

## NEW ERC FILE REQUEST FORM

Processor Initials: SPL Today's Date: 4/29/99  
Company Name: Equillon Enterprises  
Project#: 981134 Yellow  Orange   
ERC#'s S-1014-2  
Original Facility Number (s): 33  
Year ERC Issued: 1999  
Description Install low-Nox burners on 2 heaters

Location: Sec \_\_\_\_\_ T \_\_\_\_\_ R \_\_\_\_\_  
Folder size: Regular  Pocket   
Return file to permit processor: Yes  No

NEW ERC FILE REQUEST FORM(PINK PAPER)

33 081134



San Joaquin Valley  
Air Pollution Control District

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

# Emission Reduction Credit Certificate

## S-1014-2

*Transfer Ownership  
as S-2175-2  
[Signature]  
5-3-05*

Issued To: **Equilon Enterprises LLC**  
Issue Date: **April 12, 1999**

Location of Reduction: **6451 Rosedale Hwy, Bakersfield  
Section 28, T29S, R27E**

For NO<sub>x</sub> Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
4,645 lbs.	5,658 lbs.	5,190 lbs.	4,325 lbs.

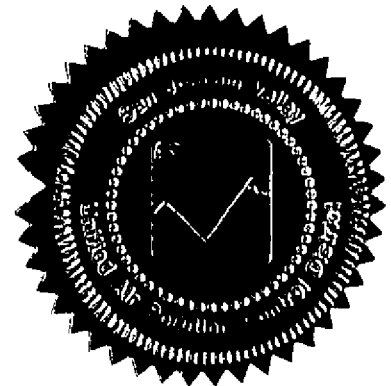
Conditions Attached

Method Of Reduction

- Shutdown of Entire Stationary Source
- Shutdown of Emissions Unit
- Other: Retrofit of two heaters with low NO<sub>x</sub> burners.

David L. Crow, APCO

Seyed Sadredin  
Director of Permit Services



RECEIVED

The BAKERSFIELD CALIFORNIAN  
P.O. BOX 440  
BAKERSFIELD, CA 93302

PROOF OF PUBLICATION FEBRUARY 1999

ADMIN. SERVICES  
S.J.V.U.A.P.C.D.

Ad Number 116945 PO # project #98113  
Edition TBC Run Times 1  
Class Code 520 Legal Notices  
Start Date 2/23/99 Stop Date 2/23/99  
Run Date(s) 02/23  
Billing Lines 41 Inches 3.43  
Total Cost 57.40 Account ISANS1  
Billing SAN JOAQUIN VALLEY A.P.C.D.  
Address 1990 E GETTYSBURG

Post-it Fax Note 7671	Date 3/1/99	# of Pages 1
To Mark Lutzaniser	From Cheryl Lawler	
Co./Dept. South	Co	
Phone #	Phone #	
Fax #	Fax #	

FRESNO

CA 93301-9372

FRESNO  
Solicitor I.D.: C010

CA 93301-9372

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 PRINCIPAL 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:

02/23

ALL IN THE YEAR 1999

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

*Ann Scroggins*

DATED AT BAKERSFIELD CALIFORNIA

2-23-99

First Text  
NOTICE OF PRELIMINARY DECISION FOR THE PRO

RECEIVED

Ad Number 116945

MAR 1 1999

SAN JOAQUIN VALLEY UNIFIED  
APCD-SOUTHERN REGION

NOTICE OF PRELIMINARY DECISION FOR THE PROPOSED ISSUANCE OF EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits (ERCs) to Equilon Enterprises LLC for the retrofit of two fired heaters with low NOx burners located at 9451 Rosedale Hwy, Bakersfield, CA, Section 28, Township 29 South, Range 27 East of Kern County. The quantity of ERCs proposed for trading is 19,218 pounds per year of oxides of nitrogen (NOx).

The analysis of the regulatory basis for this proposed action, Project #961134 is available for public inspection at the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to SEYED SAADOUNI, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 2700 M STREET, SUITE 275, BAKERSFIELD, CALIFORNIA 93301, 1990 EAST GETTYSBURG AVE, 5ND FLOOR, CA 93306, 1270 KERN AVENUE, SUITE 130, MODesto, CA 95356 February 23, 1999 11:45 AM

Bakersfield Californian

**NOTICE OF FINAL ACTION  
FOR THE ISSUANCE OF EMISSION REDUCTION CREDITS**

NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued Emission Reduction Credits to Equilon Enterprises LLC for emission reductions generated by the retrofit of two gas fired heaters with low NO<sub>x</sub> burners, at 6451 Rosedale Hwy, Bakersfield, CA, Section 28, Township 29 South, Range 27 East in Kern County.

Enclosed are the ERC Certificates and a copy of the notice of final action to be published approximately three days from the date of this letter.

There were no comments received following the District's preliminary decision of this project.

The application review for Project #981134 is available for public inspection at the **SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 2700 M STREET, SUITE 275, BAKERSFIELD, CALIFORNIA 93301.**

ACCT#: 1SAN51 *(For Californian only)*

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

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1990 EAST GETTYSBURG AVENUE, FRESNO, CA. 93726.  
4230 KIERNAN AVENUE, SUITE 130, MODESTO, CA. 95356  
February 23, 1999 (116945)

The Bakersfield Californian

RECEIVED

FEB 19 1999

SAN JOAQUIN VALLEY UNIFIED  
APCD-SOUTHERN REGION

Date: 2/18/99 5:13:36PM

To: SAN JOAQUIN VALLEY A.P.C.D.  
Phone: 559-230-6000  
Fax: 559-230-6061

From: Elaine Paul  
Phone:  
Fax:

