at the Cal Canal Lease in the South Belridge Oil Field. The Southeast quarter of Section 31, Township 28S, Range 22E.

IV. METHOD OF GENERATING REDUCTIONS:

The reductions were achieved by the installation of the vapor recovery system (VRS) on four oil production storage tanks. The tank vapors are compressed and sent to a sales gas pipeline

V. CALCULATIONS:

A. Assumptions and Emission Factors

- 0.01117 MCF gas/lb (Gas analysis)
- The gas is 53.760% Non-Methane and Non-Ethane VOC by weight (Gas Analysis)
- Emission Factor for storage tanks based upon actual gas volumes recorded after the installation of the vapor recovery system. The data and calculation is shown below:

Tank oil throughput and VRS gas recovered

Month/Year	S-2246-7	S-2246-8	S-2246-9	S-2246-10	Total	VRS Gas
8/94	553 BBL	553 BBL	2440 BBL	2993 BBL	6539 BBL	250 MCF
9/94	277 BBL	277 BBL	1815 BBL	2092 BBL	4461 BBL	675 MCF
10/94	487 BBL	487 BBL	2024 BBL	2511 BBL	5509 BBL	693 MCF
11/94	599 BBL	599 BBL	2677 BBL	3276 BBL	7151 BBL	945 MCF
12/94	411 BBL	411 BBL	2654 BBL	3065 BBL	6541 BBL	394 MCF
1/95	442 BBL	442 BBL	2616 BBL	3058 BBL	6558 BBL	693 MCF
2/95	404 BBL	404 BBL	2259 BBL	2663 BBL	5730 BBL	332 MCF
3/95	446 BBL	446 BBL	2648 BBL	3094 BBL	6634 BBL	357 MCF
4/95	373 BBL	373 BBL	2406 BBL	2779 BBL	5931 BBL	387 MCF
5/95	459 BBL	459 BBL	2437 BBL	2896 BBL	6251 BBL	463 MCF
6/95	404 BBL	404 BBL	2199 BBL	2603 BBL	5610 BBL	477 MCF
7/95	426 BBL	426 BBL	2032 BBL	2458 BBL	5342 BBL	507 MCF
Total	5281 BBL	5281 BBL	28207 BBL	33488 BBL	72257 BBL	6173 MCF

The emission factor for the storage tanks was calculated by dividing the amount of vapor recovery gas collected by the actual tank throughput. The result is shown below.

Emission Factor = 6173 MCF/72257 BBL = 0.0854 MCF/BBL

B. Baseline Period Determination and Data

The application to install vapor recovery was deemed complete on October 6, 1993. The baseline period is from October 1991 through September 1993. The applicant has submitted throughput data for the four tanks for the baseline period.

San Joaquin Facilities Management
950784
August 13, 1996

Tank oil Throughput

Month/Year	S-2246-7	S-2246-8	S-2246-9	S-2246-10	Total
10/91	2251 BBL	2753 BBL	502 BBL	502 BBL	6008 BBL
11/91	2208 BBL	2724 BBL	516 BBL	516 BBL	5964 BBL
12/91	2131 BBL	2630 BBL	499 BBL	499 BBL	5759 BBL
1/92	1751 BBL	2278 BBL	527 BBL	527 BBL	5083 BBL
2/92	2054 BBL	2535 BBL	481 BBL	481 BBL	5551 BBL
3/92	2251 BBL	2690 BBL	439 BBL	439 BBL	5819 BBL
4/92	1907 BBL	2336 BBL	429 BBL	429 BBL	5101 BBL
5/92	1787 BBL	2272 BBL	485 BBL	485 BBL	5029 BBL
6/92	2268 BBL	2543 BBL	275 BBL	275 BBL	5361 BBL
7/92	2501 BBL	2956 BBL	455 BBL	455 BBL	6367 BBL
8/92	2500 BBL	2905 BBL	405 BBL	405 BBL	6215 BBL
9/92	1874 BBL	2302 BBL	428 BBL	428 BBL	5032 BBL
10/92	2017 BBL	2459 BBL	442 BBL	442 BBL	5360 BBL
11/92	2132 BBL	2602 BBL	470 BBL	470 BBL	5665 BBL
12/92	2105 BBL	2541 BBL	436 BBL	436 BBL	5518 BBL
1/93	2084 BBL	2543 BBL	459 BBL	459 BBL	5545 BBL
2/93	2059 BBL	2508 BBL	449 BBL	449 BBL	5465 BBL
3/93	1471 BBL	1917 BBL	446 BBL	446 BBL	4280 BBL
4/93	1394 BBL	1847 BBL	453 BBL	453 BBL	4147 BBL
5/93	1621 BBL	2081 BBL	460 BBL	460 BBL	4622 BBL
6/93	1545 BBL	1947 BBL	402 BBL	402 BBL	4296 BBL
7/93	1479 BBL	2018 BBL	539 BBL	539 BBL	4575 BBL
8/93	1516 BBL	1987 BBL	471 BBL	471 BBL	4445 BBL
9/93	1434 BBL	1951 BBL	517 BBL	517 BBL	4419 BBL

C. Hstorical Actual Emissions

The historical actual emissions (HAE) were calculated using the emission factor and throughput during the baseline period. Sample calculations for the fourth quarter is shown below.

4th QTR 1991 Throughput = 6008 BBL + 5964 BBL + 5759 BBL = 17,731 BBL/QTR

4th QTR 1992 Throughput = 5360 BBL + 5665 BBL + 5518 BBL = 16,543 BBL/QTR

Avg. Throughput = (17,731 BBL + 16,543 BBL)/2 = 17,137 BBL/QTR

E = 17,137 BBL/QTR x 0.0854 MCF/BBL x 1 lb/0.01117 MCF = 131,068 lb/QTR

Methane and Ethane Adjusted = 131,021 x 0.53760 = 70,462 lb/QTR

Both methane and ethane are not defined as volatile organic compounds therefore the emission calculations will not include either. The average VOC pound/quarter emissions during the baseline period are shown below:

	PM10 pounds	SOx pounds	NOx pounds	VOC pounds	CO pounds
1st Quarter	0	0	0	65259	0
2nd Quarter	0	0	0	58707	0
3rd Quarter	0	0	0	63840	0
4th Quarter	0	0	0	70462	0

Actual emission reductions must be in excess of any emissions specified in Sections 3.2.3.1, 3.2.3.2 and 3.2.3.3 of Rule 2201 at the time the application for Authority to Construct was deemed complete. The applications to install vapor recovery were deemed complete on October 6, 1993. Each section is listed below and the emission reductions required discussed:

Section 3.2.3.1 - Required or encumbered by any laws, rules, regulations, agreement, or orders:

At the time the application was deemed complete Rule 4623 did not require vapor collection systems for tanks with capacities of 84,000 gallons or less of a small producer providing the daily throughput is less than 6,300 gallons per day provided the tank was equipped with a pressure relief device set to within ten percent of the maximum allowable working pressure of the tank. Pursuant to CARB Technical Guidance for Rule AB 2588 (Aug. 1989) Table C-4 the control efficiency of a pressure vacuum relief valve set to within ten percent of the

working pressure of the tank is equal to 10%. Thus, District rules required 10% control at the time the application was deemed complete.

Section 3.2.3.2 - Attributed for a control measure noticed for workshop, or proposed or contained in a State Implementation plan:

At the time the application was deemed complete the July 8, 1993 draft revision to Rule 4623 was noticed for workshop. The draft rule did not change the requirements for small producers. Thus, control measures noticed for workshop required 10% control at the time the application was deemed complete.

Section 3.2.3.3 - Proposed in the District's adopted air quality plan for attaining the reductions required by the California Clean Air Act:

A control measure for organic liquid storage tanks is in the 1991 Air Quality Attainment Plan. Pursuant to District Policy NSR-ERC 28 if a rule has been proposed for workshop at the time the ATC was deemed complete the quantity of adjustment must be based on the level of control required by the draft rule not the level of control required by the plan. The adjustments required by the rule noticed for workshop have been discussed under Section 3.2.3.2.

Therefore, the uncontrolled emissions must be adjusted by 10% to reflect the controls in place during the baseline period that were required by District Rule 4623.

Historical Actual Emissions (HAE)

	PM10 pounds	SOx pounds	NOx pounds	VOC pounds	CO pounds
1st Quarter	0	0	0	58733	0
2nd Quarter	0	0	0	52836	0
3rd Quarter	0	0	0	57456	0
4th Quarter	0	0	0	63416	0

D. Actual Emissions Reductions

The actual emission reduction for modifications due to the installation of a control device are equal to the HAE multiplied by the control efficiency. The control efficiency for the vapor recovery system was demonstrated to be greater than 99% control. The permit has a limit which requires 99% control and this number will be used to calculate the AER.