Customer Information

SAN JOAQUIN VALLEY A.P.C.D.  
1990 E GETTYSBURG  
FRESNO, CA 93301-9372

Notes:

Ad Information:

This ad will run in Classification: Legal Notices

Ad Depth in Lines: 41

Total Price: \$57.40

Ad Number: 116945

This Ad will run in the following paper(s)

Non-Publishing Publication

Run Dates: 02/23/99

The Bakersfield Californian

Run Dates: 02/23/99

This Fax is Magnified: 2 X

**NOTICE OF PRELIMINARY DECISION  
FOR THE PROPOSED ISSUANCE OF  
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**2700 M STREET, SUITE 275, BAKERSFIELD, CALIFORNIA 93301.  
1990 EAST GETTYSBURG AVENUR, FRESNO, CA 93726.  
4230 KIERNAN AVENUE, SUITE 130, MODESTO, CA 95356.**

ACCT#: 1SAN51

**EMISSION REDUCTION CREDIT EVALUATION FEE STATEMENT**

April 12, 1999

Mr. Ken Comey  
Equilon Enterprises LLC  
P.O. Box 1476  
Bakersfield, CA 93302-1476

Facility #: S-33,                      Project #: 981134

Pursuant to the requirements of Rule 3060, a non-refundable fee of \$650.00 shall accompany each Emission Reduction Credit (ERC) application. For projects requiring public noticing, an additional fee based on expenses and average weighted labor rate is required to cover time needed to evaluate the application and to administer provisions for public noticing.

# OF HOURS		HOURLY RATE	TOTAL FEE
16.0 HRS	x	\$55.50/HR	\$ 888.00
			\$ <u>650.00</u> (less FEE PAID)
		FEE DUE	\$ 238.00

DESCRIPTION: NO<sub>x</sub> ERCs for the retrofit of two heaters with low NO<sub>x</sub> burners.

**DATE FEE DUE: IMMEDIATELY**

**PLEASE SEND PAYMENT AND COPY OF THIS STATEMENT TO:**

**SJVUAPCD - SOUTHERN REGION  
2700 M ST., #275  
BAKERSFIELD, CA 93301**

**NONPAYMENT OF THE FEE 30 DAYS FROM BILLING DATE WILL RESULT IN THE DENIAL OF YOUR APPLICATIONS.**

msl





San Joaquin Valley  
Air Pollution Control District

April 12, 1999

Ken Comey  
Equilon Enterprises LLC  
PO Box 1476  
Bakersfield, CA 93302-1476

**RE: Notice of Final Action - Emission Reduction Credits  
Project Number: 981134**

Dear Mr. Comey:

The Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Equilon Enterprises LLC for emission reduction generated by the retrofit of two gas fired heaters with low NO<sub>x</sub> burners, at 6451 Rosedale Hwy, Bakersfield, CA, Section 28, Township 29 South, Range 27 East in Kern County.

Enclosed are the ERC Certificates and a copy of the notice of final action to be published approximately three days from the date of this letter.

There were no comments received following the District's preliminary decision of this project.

Also enclosed is an invoice for the engineering evaluation fees pursuant to District Rule 3060. Please remit the amount owed along with a copy of the attached invoice, within 30 days.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Thomas Goff at (661) 326-6900.

Sincerely,

Seyed Sadredin  
Director of Permit Services

SS:MSL:d  
Enclosures

c: Thomas E. Goff, Permit Services Manager

David L. Crow  
Executive Director/Air Pollution Control Officer

---

Northern Region Office  
4230 Kiernan Avenue, Suite 130  
Modesto, CA 95356-9321  
(209) 557-6400 • FAX (209) 557-6475

Central Region Office  
1990 East Gettysburg Avenue  
Fresno, CA 93726-0244  
(559) 230-6000 • FAX (559) 230-6061

Southern Region Office  
2700 M Street, Suite 275  
Bakersfield, CA 93301-2370  
(661) 326-6900 • FAX (661) 326-6985



San Joaquin Valley  
Air Pollution Control District

April 12, 1999

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

**RE: Notice of Final Action - Emission Reduction Credits  
Project Number: 981134**

Dear Mr. Menebroker:

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Sincerely,

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Director of Permit Services

SS:MSL:d  
Enclosures

c: Thomas E. Goff, Permit Services Manager

David L. Crow  
Executive Director/Air Pollution Control Officer

Northern Region Office  
4230 Kiernan Avenue, Suite 130  
Modesto, CA 95356-9321  
(209) 557-6400 • FAX (209) 557-6475

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Southern Region Office  
2700 M Street, Suite 275  
Bakersfield, CA 93301-2370  
(661) 326-6900 • FAX (661) 326-6985



San Joaquin Valley  
Air Pollution Control District

April 12, 1999

Matt Haber, Chief  
Permits Office  
Air Division  
U.S. E.P.A. - Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

RE: Notice of Final Action - Emission Reduction Credits  
Project Number: 981134

Dear Mr. Haber:

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Sincerely,

Seyed Sadredin  
Director of Permit Services

SS:MSL:d  
Enclosures

c: Thomas E. Goff, Permit Services Manager

David L. Crow  
Executive Director/Air Pollution Control Officer

Northern Region Office  
4230 Kiernan Avenue, Suite 130  
Modesto, CA 95356-9321  
(209) 557-6400 • FAX (209) 557-6475

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1990 East Gettysburg Avenue  
Fresno, CA 93726-0244  
(559) 230-6000 • FAX (559) 230-6061

Southern Region Office  
2700 M Street, Suite 275  
Bakersfield, CA 93301-2370  
(661) 326-6900 • FAX (661) 326-6985

**EMISSION REDUCTION CREDIT EVALUATION FEE STATEMENT**

April 12, 1999

Mr. Ken Comey  
Equilon Enterprises LLC  
P.O. Box 1476  
Bakersfield, CA 93302-1476

Facility #: S-33,                      Project #: 981134

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16.0 HRS	x	\$55.50/HR	\$ 888.00
			- \$ 650.00 (less FEE PAID)
		FEE DUE	\$ 238.00

DESCRIPTION: NO<sub>x</sub> ERCs for the retrofit of two heaters with low NO<sub>x</sub> burners.

DATE FEE DUE: IMMEDIATELY

PLEASE SEND PAYMENT AND COPY OF THIS STATEMENT TO:

SJVUAPCD - SOUTHERN REGION  
2700 M ST., #275  
BAKERSFIELD, CA 93301

**NONPAYMENT OF THE FEE 30 DAYS FROM BILLING DATE WILL RESULT IN THE DENIAL OF YOUR APPLICATIONS.**

msl

**PAID**  
APR 28 1999

SAN JOAQUIN VALLEY UNIFIED  
APCD-SOUTHERN REGION

PM = 4-26-99  
CR 227686  
\$238.

KR Comey  
334016 7120.12



Remittance Statement

P. O. Box 4913  
Houston, Texas 77210

Check No. 0000227686  
Company Code 0201  
DATE 04/20/1999  
VENDOR NO. 500008760

VENDOR NAME SAN JOAQUIN VALLEY UNIFIED APCD

INVOICE NO.	INV. DATE	FI DOC #	DESCRIPTION	DISC. AMOUNT	NET AMOUNT
G1390416990D KC1	04/16/1999	3001767337	ERC APPLICATION FEES Contact: Donna L. Smith Phone #: 661-326-4298	0.00	238.00
<b>EQUILON</b> ENTERPRISES LLC Shell & Texaco Working Together					
<b>"To Expedite Future Payments, Include Your Vendor No. (see above) on all pay documents submitted"</b>					
TOTAL:				0.00	238.00

0145335

50008760 0000227686 - 01  
SAN JOAQUIN VALLEY UNIFIED APCD  
SUITE 275  
ATTN: ADMIN. SERVICES  
2700 W STREET  
BAKERSFIELD CA 93301

P. O. Box 4913  
Houston, Texas 77210

**EQUILON**  
ENTERPRISES LLC  
Small & Texas Working Together

TO OPEN - CAREFULLY REMOVE SIDE PERFORATIONS,  
THEN SLIDE FINGER UNDER EDGE BELOW



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

March 30, 1999

Mr. Seyed Sadredin  
Director of Permit Services  
San Joaquin Valley Unified  
Air Pollution Control District  
1990 E. Gettysburg Avenue  
Fresno, CA 93726

Re: Hazardous Air Pollutant Requirements for Equilon (formerly Texaco) refinery in Bakersfield (source #S-33)

Dear Mr. Sadredin:

*MSL* *OK to proceed @ end of 30 days*

EPA appreciates the opportunity to comment on the draft Emission Reduction Credit for this Equilon refinery (project 981134). We are not commenting on this proposed ERC for installation of low-NOx burners. During our review of this project, however, it has come to our attention that the permit for this and other units at the refinery were previously amended to include conditions related to hazardous air pollutants (HAPs). While this specific ERC project does not address air toxics, our records show that this is the first opportunity that EPA has had to review any conditions related to HAPs.

This refinery emits hazardous air pollutants (HAPs), including methanol. According to Toxics Release Inventory reports submitted to EPA through 1996, the emissions of methanol and total HAPs exceed the major source threshold and would subject the facility to EPA's refinery MACT standard (40 CFR part 63 subpart CC). We understand that conditions related to these HAP emissions were recently added to Equilon's permits. We have not had an opportunity to review most of the permit conditions for Equilon's refinery, but have several initial concerns regarding the air toxics limits in the permits that we have been provided.

The hydrogen generator is a large potential source of methanol emissions. One amendment to the hydrogen generator permit (modification S-33-55-11) authorized the addition of a methanol scrubber to the amine reactivator CO<sub>2</sub> vent. However, the permit only requires use of the scrubber if the methanol emissions from the facility are greater than 10 tons per year. Because the permit does not contain any method to determine whether the facility emissions are greater than this amount, there is no practically enforceable condition that limits the unit's emissions or requires the use of the emissions controls. Therefore, the HAP limits in the hydrogen generator permit are not practically enforceable and cannot be considered towards determining the applicability of EPA's MACT standard. We recommend requiring use of the scrubber on a continuous basis whenever the hydrogen generator is operational to limit the

facility's emission of methanol and total HAPs.

In addition, practically enforceable emission limits must contain adequate monitoring and other compliance requirements. This permit does not contain any testing, monitoring, or recordkeeping after the initial source test. The permit must contain periodic stack testing to be practically enforceable, and we recommend requiring annual testing for consistency with the District permitting policy ST 1-3. This policy requires annual testing of scrubbers emitting 30 pounds per day or more of particulate, and this unit is allowed to emit much more than 30 pounds per day (up to 10 tons per year) of a substance more hazardous than particulate. In addition, the source must maintain records of the scrubber's operating schedule and the appropriate operating parameters (such as liquid flow rate and scrubber pressure drop). The scrubber cannot be considered towards determining the applicability of EPA's refinery MACT without these requirements.

We have also reviewed a general facility limit that is contained in the permit for the hydrocracker unit #21 (permit S-33-56-11). Conditions added to the permit for this unit state that HAP emissions shall not exceed 10 tons for any one HAP and 25 tons total HAPs. The permit also requires that the Equilon determine facility HAP emissions based on emission estimates. While source testing may not be appropriate for every unit, these conditions suggest that the source can avoid source testing for any unit by providing emission estimates. Therefore, we believe that the permits for other units at this facility may not contain practically enforceable conditions.