AER = HAE x 0.99

The AER is shown in the table below:

Actual Emission Reduction

	PM10 pounds	SOx pounds	NOx pounds	VOC pounds	CO pounds
1st Quarter	0	0	0	58146	0
2nd Quarter	0	0	0	52308	0
3rd Quarter	0	0	0	56882	0
4th Quarter	0	0	0	62782	0

E. Air Quality Improvement Deduction

Pursuant to section 6.5 of Rule 2201 the AER can be banked after a ten (10) percent air quality improvement deduction. The ten percent deduction is shown in the table below:

Air Quality Improvement Deduction (10% of AER)

	PM10 pounds	SOx pounds	NOx pounds	VOC pounds	CO pounds
1st Quarter	0	0	0	5815	0
2nd Quarter	0	0	0	5231	0
3rd Quarter	0	0	0	5688	0
4th Quarter	0	0	0	6278	0

F. Increases in Permitted Emissions

No IPE associated with this project.

G. Bankable Emissions Reductions Credits

The bankable ERC's are equal to the AER minus the 10% air quality improvement deduction. The amount of bankable emission reductions are listed in the table below:

TOTAL CREDITABLE REDUCTIONS QUANTIFIED FOR PROJECT

	PM10 pounds	SOx pounds	NOx pounds	VOC pounds	CO pounds
1st Quarter	0	0	0	52331	0
2nd Quarter	0	0	0	47077	0
3rd Quarter	0	0	0	51194	0
4th Quarter	0	0	0	56504	0

VI. COMPLIANCE:

A. Real

The applicant has installed vapor recovery on four oil petroleum storage tanks. The emission reductions were calculated using the actual throughput data supplied by the applicant. The voluntary installation of the vapor recovery system resulted in actual emission reductions therefore, the reductions are real.

B. Enforceable

Authorities to Construct S-2246-7-1, '-8-1, '-9-1 and '-10-1 which authorized the installation of the vapor recovery system were issued on February 16, 1994. Compliance with the 99% vapor recovery requirement was demonstrated by the applicant on July 26, 1995. Permits to Operate S-2246-7-1, '-8-1, '-9-1 and '-10-1 contain conditions which make the reductions enforceable. The permits have a condition which limits the fugitive component count and a condition that requires the vapor recovery system achieve 99% control; therefore the reductions are enforceable.

C. Quantifiable

The calculation section quantifies the emission reductions generated by the installation of the vapor recovery system. The calculations were performed by developing an emission factor for the storage tanks based on measured VRS gas and tank throughput data. The emission factor was then used to quantify emissions during the baseline period using tank throughput data; therefore, the reductions are enforceable.

D. Permanent

The actual emission reductions resulted from the permanent installation of the vapor recovery system; therefore, the reductions are permanent.

E. Surplus

The installation of the tank vapor control system was voluntary. San Joaquin Facilities Management meets the definition of small producer in District Rule 4623 and is exempt from the requirement to install vapor recovery. The resulting emission reductions are not mandated by any other law, rule, regulation, agreement, or order of the District, state, or federal government in effect on the day the ATC was deemed complete. The emission reductions were not used to offset on site increases in permitted emissions. The actual emission reductions have been adjusted by 10% since the tanks were required to operate with pressure vacuum relief valves; therefore, the reductions are surplus.

F. Timeliness

The emission reductions resultant from ATCs S-2246-7-1, '-8-1, '-9-1 and '-10-1 occurred when the applicant demonstrated compliance with the 99% control efficiency requirement on July 26, 1995. Pursuant to Section 4.2 of Rule 2301, for emission reductions occurring after September 19, 1991, an ERC application must be filed no later than 180 days after the emission reduction occurred. The ERC application was filed within 70 days, on October 3, 1995; therefore, the application was timely.

VII. RECOMMENDATIONS:

Provide written notice of initial acceptance to applicant, ARB, and EPA and publish notice in the Bakersfield Californian for emission reduction credits in the amount calculated to initiate a 30 day public comment period.

with Preliminary Decision
Noticed 05/03/96

ERC APPLICATION REVIEW

Project 950784

Facility Name:	San Joaquin Facilities Management
Mailing Address:	1100 Mohawk Street, Suite 150 Bakersfield, CA 93309
Contact Name:	Jack Caufield (Consultant)/Bill Oliver (Operations Manager)
Telephone:	(805) 589-0483/(805) 631-8713
Engineer:	Mat Ehrhardt, AQE II
Date:	3/18/96
Reviewed By:	Lance Ericksen
Date:	3/18/96
Certificate #(s):	S-417-1

I. SUMMARY:

San Joaquin Facilities Management has submitted an application to bank emission reduction credits for the installation of a vapor recovery system on four oil production storage tanks. The Authorities to Construct which authorized the installation of the vapor control system are S-2246-7-1, '-8-1, '-9-1 and '-10-1.

The following emission reductions have been found to qualify for banking:

	PM10 pounds	SOx pounds	NOx pounds	VOC pounds	CO pounds
1st Quarter	0	0	0	334	0
2nd Quarter	0	0	0	489	0
3rd Quarter	0	0	0	561	0
4th Quarter	0	0	0	366	0

II. APPLICABLE RULES:

Rule 2201: New and Modified Stationary Source Review Rule (June 15, 1995)

Rule 2301: Emission Reduction Credit Banking (December 17, 1992)

Rule 4623: Storage of Organic Liquids (December 17, 1992) *Exempt - Pursuant to Section 4.2.2*

III. PROJECT LOCATION:

The tanks are part of the Light Oil Western Stationary Source. The tanks are located at the Cal Canal Lease in the South Belridge Oil Field.

The Southeast quarter of Section 31, Township 28S, Range 22E.

IV. METHOD OF GENERATING REDUCTIONS:

The reductions were achieved by the installation of the vapor recovery system on four oil production storage tanks. The tank vapors are compressed and sent to a sales gas pipeline.

V. CALCULATIONS:

A. Assumptions and Emission Factors

- Tanks 3.0 emission calculations used to quantify historical actual emissions
- RVP of oil stored in tank = 7.79 psia (6/9/95 Zalco Test)
- Four turnovers/year for wash tanks (S-2246-7 and '-9) (Tanks 3.0)

B. Baseline Period Determination and Data

The application to install vapor recovery was deemed complete on October 6, 1993. The baseline period is from October 1991 through September 1993. The applicant has submitted throughput data for the four tanks for the baseline period. The wash tanks operate at a constant level and they emissions will be calculated at 4 turnovers per year. The throughput data for the stock tanks is presented below:

V. CALCULATIONS(continued):

Month/Year	S-2246-8	S-2246-10
10/91	2753 Barrels	502 Barrels
11/91	2724 Barrels	516 Barrels
12/91	2630 Barrels	499 Barrels
1/92	2278 Barrels	527 Barrels
2/92	2535 Barrels	481 Barrels
3/92	2690 Barrels	439 Barrels
4/92	2336 Barrels	429 Barrels
5/92	2272 Barrels	485 Barrels
6/92	2543 Barrels	275 Barrels
7/92	2956 Barrels	455 Barrels
8/92	2905 Barrels	405 Barrels
9/92	2302 Barrels	428 Barrels
10/92	2459 Barrels	442 Barrels
11/92	2602 Barrels	470 Barrels
12/92	2541 Barrels	436 Barrels
1/93	2543 Barrels	459 Barrels
2/93	2508 Barrels	449 Barrels
3/93	1917 Barrels	446 Barrels
4/93	1847 Barrels	453 Barrels
5/93	2081 Barrels	460 Barrels
6/93	1947 Barrels	402 Barrels
7/93	2018 Barrels	539 Barrels
8/93	1987 Barrels	471 Barrels
9/93	1951 Barrels	517 Barrels

V. CALCULATIONS (continued):

C. Historical Actual Emissions

The historical actual emissions (HAE) were calculated using tanks 3.0. The emission reports for the tanks are included in Appendix A. The pound/quarter emissions during the baseline period are shown below:

Quarter	S-2246-7 (lb)	S-2246-8 (lb)	S-2246-9 (lb)	S-2246-10 (lb)	Total (lb)
4th Qtr 1991	425.21	2761.15	352.44	637.83	4176.63
1st Qtr 1992	397.59	2500.48	328.03	588.23	3814.33
2nd Qtr 1992	679.83	3547.74	571.04	831.39	5630.00
3rd Qtr 1992	760.79	4200.71	644.27	953.75	6559.52
4th Qtr 1992	425.21	2650.76	352.44	602.19	4030.60
1st Qtr 1993	397.59	2382.17	328.03	569.94	3677.73
2nd Qtr 1993	679.83	3239.48	571.04	863.28	5353.63
3rd Qtr 1993	760.79	3621.57	644.27	1015.75	6042.38

Since ethane is expected to be delisted as an volatile organic compound the emission calculations will shown both the ethane-adjusted and non-adjusted amounts. The certificate will be issued for the non-adjusted amount. The ethane-adjusted amount is expressed for future reference. The ethane-adjusted amount will appear in parenthesis to the right of the non-adjusted amount. From the gas analysis submitted with the project the gas consisted of 13.433% Ethane. The average non-methane VOC pound/quarter emissions during the baseline period are shown below:

	PM10 pounds	SOx pounds	NOx pounds	VOC pounds	CO pounds
1st Quarter	0	0	0	3746 (3243)	0
2nd Quarter	0	0	0	5492 (4754)	0
3rd Quarter	0	0	0	6301 (5455)	0
4th Quarter	0	0	0	4104 (3552)	0

V. CALCULATIONS (continued):

The Historical Actual Emissions must be discounted for any emission reduction which is contained in a State Implementation Plan. A control measure for organic liquid store tanks was in the 1991 Air Quality Attainment Plan. The plan called for a 90% reduction in emissions from tanks which would emit 5 lb/day of uncontrolled emissions. All of the tanks would have a uncontrolled potential to emit greater than 5 lb/day. The following table shows the Historic Actual Emissions from the storage tanks after being discounted by 90%.