If you have any questions concerning our comments, please contact me or have your staff contact Ed Pike at (415) 744-1211. If you have questions regarding EPA's refinery MACT standard, please have your staff contact John Kim of our Enforcement Office at (415) 744-1263.

Sincerely,

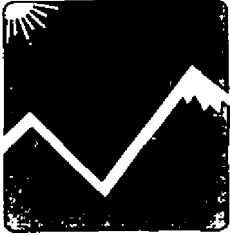


Matt Haber,  
Chief, Permits Office

cc: Thomas Goff, SJVUAPCD  
Ken Comey, Equilon Enterprises LLC

f:\user\epike\sanjoaq\Equilon.dft





San Joaquin Valley  
Unified Air Pollution Control District

February 18, 1999

Equilon Enterprises LLC  
Attn: Ken Comey  
PO Box 1476  
Bakersfield, CA 93302-1476

RECEIVED

FEB 19 1999

SAN JOAQUIN VALLEY UNIFIED  
APCD-SOUTHERN REGION

Re: **Notice of Preliminary Decision - Emission Reduction Credits**  
**Project Number: 981134**

Dear Mr. Comey:

Enclosed for your review and comment is the District's analysis of Equilon Enterprises LLC's application for emission reduction credits (ERC's) resulting from the retrofit of two gas fired heaters with low NO<sub>x</sub> burners located at 6451 Rosedale Hwy, Bakersfield, CA, Section 28, Township 29 South, Range 27 East, in Kern County. The quantity of ERC's proposed for banking is 19,818 pounds per year of oxides of nitrogen (NO<sub>x</sub>).

Also enclosed is the public notice of this decision which 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.

If you have any questions regarding this matter, please contact Mr. Mark Loutzenhiser of Permit Services at (805) 862-5200.

Sincerely,

Seyed Sadredin  
Director of Permit Services

SS:MSL:cl  
Enclosures

c: Thomas E. Goff, Permit Services Manager

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**

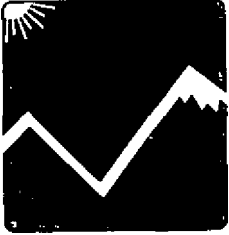
1770 Kernan Avenue, Suite 130 • Modesto, CA 95356  
(209) 545-7000 • Fax (209) 545-8652

**Central Region**

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

**Southern Region**

2700 11<sup>th</sup> Street, Suite 275 • Bakersfield, CA 93301  
(805) 861-3682 • Fax (805) 861-2060



San Joaquin Valley  
Unified Air Pollution Control District

February 18, 1999

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

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**Project Number: 981134**

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

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Sincerely,

Seyed Sadredin  
Director of Permit Services

SS:MSL:cl  
Enclosures

c: Thomas E. Goff, Permit Services Manager

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**

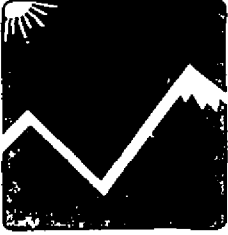
4230 Kerman Avenue, Suite 130 • Modesto, CA 95356  
(209) 545-7000 • Fax (209) 545-8652

**Central Region**

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(209) 497-1000 • Fax (209) 233-2057

**Southern Region**

2700 'J' Street, Suite 275 • Bakersfield, CA 93301  
(805) 861-3682 • Fax (805) 861-2060



San Joaquin Valley  
Unified Air Pollution Control District

February 18, 1999

Matt Haber, Chief  
Permits Office, Air Division  
U.S. E.P.A. - Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

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**Project Number: 981134**

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Sincerely,

Seyed Sadredin  
Director of Permit Services

SS:MSL:cj  
Enclosures

c: Thomas E. Goff, Permit Services Manager

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**

4130 Fernan 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) 233-2957

**Southern Region**

2700 M Street, Suite 275 • Bakersfield, CA 93301  
(805) 861-3682 • Fax (805) 861-2060

# FAX Transmittal Sheet

San Joaquin Valley  
Unified Air Pollution  
Control District



TO:

Name: Cheryl Lawler

Company: STVUAPCD

FAX No.: (559) 230-6061

Southern Region Office

2700 "M" Street, Suite 275

Bakersfield, CA 93301

Voice: (805) 862-5200

FAX: (805) 862-5201

Total Pages (including cover page): 8

From: Mark Loutzenhiser

Date: 2/16/99

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Hard Copy to Follow  | <input type="checkbox"/> Hard Copy Does Not Follow | <input type="checkbox"/> Review & Respond  |
| <input type="checkbox"/> Per Our Conversation | <input type="checkbox"/> For Your Information      | <input type="checkbox"/> Please Reply ASAP |

Comments

Attached are the appendices for public notice project  
egu 81134.pbc.

- Mark

### FAX COVER SHEET

Bakersfield Refining Company,  
a Division of Equilon Enterprises LLC

6451 Rosedale Highway, Bakersfield, CA 93308  
P.O. Box 1476, Bakersfield, CA 93302

PHONE: (805) 326-4557  
FAX: (805) 326-4255  
EMAIL: krcomey@equilon.com



FROM: *Ken Comey*  
AIR QUALITY SUPERVISOR  
SH&E DEPARTMENT

Date: 2-4-1999

Number of Pages: 2 + Cover

<u>Name</u>	<u>Company</u>	<u>Fax Number</u>
<u>MARK LOUTRENHUSER</u>	<u>SJVUAPCD</u>	<u>862-5201</u>

Subject: Project # 981134

File Code: \_\_\_\_\_

Message:

*Here is the information you requested.*

RECEIVED

FEB 4 1999

SAN JOAQUIN VALLEY UNIFIED  
APCD-SOUTHERN REGION

4 burners

26411/H12



# JOHN ZINK

A KOCH INDUSTRIES COMPANY

DESIGN INFORMATION FOR:	PSMR-17RM
CUSTOMER:	Texaco, Bakersfield, CA.
REFERENCE DRAWING NO.:	B913029-601
BURNER DATA SHEET NO.:	B913029-801R1
S.O. NO.:	913029
P.O. NO.:	TBA
DATE:	3/19/98

<b>HEAT RELEASE PER BURNER (NET):</b>		<b>MMBtu/h</b>		<b>GAS TIP DRILLINGS:</b>	
<b>FUEL (DRAFT)</b>	<b>MAXIMUM:</b>	<b>NORMAL:</b>	<b>MINIMUM:</b>		
Gas (Natural)	10.00	8.00	3.30		
				△ PRIMARY FIRING PORTS: (1) ~ #29	
				STAGED FIRING PORTS: (3) ~ #25	
<b>DRAFT</b>		0.39 in. H <sub>2</sub> O at Maximum Heat Release (Natural Draft)		PILOT ORIFICE DRILLED: (1) ~ 1/16	
<b>AVAILABLE:</b>		15 % Excess Air (Natural Draft)		PILOT PRESSURE REQUIRED 7-10 psig	
		80 °F Combustion Air Temperature			
<b>FUEL GAS:</b>					
<b>COMPOSITION: MOLE%</b>		<b>Fuel A</b>		<b>For Operation Pressure Reference the JOHN ZINK Capacity Curve(s):</b>	
	Hydrogen	36.7			
	Methane	34.6			
	Propane	8		B-913029-801-AR1	
	Carbon Dioxide	0.1			
<b>LHV:</b>	Btu/scf	1085			
<b>MOLECULAR WEIGHT</b>		19.35			
<b>TEMPERATURE</b>	°F	60			
<b>GAS PRESS. (MAX LIB.)</b>	psig	20.28			
				DRAWN BY: JAL      APPROVED BY:	
				CHECKED BY:      CERTIFIED BY:	

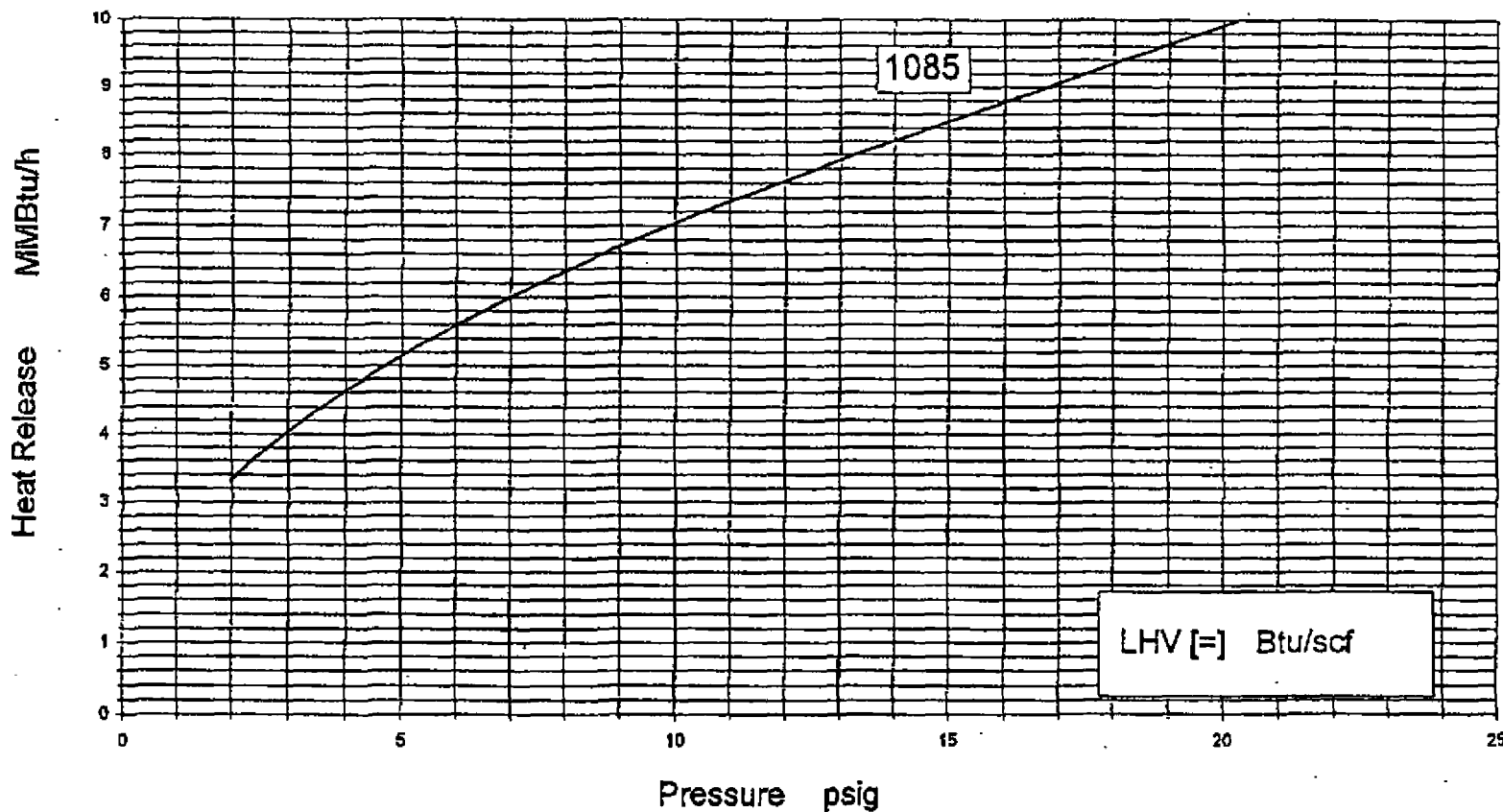
40-NOX BURNERS: DATA SHEET & BURNER CURVE