Historical Actual Emissions (HAE)

	PM10 pounds	SOx pounds	NOx pounds	VOC pounds	CO pounds
1st Quarter	0	0	0	374.6 (324.3)	0
2nd Quarter	0	0	0	549.2 (475.4)	0
3rd Quarter	0	0	0	630.1 (545.5)	0
4th Quarter	0	0	0	410.4 (355.2)	0

D. Actual Emissions Reductions

The actual emission reduction for modifications due to the installation of a control device are equal to the HAE multiplied by the control efficiency. The control efficiency for the vapor recovery system was demonstrated to be greater than 99% control. The permit has a limit which requires 99% control and this number will be used to calculate the AER.

AER = HAE x 0.99

The AER is shown in the table below:

Actual Emission Reduction

	PM10 pounds	SOx pounds	NOx pounds	VOC pounds	CO pounds
1st Quarter	0	0	0	370.9 (321.0)	0
2nd Quarter	0	0	0	543.7 (470.7)	0
3rd Quarter	0	0	0	623.8 (540.0)	0
4th Quarter	0	0	0	406.3 (351.7)	0

V. CALCULATIONS (continued):

E. Air Quality Improvement Deduction

Pursuant to section 6.5 of Rule 2201 the AER can be banked after a ten (10) percent air quality improvement deduction. The ten percent deduction is shown in the table below:

Air Quality Improvement Deduction (10% of AER)

	PM10 pounds	SOx pounds	NOx pounds	VOC pounds	CO pounds
1st Quarter	0	0	0	37.1 (32.1)	0
2nd Quarter	0	0	0	54.4 (47.1)	0
3rd Quarter	0	0	0	62.4 (54.0)	0
4th Quarter	0	0	0	40.6 (35.2)	0

F. Increases in Permitted Emissions

No IPE associated with this project.

G. Bankable Emissions Reductions Credits

The bankable ERC's are equal to the AER minus the 10% air quality improvement deduction. The amount of bankable emission reductions are listed in the table below:

TOTAL CREDITABLE REDUCTIONS QUANTIFIED FOR PROJECT

	PM10 pounds	SOx pounds	NOx pounds	VOC pounds	CO pounds
1st Quarter	0	0	0	334 (289)	0
2nd Quarter	0	0	0	489 (424)	0
3rd Quarter	0	0	0	561 (486)	0
4th Quarter	0	0	0	366 (317)	0

VI. COMPLIANCE:

A. Real

The applicant has installed vapor reconvey on four oil petroleum storage tanks. The emission reductions were calculated using the Tanks 3.0 emission calculation program and actual throughput data supplied by the applicant. The voluntary installation of the vapor recovery system resulted in actual emission reductions therefore, the reductions are real.

B. Enforceable

Authorities to Construct S-2246-7-1, '-8-1, '-9-1 and '-10-1 which authorized the installation of the vapor recovery system were issued on February 16, 1994. Compliance with the 99% vapor recovery requirement was demonstrated by the applicant on July 26, 1995. Permits to Operate S-2246-7-1, '-8-1, '-9-1 and '-10-1 contain conditions which make the reductions enforceable. The permits have a condition which limits the fugitive component count and a condition that requires the vapor recovery system achieve 99% control; therefore the reductions are enforceable.

C. Quantifiable

The calculation section quantifies the emission reductions generated by the installation of the vapor recovery system. The calculations were based on actual operating history and the Tanks 3.0 tank emission calculation program; therefore, the reductions are enforceable.

D. Permanent

The actual emission reductions resulted from the permanent installation of the vapor recovery system; therefore, the reductions are permanent.

E. Surplus

The installation of the tank vapor control system was voluntary. San Joaquin Facilities Management meets the definition of small producer in District Rule 4623 and is exempt from the requirement to install vapor recovery. The resulting emission reductions are not mandated by any other law, rule, regulation, agreement, or order of the District, state, or federal government in effect on the day the ATC was deemed complete. The emission reductions were not used to offset on site increases in permitted emissions. Emission reductions from organic liquid storage tanks were listed in the 1991 Air Quality Attainment Plan and the measure has been noticed for consideration during the current calendar year. Therefore, the Historical Actual Emissions have been adjusted by 90%. The remaining reductions are surplus.

Note: The current draft version of Rule 4623 does not require tanks operated by a small producer to be equipped with vapor recovery. If the rule is adopted without requiring

VI. COMPLIANCE (continued):

additional vapor control or no rule is adopted additional emission reductions will then become surplus.

F. Timeliness

The emission reductions resultant from ATCs S-2246-7-1, '-8-1, '-9-1 and '-10-1 occurred when the applicant demonstrated compliance with the 99% control efficiency requirement on July 26, 1995. Pursuant to Section 4.2 of Rule 2301, for emission reductions occurring after September 19, 1991, an ERC application must be filed no later than 180 days after the emission reduction occurred. The ERC application was filed within 70 days, on October 3, 1995; therefore, the application was timely.

VII. RECOMMENDATIONS:

Provide written notice of initial acceptance to applicant, ARB, and EPA and publish notice in the Bakersfield Californian for emission reduction credits in the amount calculated to initiate a 30 day public comment period.

APPENDIX A

TANK IDENTIFICATION AND PHYSICAL CHARACTERISTICS

dentification

Identification No.:	2246-7-0
City:	Bakersfield
State:	CA
Company:	SJFM
Type of Tank:	Vertical Fixed Roof

'ank Dimensions

Shell Height (ft):	24.0
Diameter (ft):	15.5
Liquid Height (ft):	12.0
Avg. Liquid Height (ft):	12.0
Volume (gallons):	16940
Turnovers:	4.0
Net Throughput (gal/yr):	67760

'aint Characteristics

Shell Color/Shade:	White/White
Shell Condition:	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

'oof Characteristics

Type:	Cone
Height (ft):	0.48
Radius (ft) (Dome Roof):	0.00
Slope (ft/ft) (Cone Roof):	0.0625

Breather Vent Settings

Vacuum Setting (psig):	-0.03
Pressure Setting (psig):	0.03

Meteorological Data Used in Emission Calculations: Bakersfield, California (Avg Atmospheric Pressure = 14.7 psia)

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Cal Canal (RVP = 7.79)	JAN	58.96	54.72	63.20	65.62	5.1930	4.8143	5.5947	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	FEB	61.61	56.50	66.72	65.62	5.4413	4.9706	5.9462	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	MAR	63.99	57.94	70.05	65.62	5.6721	5.0999	6.2944	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	APR	67.10	60.11	74.10	65.62	5.9852	5.2997	6.7389	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	MAY	71.16	63.37	78.95	65.62	6.4139	5.6113	7.3030	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	JUN	74.87	66.58	83.16	65.62	6.8262	5.9319	7.8216	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	JUL	77.51	69.15	85.87	65.62	7.1318	6.1987	8.1702	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	AUG	76.28	68.37	84.18	65.62	6.9881	6.1168	7.9514	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	SEP	73.43	66.20	80.66	65.62	6.6638	5.8932	7.5103	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	OCT	68.60	62.17	75.04	65.62	6.1409	5.4949	6.8455	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	NOV	62.72	57.55	67.89	65.62	5.5480	5.0646	6.0668	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	DEC	58.84	54.63	63.05	65.62	5.1820	4.8065	5.5801	50.000			50.00	Option 4: RVP=7.79