02/04/99 THU 15:07 FAX 8053284255  
 TEXACO R&M RECEPTION  
 217-16 # 117-16  
 SVA/PCD  
 003



**JOHN ZINK**  
A KOCH INDUSTRIES COMPANY

CAPACITY - PRESSURE CURVE FOR: PSMR-17RM  
 CUSTOMER: Texaco, Bakersfield, CA  
 REFERENCE DRAWING: B913029-601  
 CAPACITY CURVE NO.: B-913029-801-AR1  
 S.O. NO.: 913029  
 P.O. NO.: TBA  
 DATE: 10/30/98



Rev. 2: \_\_\_\_\_  
 Rev. 1: per tip drilling change  
 Rev. 0: \_\_\_\_\_

Date: \_\_\_\_\_ By: \_\_\_\_\_  
 Date: 10/30/98 By: MZ  
 Date: 3/19/98 By: JAL

02/04/99 THU 15:07 FAX 8053264255 TEXACO R&M RECEPTION +++ SJVAPCD 002



# San Joaquin Valley Unified Air Pollution Control District

December 8, 1998

Equilon Enterprises LLC  
Attn: Armand Abay  
P.O. Box 1476  
Bakersfield, CA 93302-1476

Re: Facility ID S-33 Project # 981134  
Project Description: Emission Reduction Credit for retrofit of heaters 21H11 and 21H12 with low NO<sub>x</sub> burners.

Dear Mr. Abay:

Your application for emission reduction credit banking certificates for the above-referenced project has been received by the Air Pollution Control District, and has been reviewed for completeness.


Based on this preliminary review, the application 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.

Pursuant to Rule 2301 section 8.4, this project requires public notice. Pursuant to Rule 3010, the District may assess additional fees based on expenses and average weighted labor rate should the APCO determine that the \$650.00 filing fee does not cover the time and effort needed to evaluate the application as well as the administration of all public noticing requirements. The cost of processing your project is not expected to exceed \$1,100.00.

Thank you for your cooperation in this matter. 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  
Manager of Permit Services - Southern Region

msl

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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#### Northern Region

4230 Kiernan Avenue, Suite 130 • Modesto, CA 95358  
(209) 545-7000 • Fax (209) 545-8652

#### Central Region

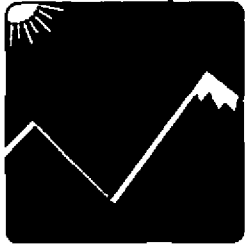
1559 Tuolumne Street, Suite 200 • Fresno, CA 93721  
(209) 497-1600 • Fax (209) 233-2057

#### Southern Region

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



5-1014-2



# San Joaquin Valley Unified Air Pollution Control District 1998

# RECEIVED

SAN JOAQUIN VALLEY UNIFIED  
APCD-SOUTHERN REGION

### APPLICATION FOR:

- EMISSION REDUCTION CREDIT (ERC)       ERC WITHDRAWAL
- CONSOLIDATION OF ERC CERTIFICATES       ERC TRANSFER OF OWNERSHIP

1. ERC TO BE ISSUED TO: <b>Equilon Enterprises LLC</b>																																				
2. MAILING ADDRESS: <b>PO Box 1476</b>																																				
CITY: <b>Bakersfield</b>	STATE: <b>CA</b> 9-DIGIT ZIP CODE: <b>93302-1476</b>																																			
3. LOCATION OF REDUCTION: STREET: <b>6451 Rosedale Highway</b> CITY: <b>Bakersfield</b> SECTION <b>28</b> TOWNSHIP <b>29S</b> RANGE <b>27E</b>	4. DATE OF REDUCTION: <b>October 1, 1998</b>																																			
5. PERMIT NO(S): <b>S-33-56</b> EXISTING ERC NO(S): <b>S-2-X, S-23-X, S-593-X, S-237-X, 2007148/505</b>																																				
6. METHOD RESULTING IN EMISSION REDUCTION: <input type="checkbox"/> SHUTDOWN <input checked="" type="checkbox"/> RETROFIT <input type="checkbox"/> PROCESS CHANGE <input type="checkbox"/> OTHER DESCRIPTION: <b>Heaters 21H11 and 21H12 were retrofit with low NOx burners for process improvement.</b>																																				
7. REQUESTED ERCS (In Pounds Per Calendar Quarter):																																				
	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th>VOC</th> <th>NOx</th> <th>CO</th> <th>PM-10</th> <th>SOx</th> <th>OTHER</th> </tr> </thead> <tbody> <tr> <td>1ST QUARTER</td> <td>N/A</td> <td>5070.3 lbs</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>2ND QUARTER</td> <td>N/A</td> <td>6134.5 lbs</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>3RD QUARTER</td> <td>N/A</td> <td>5640.7 lbs</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>4TH QUARTER</td> <td>N/A</td> <td>4732.0 lbs</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table>		VOC	NOx	CO	PM-10	SOx	OTHER	1ST QUARTER	N/A	5070.3 lbs	N/A	N/A	N/A	N/A	2ND QUARTER	N/A	6134.5 lbs	N/A	N/A	N/A	N/A	3RD QUARTER	N/A	5640.7 lbs	N/A	N/A	N/A	N/A	4TH QUARTER	N/A	4732.0 lbs	N/A	N/A	N/A	N/A
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3RD QUARTER	N/A	5640.7 lbs	N/A	N/A	N/A	N/A																														
4TH QUARTER	N/A	4732.0 lbs	N/A	N/A	N/A	N/A																														
8. SIGNATURE OF APPLICANT: <i>AS Abay</i>	TYPE OR PRINT TITLE OF APPLICANT: <b>President, Bakersfield Refining Company</b>																																			
9. TYPE OR PRINT NAME OF APPLICANT: <b>Armand S. Abay</b>	DATE:      TELEPHONE NO: <b>(805) 326-4200</b>																																			

<p>FOR APCD USE</p> <p><b>PAID</b></p> <p>DATE STAMP <b>NOV 17 1998</b></p> <p>SAN JOAQUIN VALLEY UNIFIED APCD-SOUTHERN REGION</p>	<p>FILING FEE RECEIVED: \$ <u>650.-</u></p> <p>DATE PAID: <u>11-17-98</u></p> <p>PROJECT NO.: <u>981134</u></p> <p>FACILITY ID.: <u>33</u></p> <p style="text-align: right;">PYN=11-13-98 CR 108059</p>
--	---

# ERC APPLICATION EVALUATION

Project #: \_\_\_\_\_

Engineer: \_\_\_\_\_

Date: \_\_\_\_\_

Company Name: Equilon Enterprises LLC  
Location Address: 6451 Rosedale Highway

Contact Name: Ken Comey  
Phone No.: (805) 326-4557

Date Application Received: \_\_\_\_\_

Date Deemed Complete: \_\_\_\_\_

## I. Summary

ATC S-33-56-11 was issued by the District to allow Equilon to increase the firing rate capacities of Heaters 21H11 and 21H12 from 21 to 40 MMBtu/hr in order to improve product yields through the Hydrocracking Unit. The firing rate increases of these heaters resulted in increases in NOx emissions greater than 2 lb/day and therefore triggered Best Available Control Technology (BACT) per Rule 2201. Current BACT for process heaters consists of retrofitting existing burners with low NOx burners capable of achieving NOx emissions of 0.036 lb/MMBtu.

SJVUAPCD Rules 4305 and 4351 require bottom-firing, cylindrical natural draft process heaters with a rated heat input equal to or less than 40 MMBtu/hr to achieve NOx emissions of 0.18 lb/MMBtu. Actual emission reductions that resulted from retrofitting Heaters 21H11 and 21H12 are eligible for ERC banking per Rule 2201 Section 3.2.3.1. 74 ppm or 0.085

Modifications to Heaters 21H11 and 21H12 were completed, and therefore bankable emission reductions were generated, on October 1, 1998. Based on the calculations provided in Section V on this application, Equilon proposes to bank to following NOx emission reduction credits:

1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
5070.3 lbs	6134.5 lbs	5640.7 lbs	4732.0 lbs

A copy of ATC S-33-56-11 is provided at Attachment A.

## II. Applicable Rules

Rule 2301 - Emission Reduction Credit Banking (12/17/92)

### **III. Location of Reduction**

Heaters 21H11 and 21H12 are physically located in Area 2 of the Bakersfield refinery. The Area 2 facility is located at:

6451 Rosedale Highway  
Bakersfield, CA 93308  
Section 28, Township 29S, Range 27E

Plot plans indicating the location of the facility are provided as Attachment B.

### **IV. Method of Generating Reductions**

Heaters 21H11 and 21H12 were retrofitted with low NO<sub>x</sub> burners capable of achieving a NO<sub>x</sub> emission rate of 0.036 lb/MMBtu. SJVUAPCD Rules 4305 and 4351 require these heaters to achieve a NO<sub>x</sub> emissions rate of 0.18 lb/MMBtu. Although the firing rate capacities of these heaters were increased, a net decrease in the NO<sub>x</sub> daily emission limitation (DEL) resulted from the modification. The calculations of Section V of this application indicate that actual emission reductions (AER) as defined in Rule 2201, Section 3.2 were generated and are eligible for banking.

### **V. Calculations**

Detailed calculations of bankable emission credits generated from Heaters 21H11 and 21H12 are provided as Attachment C to this application. An explanation of the data and calculations used to determine the quantity of bankable emission credits generated by the modification is provided below.

#### **Assumptions and Emission Factors**

Heaters 21H11 and 21H12 were both retrofitted with John Zink low NO<sub>x</sub> burners capable of achieving a NO<sub>x</sub> emission rate of 0.036 lb/MMBTU. Source testing that will verify the low NO<sub>x</sub> burners achieve this NO<sub>x</sub> emission rate is scheduled for November 12, 1998. Achievement of the post-project NO<sub>x</sub> daily emission limit of 0.036 lb/MMBtu is assumed in this application. Results of the scheduled source tests of Heaters 21H11 and 21H12 will be provided to the District.

The baseline NO<sub>x</sub> emission factors of 0.16 lb/MMBtu for Heater 21H11 and 0.14 lb/MMBtu for Heater 21H12 are based on source tests performed on 4/14/97. These source tests are the most

recent and most representative NOx emission data available for the heaters. Results of the 4/17/97 source tests for these heaters are provided as Attachment D.

#### Baseline Period Determination and Data

The baseline period for the banking calculation is the 8 consecutive quarters immediately prior to completion of the heater modifications per Rule 2201 Section 3.7.1. As the retrofitting was completed October 1, 1998, the 8 calendar quarters immediately prior to the modification are as follows: 1<sup>st</sup>-3<sup>rd</sup> Quarters of 1998, 1<sup>st</sup>-4<sup>th</sup> Quarters of 1997, and the 4<sup>th</sup> Quarter of 1996. This period is the most representative of normal heater operations.