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (lb):	81.2726	104.0202	130.0725	160.7796	195.6629	226.4536	242.8700	222.7230	190.4051	152.1095	107.5880	80.4532
Vapor Space Volume (cu ft):	2294.74	2294.74	2294.74	2294.74	2294.74	2294.74	2294.74	2294.74	2294.74	2294.74	2294.74	2294.74
Vapor Density (lb/cu ft):	0.0467	0.0486	0.0505	0.0529	0.0563	0.0595	0.0619	0.0608	0.0582	0.0542	0.0495	0.0466
Vapor Space Expansion Factor:	0.108496	0.138107	0.171919	0.211366	0.255640	0.294432	0.314817	0.289099	0.248010	0.199490	0.142537	0.107429
Vented Vapor Saturation Factor:	0.230035	0.221867	0.214778	0.205857	0.194777	0.185192	0.178673	0.181679	0.189853	0.201690	0.218532	0.230412
Tank Vapor Space Volume												
Vapor Space Volume (cu ft):	2294.74	2294.74	2294.74	2294.74	2294.74	2294.74	2294.74	2294.74	2294.74	2294.74	2294.74	2294.74
Tank Diameter (ft):	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
Vapor Space Outage (ft):	12.16	12.16	12.16	12.16	12.16	12.16	12.16	12.16	12.16	12.16	12.16	12.16
Tank Shell Height (ft):	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Average Liquid Height (ft):	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Roof Outage (ft):	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Roof Outage (Cone Roof)												
Roof Outage (ft):	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Roof Height (ft):	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484
Roof Slope (ft/ft):	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245
Shell Radius (ft):	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
Vapor Density												
Vapor Density (lb/cu ft):	0.0467	0.0486	0.0505	0.0529	0.0563	0.0595	0.0619	0.0608	0.0582	0.0542	0.0495	0.0466
Vapor Molecular Weight (lb/lb-mole):	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Daily Avg. Liquid Surface Temp.(deg. R):	518.63	521.28	523.66	526.77	530.83	534.54	537.18	535.95	533.10	528.27	522.39	518.51
Daily Average Ambient Temp. (deg. R):	507.82	512.82	516.72	522.27	530.22	537.92	544.12	542.12	536.97	527.62	515.82	507.82
Ideal Gas Constant R (psia cuft /(lb-mole-deg R)):	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731
Liquid Bulk Temperature (deg. R):	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29
Tank Paint Solar Absorptance (Shell):	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Tank Paint Solar Absorptance (Roof):	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Daily Total Solar Insolation Factor (Btu/sqftday):	766.00	1102.00	1595.00	2095.00	2509.00	2749.00	2684.00	2421.00	1992.00	1458.00	942.00	677.00
Vapor Space Expansion Factor												
Vapor Space Expansion Factor:	0.108496	0.138107	0.171919	0.211366	0.255640	0.294432	0.314817	0.289099	0.248010	0.199490	0.142537	0.107429
Daily Vapor Temperature Range (deg.R):	16.97	20.44	24.22	27.97	31.17	33.17	33.44	31.61	28.92	25.73	20.68	16.83
Daily Vapor Pressure Range (psia):	0.780389	0.975648	1.194512	1.439287	1.691711	1.889715	1.971463	1.834656	1.617109	1.350583	1.002197	0.773575
Breather Vent Press. Setting Range(psia):	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	4.814286	4.970550	5.099851	5.299656	5.611269	5.931897	6.198740	6.116785	5.893214	5.494946	5.064575	4.806488
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	5.594674	5.946199	6.294363	6.738943	7.302980	7.821612	8.170204	7.951441	7.510323	6.845529	6.066772	5.580064
Daily Avg. Liquid Surface Temp. (deg R):	518.63	521.28	523.66	526.77	530.83	534.54	537.18	535.95	533.10	528.27	522.39	518.51
Daily Min. Liquid Surface Temp. (deg R):	514.39	516.17	517.61	519.78	523.04	526.25	528.82	528.04	525.87	521.84	517.22	514.30
Daily Max. Liquid Surface Temp. (deg R):	522.87	526.39	529.72	533.77	538.62	542.83	545.54	543.85	540.33	534.71	527.56	522.72

Daily Ambient Temp. Range (deg.R):	18.50	21.10	23.10	25.00	26.70	27.90	28.70	27.90	27.00	26.10	22.50	18.90

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Vented Vapor Saturation Factor												
Vented Vapor Saturation Factor:	0.230035	0.221867	0.214778	0.205857	0.194777	0.185192	0.178673	0.181679	0.188853	0.201690	0.218532	0.230412
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Vapor Space Outage (ft):	12.16	12.16	12.16	12.16	12.16	12.16	12.16	12.16	12.16	12.16	12.16	12.16
Working Losses (lb):	26.1830	27.4349	28.5986	30.1769	32.3385	34.4172	35.9585	35.2339	33.5985	30.9620	27.9729	26.1274
Vapor Molecular Weight (lb/lb-mole):	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Net Throughput (gal/month):	5647	5647	5647	5647	5647	5647	5647	5647	5647	5647	5647	5647
Turnover Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Maximum Liquid Volume (cuft):	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264
Maximum Liquid Height (ft):	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Tank Diameter (ft):	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
Working Loss Product Factor:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Total Losses (lb):	107.46	131.46	158.67	190.96	228.00	260.87	278.83	257.96	224.00	183.07	135.56	106.58

Months in Report: January, February, March, April,
May, June, July, August,
September, October, November, December

Liquid Contents	Losses (lbs.): Standing	Working	Total
Cal Canal (RVP = 7.79)	1894.41	369.00	2263.41
Total:	1894.41	369.00	2263.41

TANK IDENTIFICATION AND PHYSICAL CHARACTERISTICS

Identification

Identification No.:	2246-8-0
City:	Bakersfield
State:	CA
Company:	SJFH 91-92
Type of Tank:	Vertical Fixed Roof

Tank Dimensions

Shell Height (ft):	16.0
Diameter (ft):	29.8
Liquid Height (ft):	12.0
Avg. Liquid Height (ft):	10.0
Volume (gallons):	62615
Turnovers:	20.7
Net Throughput (gal/yr):	1298808

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition:	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft):	0.93
Radius (ft) (Dome Roof):	0.00
Slope (ft/ft) (Cone Roof):	0.0625

Breather Vent Settings

Vacuum Setting (psig):	-0.03
Pressure Setting (psig):	0.03

Meteorological Data Used in Emission Calculations: Bakersfield, California (Avg Atmospheric Pressure = 14.7 psia)

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Cal Canal (RVP = 7.79)	JAN	58.96	54.72	63.20	65.62	5.1930	4.8143	5.5947	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	FEB	61.61	56.50	66.72	65.62	5.4413	4.9706	5.9462	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	MAR	63.99	57.94	70.05	65.62	5.6721	5.0999	6.2944	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	APR	67.10	60.11	74.10	65.62	5.9852	5.2997	6.7389	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	MAY	71.16	63.37	78.95	65.62	6.4139	5.6113	7.3030	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	JUN	74.87	66.58	83.16	65.62	6.8262	5.9319	7.8216	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	JUL	77.51	69.15	85.87	65.62	7.1318	6.1987	8.1702	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	AUG	76.28	68.37	84.18	65.62	6.9881	6.1168	7.9514	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	SEP	73.43	66.20	80.66	65.62	6.6638	5.8932	7.5103	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	OCT	68.60	62.17	75.04	65.62	6.1409	5.4949	6.8455	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	NOV	62.72	57.55	67.89	65.62	5.5480	5.0646	6.0668	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	DEC	58.84	54.63	63.05	65.62	5.1820	4.8065	5.5801	50.000			50.00	Option 4: RVP=7.79

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (lb):	247.5986	318.8902	400.9433	499.0390	612.5967	714.3768	770.1375	704.5665	598.9220	473.6647	330.6757	245.0317
Vapor Space Volume (cu ft):	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23
Vapor Density (lb/cu ft):	0.0467	0.0486	0.0505	0.0529	0.0563	0.0595	0.0619	0.0608	0.0582	0.0542	0.0495	0.0466
Vapor Space Expansion Factor:	0.108496	0.138107	0.171919	0.211366	0.255640	0.294432	0.314817	0.289099	0.248010	0.199490	0.142537	0.107429
Vented Vapor Saturation Factor:	0.365392	0.354631	0.345182	0.333143	0.317955	0.304601	0.295402	0.299656	0.309725	0.327462	0.350199	0.365885
Tank Vapor Space Volume												
Vapor Space Volume (cu ft):	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23
Tank Diameter (ft):	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8
Vapor Space Outage (ft):	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Tank Shell Height (ft):	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Average Liquid Height (ft):	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Roof Outage (ft):	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Roof Outage (Cone Roof)												
Roof Outage (ft):	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Roof Height (ft):	0.931	0.931	0.931	0.931	0.931	0.931	0.931	0.931	0.931	0.931	0.931	0.931
Roof Slope (ft/ft):	0.06248	0.06248	0.06248	0.06248	0.06248	0.06248	0.06248	0.06248	0.06248	0.06248	0.06248	0.06248
Shell Radius (ft):	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
Vapor Density												
Vapor Density (lb/cu ft):	0.0467	0.0486	0.0505	0.0529	0.0563	0.0595	0.0619	0.0608	0.0582	0.0542	0.0495	0.0466
Vapor Molecular Weight (lb/lb-mole):	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Daily Avg. Liquid Surface Temp.(deg. R):	518.63	521.28	523.66	526.77	530.83	534.54	537.18	535.95	533.10	528.27	522.39	518.51
Daily Average Ambient Temp. (deg. R):	507.82	512.82	516.72	522.27	530.22	537.92	544.12	542.12	536.97	527.62	515.82	507.82
Ideal Gas Constant R (psia cuft /(lb-mole-deg R)):	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731
Liquid Bulk Temperature (deg. R):	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29
Tank Paint Solar Absorptance (Shell):	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Tank Paint Solar Absorptance (Roof):	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Daily Total Solar Insolation Factor (Btu/sqftday):	766.00	1102.00	1595.00	2095.00	2509.00	2749.00	2684.00	2421.00	1992.00	1458.00	942.00	677.00
Vapor Space Expansion Factor												
Vapor Space Expansion Factor:	0.108496	0.138107	0.171919	0.211366	0.255640	0.294432	0.314817	0.289099	0.248010	0.199490	0.142537	0.107429
Daily Vapor Temperature Range (deg.R):	16.97	20.44	24.22	27.97	31.17	33.17	33.44	31.61	28.92	25.73	20.68	16.83
Daily Vapor Pressure Range (psia):	0.780389	0.975648	1.194512	1.439287	1.691711	1.889715	1.971463	1.834656	1.617109	1.350583	1.002197	0.773575
Breather Vent Press. Setting Range(psia):	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	4.814286	4.970550	5.099851	5.299656	5.611269	5.931897	6.198740	6.116785	5.893214	5.494946	5.064575	4.806488
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	5.594674	5.946199	6.294363	6.738943	7.302980	7.821612	8.170204	7.951441	7.510323	6.845529	6.066772	5.580064
Daily Avg. Liquid Surface Temp. (deg R):	518.63	521.28	523.66	526.77	530.83	534.54	537.18	535.95	533.10	528.27	522.39	518.51
Daily Min. Liquid Surface Temp. (deg R):	514.39	516.17	517.61	519.78	523.04	526.25	528.82	528.04	525.87	521.84	517.22	514.30
Daily Max. Liquid Surface Temp. (deg R):	522.87	526.39	529.72	533.77	538.62	542.83	545.54	543.85	540.33	534.71	527.56	522.72

Daily Ambient Temp. Range (deg.R):	18.50	21.10	23.10	25.00	26.70	27.90	28.70	27.90	27.00	26.10	22.50	18.90

onth:	January	February	March	April	May	June	July	August	September	October	November	December
ented Vapor Saturation Factor												
Vented Vapor Saturation Factor:	0.365392	0.354631	0.345182	0.333143	0.317955	0.304601	0.295402	0.299656	0.309725	0.327462	0.350199	0.365885
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Vapor Space Outage (ft):	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
orking Losses (lb):	443.6138	517.2645	572.1749	524.2994	546.4619	650.9594	790.5641	761.2690	575.2493	633.9674	566.7307	511.0738
Vapor Molecular Weight (lb/lb-mole):	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Net Throughput (gal/month):	95676	106470	112980	98112	95424	106806	124152	122010	96684	115626	114408	110460
Turnover Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Maximum Liquid Volume (cuft):	8370	8370	8370	8370	8370	8370	8370	8370	8370	8370	8370	8370
Maximum Liquid Height (ft):	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Tank Diameter (ft):	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8
Working Loss Product Factor:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
otal Losses (lb):	691.21	836.15	973.12	1023.34	1159.06	1365.34	1560.70	1465.84	1174.17	1107.63	897.41	756.11

onths in Report: January, February, March, April,
May, June, July, August,
September, October, November, December

iquid Contents	Losses (lbs.): Standing	Working	Total
al Canal (RVP = 7.79)	5916.44	7093.63	13010.07
otal:	5916.44	7093.63	13010.07

TANK IDENTIFICATION AND PHYSICAL CHARACTERISTICS

Identification

Identification No.:	2246-8-0
City:	Bakersfield
State:	CA
Company:	SJFM 92-93
Type of Tank:	Vertical Fixed Roof

Tank Dimensions

Shell Height (ft):	16.0
Diameter (ft):	29.8
Liquid Height (ft):	12.0
Avg. Liquid Height (ft):	10.0
Volume (gallons):	62615
Turnovers:	17.7
Net Throughput (gal/yr):	1108842

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition:	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft):	0.93
Radius (ft) (Dome Roof):	0.00
Slope (ft/ft) (Cone Roof):	0.0625

Breather Vent Settings

Vacuum Setting (psig):	-0.03
Pressure Setting (psig):	0.03

Meteorological Data Used in Emission Calculations: Bakersfield, California (Avg Atmospheric Pressure = 14.7 psia)

ixture/Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
al Canal (RVP = 7.79)	JAN	58.96	54.72	63.20	65.62	5.1930	4.8143	5.5947	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	FEB	61.61	56.50	66.72	65.62	5.4413	4.9706	5.9462	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	MAR	63.99	57.94	70.05	65.62	5.6721	5.0999	6.2944	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	APR	67.10	60.11	74.10	65.62	5.9852	5.2997	6.7389	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	MAY	71.16	63.37	78.95	65.62	6.4139	5.6113	7.3030	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	JUN	74.87	66.58	83.16	65.62	6.8262	5.9319	7.8216	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	JUL	77.51	69.15	85.87	65.62	7.1318	6.1987	8.1702	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	AUG	76.28	68.37	84.18	65.62	6.9881	6.1168	7.9514	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	SEP	73.43	66.20	80.66	65.62	6.6638	5.8932	7.5103	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	OCT	68.60	62.17	75.04	65.62	6.1409	5.4949	6.8455	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	NOV	62.72	57.55	67.89	65.62	5.5480	5.0646	6.0668	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	DEC	58.84	54.63	63.05	65.62	5.1820	4.8065	5.5801	50.000			50.00	Option 4: RVP=7.79

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (lb):	247.5986	318.8902	400.9433	499.0390	612.5967	714.3768	770.1375	704.5665	598.9220	473.6647	330.6757	245.0317
Vapor Space Volume (cu ft):	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23
Vapor Density (lb/cu ft):	0.0467	0.0486	0.0505	0.0529	0.0563	0.0595	0.0619	0.0608	0.0582	0.0542	0.0495	0.0466
Vapor Space Expansion Factor:	0.108496	0.138107	0.171919	0.211366	0.255640	0.294432	0.314817	0.289099	0.248010	0.199490	0.142537	0.107429
Vented Vapor Saturation Factor:	0.365392	0.354631	0.345182	0.333143	0.317955	0.304601	0.295402	0.299656	0.309725	0.327462	0.350199	0.365885
Tank Vapor Space Volume												
Vapor Space Volume (cu ft):	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23	4401.23
Tank Diameter (ft):	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8
Vapor Space Outage (ft):	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Tank Shell Height (ft):	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Average Liquid Height (ft):	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Roof Outage (ft):	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Roof Outage (Cone Roof)												
Roof Outage (ft):	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Roof Height (ft):	0.931	0.931	0.931	0.931	0.931	0.931	0.931	0.931	0.931	0.931	0.931	0.931
Roof Slope (ft/ft):	0.06248	0.06248	0.06248	0.06248	0.06248	0.06248	0.06248	0.06248	0.06248	0.06248	0.06248	0.06248
Shell Radius (ft):	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
Vapor Density												
Vapor Density (lb/cu ft):	0.0467	0.0486	0.0505	0.0529	0.0563	0.0595	0.0619	0.0608	0.0582	0.0542	0.0495	0.0466
Vapor Molecular Weight (lb/lb-mole):	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Daily Avg. Liquid Surface Temp.(deg. R):	518.63	521.28	523.66	526.77	530.83	534.54	537.18	535.95	533.10	528.27	522.39	518.51
Daily Average Ambient Temp. (deg. R):	507.82	512.82	516.72	522.27	530.22	537.92	544.12	542.12	536.97	527.62	515.82	507.82
Ideal Gas Constant R (psia cuft /(lb-mole-deg R)):	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731
Liquid Bulk Temperature (deg. R):	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29
Tank Paint Solar Absorptance (Shell):	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Tank Paint Solar Absorptance (Roof):	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Daily Total Solar Insolation Factor (Btu/sqftday):	766.00	1102.00	1595.00	2095.00	2509.00	2749.00	2684.00	2421.00	1992.00	1458.00	942.00	677.00
Vapor Space Expansion Factor												
Vapor Space Expansion Factor:	0.108496	0.138107	0.171919	0.211366	0.255640	0.294432	0.314817	0.289099	0.248010	0.199490	0.142537	0.107429
Daily Vapor Temperature Range (deg.R):	16.97	20.44	24.22	27.97	31.17	33.17	33.44	31.61	28.92	25.73	20.68	16.83
Daily Vapor Pressure Range (psia):	0.780389	0.975648	1.194512	1.439287	1.691711	1.889715	1.971463	1.834656	1.617109	1.350583	1.002197	0.773575
Breather Vent Press. Setting Range(psia):	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	4.814286	4.970550	5.099851	5.299656	5.611269	5.931897	6.198740	6.116785	5.893214	5.494946	5.064575	4.806488
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	5.594674	5.946199	6.294363	6.738943	7.302980	7.821612	8.170204	7.951441	7.510323	6.845529	6.066772	5.580064
Daily Avg. Liquid Surface Temp. (deg R):	518.63	521.28	523.66	526.77	530.83	534.54	537.18	535.95	533.10	528.27	522.39	518.51
Daily Min. Liquid Surface Temp. (deg R):	514.39	516.17	517.61	519.78	523.04	526.25	528.82	528.04	525.87	521.84	517.22	514.30
Daily Max. Liquid Surface Temp. (deg R):	522.87	526.39	529.72	533.77	538.62	542.83	545.54	543.85	540.33	534.71	527.56	522.72

Daily Ambient Temp. Range (deg.R):	18.50	21.10	23.10	25.00	26.70	27.90	28.70	27.90	27.00	26.10	22.50	18.90

ıth:	January	February	March	April	May	June	July	August	September	October	November	December
ıted Vapor Saturation Factor												
/ented Vapor Saturation Factor:	0.365392	0.354631	0.345182	0.333143	0.317955	0.304601	0.295402	0.299656	0.309725	0.327462	0.350199	0.365885
/apor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
/apor Space Outage (ft):	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
-king Losses (lb):	495.2194	511.7552	407.7544	414.5466	500.5226	498.3948	539.7017	520.7027	487.5375	566.2644	541.3485	493.7789
/apor Molecular Weight (lb/lb-mole):	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000
/apor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
ıet Throughput (gal/month):	106806	105336	80514	77574	87402	81774	84756	83454	81942	103278	109284	106722
Turnover Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
ıaximum Liquid Volume (cuft):	8370	8370	8370	8370	8370	8370	8370	8370	8370	8370	8370	8370
ıaximum Liquid Height (ft):	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Tank Diameter (ft):	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8
Working Loss Product Factor:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
tal Losses (lb):	742.82	830.65	808.70	913.59	1113.12	1212.77	1309.84	1225.27	1086.46	1039.93	872.02	738.81

ths in Report: January, February, March, April,
May, June, July, August,
September, October, November, December

quid Contents	Losses (lbs.): Standing	Working	Total
Canal (RVP = 7.79)	5916.44	5977.53	11893.97
tal:	5916.44	5977.53	11893.97

TANK IDENTIFICATION AND PHYSICAL CHARACTERISTICS

entification
Identification No.:	2246-9-D
City:	Bakersfield
State:	CA
Company:	SJFM
Type of Tank:	Vertical Fixed Roof

nk Dimensions
Shell Height (ft):	16.0
Diameter (ft):	15.5
Liquid Height (ft):	10.0
Avg. Liquid Height (ft):	10.0
Volume (gallons):	14117
Turnovers:	4.0
Net Throughput (gal/yr):	56468

aint Characteristics
Shell Color/Shade:	White/White
Shell Condition:	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

oof Characteristics
Type:	Cone
Height (ft):	0.48
Radius (ft) (Dome Roof):	0.00
Slope (ft/ft) (Cone Roof):	0.0625

reather Vent Settings
Vacuum Setting (psig):	-0.03
Pressure Setting (psig):	0.03

eteorological Data Used in Emission Calculations: Bakersfield, California (Avg Atmospheric Pressure = 14.7 psia)

xture/Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
al Canal (RVP = 7.79)	JAN	58.96	54.72	63.20	65.62	5.1930	4.8143	5.5947	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	FEB	61.61	56.50	66.72	65.62	5.4413	4.9706	5.9462	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	MAR	63.99	57.94	70.05	65.62	5.6721	5.0999	6.2944	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	APR	67.10	60.11	74.10	65.62	5.9852	5.2997	6.7389	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	MAY	71.16	63.37	78.95	65.62	6.4139	5.6113	7.3030	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	JUN	74.87	66.58	83.16	65.62	6.8262	5.9319	7.8216	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	JUL	77.51	69.15	85.87	65.62	7.1318	6.1987	8.1702	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	AUG	76.28	68.37	84.18	65.62	6.9881	6.1168	7.9514	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	SEP	73.43	66.20	80.66	65.62	6.6638	5.8932	7.5103	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	OCT	68.60	62.17	75.04	65.62	6.1409	5.4949	6.8455	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	NOV	62.72	57.55	67.89	65.62	5.5480	5.0646	6.0668	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	DEC	58.84	54.63	63.05	65.62	5.1820	4.8065	5.5801	50.000			50.00	Option 4: RVP=7.79

onth:	January	February	March	April	May	June	July	August	September	October	November	December
tanding Losses (lb):	66.3985	85.5389	107.5731	133.9309	164.4672	191.8541	206.8750	189.2419	160.8276	127.1383	88.7097	65.7094
Vapor Space Volume (cu ft):	1162.59	1162.59	1162.59	1162.59	1162.59	1162.59	1162.59	1162.59	1162.59	1162.59	1162.59	1162.59
Vapor Density (lb/cu ft):	0.0467	0.0486	0.0505	0.0529	0.0563	0.0595	0.0619	0.0608	0.0582	0.0542	0.0495	0.0466
Vapor Space Expansion Factor:	0.108496	0.138107	0.171919	0.211366	0.255640	0.294432	0.314817	0.289099	0.248010	0.199490	0.142537	0.107429
Vented Vapor Saturation Factor:	0.370950	0.360119	0.350603	0.338472	0.323159	0.309685	0.300399	0.304695	0.314856	0.332745	0.355655	0.371446
ank Vapor Space Volume												
Vapor Space Volume (cu ft):	1162.59	1162.59	1162.59	1162.59	1162.59	1162.59	1162.59	1162.59	1162.59	1162.59	1162.59	1162.59
Tank Diameter (ft):	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
Vapor Space Outage (ft):	6.16	6.16	6.16	6.16	6.16	6.16	6.16	6.16	6.16	6.16	6.16	6.16
Tank Shell Height (ft):	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Average Liquid Height (ft):	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Roof Outage (ft):	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Roof Outage (Cone Roof)												
Roof Outage (ft):	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Roof Height (ft):	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484
Roof Slope (ft/ft):	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245
Shell Radius (ft):	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
Vapor Density												
Vapor Density (lb/cu ft):	0.0467	0.0486	0.0505	0.0529	0.0563	0.0595	0.0619	0.0608	0.0582	0.0542	0.0495	0.0466
Vapor Molecular Weight (lb/lb-mole):	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Daily Avg. Liquid Surface Temp.(deg. R):	518.63	521.28	523.66	526.77	530.83	534.54	537.18	535.95	533.10	528.27	522.39	518.51
Daily Average Ambient Temp. (deg. R):	507.82	512.82	516.72	522.27	530.22	537.92	544.12	542.12	536.97	527.62	515.82	507.82
Ideal Gas Constant R (psia cuft /(lb-mole-deg R)):	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731
Liquid Bulk Temperature (deg. R):	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29
Tank Paint Solar Absorptance (Shell):	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Tank Paint Solar Absorptance (Roof):	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Daily Total Solar Insolation Factor (Btu/sqftday):	766.00	1102.00	1595.00	2095.00	2509.00	2749.00	2684.00	2421.00	1992.00	1458.00	942.00	677.00
Vapor Space Expansion Factor												
Vapor Space Expansion Factor:	0.108496	0.138107	0.171919	0.211366	0.255640	0.294432	0.314817	0.289099	0.248010	0.199490	0.142537	0.107429
Daily Vapor Temperature Range (deg.R):	16.97	20.44	24.22	27.97	31.17	33.17	33.44	31.61	28.92	25.73	20.68	16.83
Daily Vapor Pressure Range (psia):	0.780389	0.975648	1.194512	1.439287	1.691711	1.889715	1.971463	1.834656	1.617109	1.350583	1.002197	0.773575
Breather Vent Press. Setting Range(psia):	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	4.814286	4.970550	5.099851	5.299656	5.611269	5.931897	6.198740	6.116785	5.893214	5.494946	5.064575	4.806488
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	5.594674	5.946199	6.294363	6.738943	7.302980	7.821612	8.170204	7.951441	7.510323	6.845529	6.066772	5.580064
Daily Avg. Liquid Surface Temp. (deg R):	518.63	521.28	523.66	526.77	530.83	534.54	537.18	535.95	533.10	528.27	522.39	518.51
Daily Min. Liquid Surface Temp. (deg R):	514.39	516.17	517.61	519.78	523.04	526.25	528.82	528.04	525.87	521.84	517.22	514.30
Daily Max. Liquid Surface Temp. (deg R):	522.87	526.39	529.72	533.77	538.62	542.83	545.54	543.85	540.33	534.71	527.56	522.72

Daily Ambient Temp. Range (deg.R):	18.50	21.10	23.10	25.00	26.70	27.90	28.70	27.90	27.00	26.10	22.50	18.90

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Vented Vapor Saturation Factor												
Vented Vapor Saturation Factor:	0.370950	0.360119	0.350603	0.338472	0.323159	0.309685	0.300399	0.304695	0.314856	0.332745	0.355655	0.371446
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Vapor Space Outage (ft):	6.16	6.16	6.16	6.16	6.16	6.16	6.16	6.16	6.16	6.16	6.16	6.16
Working Losses (lb):	21.8200	22.8632	23.8330	25.1483	26.9497	28.6820	29.9664	29.3626	27.9997	25.8026	23.3116	21.7736
Vapor Molecular Weight (lb/lb-mole):	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Net Throughput (gal/month):	4706	4706	4706	4706	4706	4706	4706	4706	4706	4706	4706	4706
Turnover Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Maximum Liquid Volume (cuft):	1887	1887	1887	1887	1887	1887	1887	1887	1887	1887	1887	1887
Maximum Liquid Height (ft):	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Tank Diameter (ft):	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
Working Loss Product Factor:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Total Losses (lb):	88.22	108.40	131.41	159.08	191.42	220.54	236.84	218.60	188.83	152.94	112.02	87.48

onths in Report: January, February, March, April,
May, June, July, August,
September, October, November, December

iquid Contents	Losses (lbs.): Standing	Working	Total
al Canal (RVP = 7.79)	1588.26	307.51	1895.78
otal:	1588.26	307.51	1895.78

TANK IDENTIFICATION AND PHYSICAL CHARACTERISTICS

Identification
- Identification No.: 2246-10-0
- City: Bakersfield
- State: CA
- Company: SJFM 91-92
- Type of Tank: Vertical Fixed Roof

Tank Dimensions
- Shell Height (ft): 16.0
- Diameter (ft): 15.5
- Liquid Height (ft): 10.0
- Avg. Liquid Height (ft): 7.0
- Volume (gallons): 14117
- Turnovers: 16.1
- Net Throughput (gal/yr): 228522

Paint Characteristics
- Shell Color/Shade: White/White
- Shell Condition: Good
- Roof Color/Shade: White/White
- Roof Condition: Good

Roof Characteristics
- Type: Cone
- Height (ft): 0.48
- Radius (ft) (Dome Roof): 0.00
- Slope (ft/ft) (Cone Roof): 0.0625

Breather Vent Settings
- Vacuum Setting (psig): -0.03
- Pressure Setting (psig): 0.03

Meteorological Data Used in Emission Calculations: Bakersfield, California (Avg Atmospheric Pressure = 14.7 psia)

ixture/Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
al Canal (RVP = 7.79)	JAN	58.96	54.72	63.20	65.62	5.1930	4.8143	5.5947	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	FEB	61.61	56.50	66.72	65.62	5.4413	4.9706	5.9462	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	MAR	63.99	57.94	70.05	65.62	5.6721	5.0999	6.2944	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	APR	67.10	60.11	74.10	65.62	5.9852	5.2997	6.7389	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	MAY	71.16	63.37	78.95	65.62	6.4139	5.6113	7.3030	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	JUN	74.87	66.58	83.16	65.62	6.8262	5.9319	7.8216	50.000			50.00	Option 4: RVP=7.79
al Canal (RVP = 7.79)	JUL	77.51	69.15	85.87	65.62	7.1318	6.1987	8.1702	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	AUG	76.28	68.37	84.18	65.62	6.9881	6.1168	7.9514	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	SEP	73.43	66.20	80.66	65.62	6.6638	5.8932	7.5103	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	OCT	68.60	62.17	75.04	65.62	6.1409	5.4949	6.8455	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	NOV	62.72	57.55	67.89	65.62	5.5480	5.0646	6.0668	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	DEC	58.84	54.63	63.05	65.62	5.1820	4.8065	5.5801	50.000			50.00	Option 4: RVP=7.79

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (lb):	75.5794	96.9747	121.5254	150.6258	183.9313	213.5059	229.4455	210.2165	179.3157	142.6856	100.4030	74.8088
Vapor Space Volume (cu ft):	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67
Vapor Density (lb/cu ft):	0.0467	0.0486	0.0505	0.0529	0.0563	0.0595	0.0619	0.0608	0.0582	0.0542	0.0495	0.0466
Vapor Space Expansion Factor:	0.108496	0.138107	0.171919	0.211366	0.255640	0.294432	0.314817	0.289099	0.248010	0.199490	0.142537	0.107429
Vented Vapor Saturation Factor:	0.283972	0.274572	0.266375	0.256010	0.243057	0.231780	0.224071	0.227630	0.236094	0.251149	0.270721	0.284405
Tank Vapor Space Volume												
Vapor Space Volume (cu ft):	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67
Tank Diameter (ft):	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
Vapor Space Outage (ft):	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16
Tank Shell Height (ft):	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Average Liquid Height (ft):	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Roof Outage (ft):	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Roof Outage (Cone Roof)												
Roof Outage (ft):	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Roof Height (ft):	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484
Roof Slope (ft/ft):	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245
Shell Radius (ft):	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
Vapor Density												
Vapor Density (lb/cu ft):	0.0467	0.0486	0.0505	0.0529	0.0563	0.0595	0.0619	0.0608	0.0582	0.0542	0.0495	0.0466
Vapor Molecular Weight (lb/lb-mole):	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Daily Avg. Liquid Surface Temp.(deg. R):	518.63	521.28	523.66	526.77	530.83	534.54	537.18	535.95	533.10	528.27	522.39	518.51
Daily Average Ambient Temp. (deg. R):	507.82	512.82	516.72	522.27	530.22	537.92	544.12	542.12	536.97	527.62	515.82	507.82
Ideal Gas Constant R (psia cuft /(lb-mole-deg R)):	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731
Liquid Bulk Temperature (deg. R):	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29
Tank Paint Solar Absorptance (Shell):	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Tank Paint Solar Absorptance (Roof):	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Daily Total Solar Insolation Factor (Btu/sqftday):	766.00	1102.00	1595.00	2095.00	2509.00	2749.00	2684.00	2421.00	1992.00	1458.00	942.00	677.00
Vapor Space Expansion Factor												
Vapor Space Expansion Factor:	0.108496	0.138107	0.171919	0.211366	0.255640	0.294432	0.314817	0.289099	0.248010	0.199490	0.142537	0.107429
Daily Vapor Temperature Range (deg.R):	16.97	20.44	24.22	27.97	31.17	33.17	33.44	31.61	28.92	25.73	20.68	16.83
Daily Vapor Pressure Range (psia):	0.780389	0.975648	1.194512	1.439287	1.691711	1.889715	1.971463	1.834656	1.617109	1.350583	1.002197	0.773575
Breather Vent Press. Setting Range(psia):	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	4.814286	4.970550	5.099851	5.299656	5.611269	5.931897	6.198740	6.116785	5.893214	5.494946	5.064575	4.806488
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	5.594674	5.946199	6.294363	6.738943	7.302980	7.821612	8.170204	7.951441	7.510323	6.845529	6.066772	5.580064
Daily Avg. Liquid Surface Temp. (deg R):	518.63	521.28	523.66	526.77	530.83	534.54	537.18	535.95	533.10	528.27	522.39	518.51
Daily Min. Liquid Surface Temp. (deg R):	514.39	516.17	517.61	519.78	523.04	526.25	528.82	528.04	525.87	521.84	517.22	514.30
Daily Max. Liquid Surface Temp. (deg R):	522.87	526.39	529.72	533.77	538.62	542.83	545.54	543.85	540.33	534.71	527.56	522.72

Daily Ambient Temp. Range (deg.R):	18.50	21.10	23.10	25.00	26.70	27.90	28.70	27.90	27.00	26.10	22.50	18.90

onth:	January	February	March	April	May	June	July	August	September	October	November	December
ented Vapor Saturation Factor												
Vented Vapor Saturation Factor:	0.283972	0.274572	0.266375	0.256010	0.243057	0.231780	0.224071	0.227630	0.236094	0.251149	0.270721	0.284405
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Vapor Space Outage (ft):	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16
lorking Losses (lb):	102.6271	98.1476	93.3772	96.2861	116.6523	70.3947	121.6870	106.1322	106.9534	115.6018	107.3543	96.9680
Vapor Molecular Weight (lb/lb-mole):	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Net Throughput (gal/month):	22134	20202	18438	18018	20370	11550	19110	17010	17976	21084	21672	20958
Turnover Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Maximum Liquid Volume (cuft):	1887	1887	1887	1887	1887	1887	1887	1887	1887	1887	1887	1887
Maximum Liquid Height (ft):	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Tank Diameter (ft):	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
Working Loss Product Factor:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Total Losses (lb):	178.21	195.12	214.90	246.91	300.58	283.90	351.13	316.35	286.27	258.29	207.76	171.78

onths in Report: January, February, March, April,
May, June, July, August,
September, October, November, December

iquid Contents	Losses (lbs.): Standing	Working	Total
al Canal (RVP = 7.79)	1779.02	1232.18	3011.20
otal:	1779.02	1232.18	3011.20

TANK IDENTIFICATION AND PHYSICAL CHARACTERISTICS

dentification
- Identification No.: 2246-10-0
- City: Bakersfield
- State: CA
- Company: SJFM 92-93
- Type of Tank: Vertical Fixed Roof

Tank Dimensions
- Shell Height (ft): 16.0
- Diameter (ft): 15.5
- Liquid Height (ft): 10.0
- Avg. Liquid Height (ft): 7.0
- Volume (gallons): 14117
- Turnovers: 16.5
- Net Throughput (gal/yr): 232848

Paint Characteristics
- Shell Color/Shade: White/White
- Shell Condition: Good
- Roof Color/Shade: White/White
- Roof Condition: Good

Roof Characteristics
- Type: Cone
- Height (ft): 0.48
- Radius (ft) (Dome Roof): 0.00
- Slope (ft/ft) (Cone Roof): 0.0625

Breather Vent Settings
- Vacuum Setting (psig): -0.03
- Pressure Setting (psig): 0.03

Meteorological Data Used in Emission Calculations: Bakersfield, California (Avg Atmospheric Pressure = 14.7 psia)

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Cal Canal (RVP = 7.79)	JAN	58.96	54.72	63.20	65.62	5.1930	4.8143	5.5947	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	FEB	61.61	56.50	66.72	65.62	5.4413	4.9706	5.9462	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	MAR	63.99	57.94	70.05	65.62	5.6721	5.0999	6.2944	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	APR	67.10	60.11	74.10	65.62	5.9852	5.2997	6.7389	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	MAY	71.16	63.37	78.95	65.62	6.4139	5.6113	7.3030	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	JUN	74.87	66.58	83.16	65.62	6.8262	5.9319	7.8216	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	JUL	77.51	69.15	85.87	65.62	7.1318	6.1987	8.1702	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	AUG	76.28	68.37	84.18	65.62	6.9881	6.1168	7.9514	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	SEP	73.43	66.20	80.66	65.62	6.6638	5.8932	7.5103	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	OCT	68.60	62.17	75.04	65.62	6.1409	5.4949	6.8455	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	NOV	62.72	57.55	67.89	65.62	5.5480	5.0646	6.0668	50.000			50.00	Option 4: RVP=7.79
Cal Canal (RVP = 7.79)	DEC	58.84	54.63	63.05	65.62	5.1820	4.8065	5.5801	50.000			50.00	Option 4: RVP=7.79

onth:	January	February	March	April	May	June	July	August	September	October	November	December
tanding Losses (lb):	75.5794	96.9747	121.5254	150.6258	183.9313	213.5059	229.4455	210.2165	179.3157	142.6856	100.4030	74.8088
Vapor Space Volume (cu ft):	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67
Vapor Density (lb/cu ft):	0.0467	0.0486	0.0505	0.0529	0.0563	0.0595	0.0619	0.0608	0.0582	0.0542	0.0495	0.0466
Vapor Space Expansion Factor:	0.108496	0.138107	0.171919	0.211366	0.255640	0.294432	0.314817	0.289099	0.248010	0.199490	0.142537	0.107429
Vented Vapor Saturation Factor:	0.283972	0.274572	0.266375	0.256010	0.243057	0.231780	0.224071	0.227630	0.236094	0.251149	0.270721	0.284405
ank Vapor Space Volume												
Vapor Space Volume (cu ft):	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67	1728.67
Tank Diameter (ft):	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
Vapor Space Outage (ft):	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16
Tank Shell Height (ft):	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Average Liquid Height (ft):	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Roof Outage (ft):	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
oof Outage (Cone Roof)												
Roof Outage (ft):	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Roof Height (ft):	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484
Roof Slope (ft/ft):	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245	0.06245
Shell Radius (ft):	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
Vapor Density												
Vapor Density (lb/cu ft):	0.0467	0.0486	0.0505	0.0529	0.0563	0.0595	0.0619	0.0608	0.0582	0.0542	0.0495	0.0466
Vapor Molecular Weight (lb/lb-mole):	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Daily Avg. Liquid Surface Temp.(deg. R):	518.63	521.28	523.66	526.77	530.83	534.54	537.18	535.95	533.10	528.27	522.39	518.51
Daily Average Ambient Temp. (deg. R):	507.82	512.82	516.72	522.27	530.22	537.92	544.12	542.12	536.97	527.62	515.82	507.82
Ideal Gas Constant R (psia cuft /(lb-mole-deg R)):	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731
Liquid Bulk Temperature (deg. R):	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29	525.29
Tank Paint Solar Absorptance (Shell):	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Tank Paint Solar Absorptance (Roof):	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Daily Total Solar Insolation Factor (Btu/sqftday):	766.00	1102.00	1595.00	2095.00	2509.00	2749.00	2684.00	2421.00	1992.00	1458.00	942.00	677.00
Vapor Space Expansion Factor												
Vapor Space Expansion Factor:	0.108496	0.138107	0.171919	0.211366	0.255640	0.294432	0.314817	0.289099	0.248010	0.199490	0.142537	0.107429
Daily Vapor Temperature Range (deg.R):	16.97	20.44	24.22	27.97	31.17	33.17	33.44	31.61	28.92	25.73	20.68	16.83
Daily Vapor Pressure Range (psia):	0.780389	0.975648	1.194512	1.439287	1.691711	1.889715	1.971463	1.834656	1.617109	1.350583	1.002197	0.773575
Breather Vent Press. Setting Range(psia):	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	4.814286	4.970550	5.099851	5.299656	5.611269	5.931897	6.198740	6.116785	5.893214	5.494946	5.064575	4.806488
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	5.594674	5.946199	6.294363	6.738943	7.302980	7.821612	8.170204	7.951441	7.510323	6.845529	6.066772	5.580064
Daily Avg. Liquid Surface Temp. (deg R):	518.63	521.28	523.66	526.77	530.83	534.54	537.18	535.95	533.10	528.27	522.39	518.51
Daily Min. Liquid Surface Temp. (deg R):	514.39	516.17	517.61	519.78	523.04	526.25	528.82	528.04	525.87	521.84	517.22	514.30
Daily Max. Liquid Surface Temp. (deg R):	522.87	526.39	529.72	533.77	538.62	542.83	545.54	543.85	540.33	534.71	527.56	522.72

Daily Ambient Temp. Range (deg.R):	18.50	21.10	23.10	25.00	26.70	27.90	28.70	27.90	27.00	26.10	22.50	18.90

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Vented Vapor Saturation Factor												
Vented Vapor Saturation Factor:	0.283972	0.274572	0.266375	0.256010	0.243057	0.231780	0.224071	0.227630	0.236094	0.251149	0.270721	0.284405
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Vapor Space Outage (ft):	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16	9.16
Working Losses (lb):	89.3849	91.6181	94.8662	101.6728	110.6393	102.9043	144.1522	123.4278	129.1937	101.7848	97.7839	84.7255
Vapor Molecular Weight (lb/lb-mole):	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000	50.000000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.193020	5.441310	5.672118	5.985153	6.413873	6.826157	7.131837	6.988126	6.663762	6.140863	5.548025	5.181991
Net Throughput (gal/month):	19278	18858	18732	19026	19320	16884	22638	19782	21714	18564	19740	18312
Turnover Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Maximum Liquid Volume (cuft):	1887	1887	1887	1887	1887	1887	1887	1887	1887	1887	1887	1887
Maximum Liquid Height (ft):	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Tank Diameter (ft):	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
Working Loss Product Factor:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Total Losses (lb):	164.96	188.59	216.39	252.30	294.57	316.41	373.60	333.64	308.51	244.47	198.19	159.53

nths in Report: January, February, March, April,
May, June, July, August,
September, October, November, December

quid Contents	Losses (lbs.): Standing	Working	Total
(Canal (RVP = 7.79)	1779.02	1272.15	3051.17
otal:	1779.02	1272.15	3051.17

YELLOW

NEW ERC FILE REQUEST FORM

Processor Initials: MPE Today's Date: 3/13/96

Company Name: SAN JOAQUIN FACILITIES MGMT.

Project #: 950784 Original Project #: ~~_____~~

ERC Number(s): S-417-1

Original Facility Number: S-2246 Year ERC Issued: 96

Description: ERC FOR INSTALLATION OF VAPOR RECOVERY SYSTEM ON FOUR OIL PRODUCTION STORAGE TANKS

Location: CAL CANAL SE [redacted] S 31 T28S R22E

LIGHT OIL WESTERN

⟹ POCKET FOLDER, PLEASE ADD TO INVENTORY

PROJECT ROUTING FORM

PROJECT NUMBER: 950784 FACILITY ID: S-2246

PERMIT NOs: ERC Application

APPLICANT NAME: SJFM

PRELIMINARY REVIEW	ENGR	DATE	SUPR	DATE
A. Application Deemed Incomplete	MPE ME	10/23/95	JE	10/23/95
B. Application Deemed Complete	ME	2/21/96	JE	2/22/96
180th Day for Developmental Projects				
C. Application Pending Denial				
D. Application Denied				

ENGINEERING EVALUATION	INITIAL	DATE
E. Engineering Evaluation Complete 7/2/96	ME	3/21/96
F. Supervising Engineer Approval	JE	2/3/96 & 4/2/96 *
G. Compliance Division Approval		
H. Permit Services Regional Manager Approval	J. Holl	4/16/96

DIRECTOR REVIEW: [ ] Not Required [X] Required * & 7/24/96

PROJECTS REQUIRING PUBLIC NOTIFICATION

--PRELIMINARY DECISION:

_____ Date placed in 'c:\notice' directory.

_____ Date of distribution to applicant, EPA, and CARB.

_____ Date of contact with EPA regarding comments on project.

_____ Date of contact with CARB regarding comments on project.

--FINAL DECISION:

_____ Date placed in 'c:\notice' directory.

_____ Date of distribution to applicant, EPA, and CARB.

San Joaquin Valley Unified APCD
Permit Services Division
Applications for Authority to Construct or Emission Reduction Credits
Breakdown of Processing Time

Company Name: SJFM

Facility Id: 2246 Project Number: 950784

Project Description: INSTALL VAPOR CONTROL ON FOUR STORAGE TANKS

Code	Date	Time Spent	Initials
04	10/19/95	4.0	ME
02	12/05/95	0.5	ME
04	1/30/96	2.5	ME
11	3/7/96	1.0	ME
13	3/7/96	2.0	ME
TOTAL			

Activity Code List
01- Pre-Application Meeting (phone)
02- Pre-Application Meeting (in person)
03- Application Log-in
04- Preliminary Review
05- Defficiency Letter
06- Verbal/telephone request for information
07- Billing
08- Completeness Letter
09- Post Application Meetings
10- BACT Determination
11- Emissions Calculations
12- Compliance Determination
13- Project Description, Flow Digram, Equipment Listing
14- Risk Assessment
15- CEQA Review
16- Draft Conditions
17- Prepare ATC
18- Prepare ERC
19- Prepare Preliminary Notice
20- Prepare Final Notice
99- Reworking of Engineering Evaluation

TOTAL BILLING HOURS	