Baseline period fuel gas consumption of both heaters and fuel gas Btu content are provided with the calculations in Attachment C. Historical fuel gas consumption is stored electronically at the Bakersfield Refining Company (BRC) as monthly hourly averages (i.e., the hourly average fuel consumption rate in mscf/hr over the entire month). Monthly fuel consumption is calculated by multiplying the monthly hourly averages by 24 hr/day and by the number of days in the given month.

Quarterly fuel gas Btu content is obtained from the BRC LIMS database. Fuel gas samples are taken periodically and analyzed in the lab for Btu content and the results are entered into the LIMS database. The LIMS database can produce average fuel gas Btu contents over a designated time period (i.e., quarterly for these calculations).

The baseline MMBtu/quarter of each heater is calculated by multiplying the average quarterly fuel usage by the average quarterly fuel gas Btu content.

#### Historical Actual Emissions

Historical Actual Emissions (HAE) are calculated by multiplying the baseline MMBtu/quarter by the baseline NOx emission rate. Quarterly HAEs for both heaters are provided in Attachment C. Note that no HAE adjustments are required.

#### Actual Emission Reductions

Actual Emission Reductions (AER) are calculated per Rule 2201 Section 6.5.3 (AER due to control device installation).

$$\text{AER} = \text{HAE} * \text{CE}, \text{ where CE} = (0.18 \text{ lb/MMBtu} - 0.036 \text{ lb/MMBtu}) / 0.18 \text{ lb/MMBtu} = 0.8$$

Quarterly AERs for both heaters are provided in Attachment C.

#### Community Bank Allowance

The community bank allowance or AQI deduction is 10% of the AER. Quarterly AQI deductions for both heaters are provided in Attachment C.

#### Reduction Quantified

The reduction quantified is calculated as the AER minus the AQI deduction. Quarterly reductions quantified for both heaters are provided in Attachment C.

Increases in Permitted Emissions

No IPE associated with this project.

Potential to Emit Adjustment

If the PE after modification is less than the proposed DEL, then the AER must be adjusted.

$$\text{Proposed DEL} = 40 \text{ MMBtu/hr} * 0.036 \text{ lb/MMBtu} * 24 \text{ hr/day} = 34.56 \text{ lb/day NOx}$$

$$\begin{aligned} \text{PE after modification} &= \text{PEPM}(1-\Delta\text{CE}) = 21 \text{ MMBtu/hr} * 0.18 \text{ lb/MMBtu} * 24 \text{ hr/day} * (1-0.8) \\ &= 18.14 \text{ lb/day NOx} \end{aligned}$$

The PE after modification (18.14 lb/day) is less than the proposed DEL (34.56 lb/day), therefore the AER must be adjusted.

Quarterly PE adjustment = (proposed DEL lb/day - PE after modification lb/day)\*(days/quarter), where the 1<sup>st</sup> Quarter = 90 days, 2<sup>nd</sup> Quarter = 91 days, and 3<sup>rd</sup> and 4<sup>th</sup> Quarters = 92 days.

Quarterly PE adjustments for both heaters are provided in Attachment C.

Adjusted Reduction

The quarterly adjusted reduction equals the quarterly reduction quantified minus the quarterly PE adjustment. Quarterly adjusted reductions for both heaters are provided in Attachment C.

Bankable Emission Reduction Credits

The quarterly bankable ERCs is the sum of the quarterly adjusted reductions for each heater as summarized in the table below.

Total Bankable Emission Reduction Credits

	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
Heater 21H11	2390.3 lbs	3047.4 lbs	2835.1 lbs	2317.7 lbs
Heater 21H12	2680.0 lbs	3087.1 lbs	2805.6 lbs	2414.3 lbs
Total Bankable ERCs	5070.3 lbs	6134.5 lbs	5640.7 lbs	4732.0 lbs

Note that a soft copy of the calculation spreadsheet provided in Attachment C is included in the diskette that is submitted with this application.

## VI. Compliance

### Real

The NOx reduction is due to the installation of control equipment on Heaters 21H11 and 21H12. The actual bankable ERCs are based on actual fuel gas consumption data, fuel gas BTU content data, and source tested emission factors. Therefore the reductions are real.

### Enforceable

ATC S-33-56-11 requires a NOx limit for these heaters of 0.036 lb/MMBtu or 30 ppmv. This ATC also requires periodic source testing and weekly O2 stack concentration measurements to verify compliance with the NOx limit. Therefore the reductions are enforceable.

### Quantifiable

The calculations referenced in Section V of this application are based on actual operating data and source test data. Therefore the reductions are quantifiable.

### Permanent

ATC S-33-56-11 requires the heaters to meet and maintain compliance with the reduced NOx emission limit. Therefore the reductions are permanent.

### Surplus

Prior to modification, the heaters were in compliance with all SJVUAPCD Prohibitory rules and the NOx reduction was not imposed with any work-shopped rule or regulation per Rule 2201 Section 3.2.3. The reductions are adjusted for the increase in firing rate capacities of the heaters and were included in the 1987 Emissions Inventory. Therefore the reductions are surplus.

### Timeliness

The actual emission reduction occurred October 1, 1998. This ERC banking application was submitted to the District on November 11, 1998, which is within 180 days of the actual reduction date.

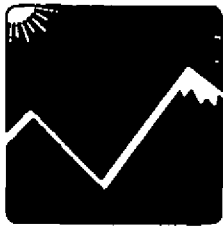
## VII. Recommendation

Upon approval of this banking application and after the Public Noticing period, the District should issue a NOx ERC Certificate in the amount shown below.

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
5070.3 lbs	6134.5 lbs	5640.7 lbs	4732.0 lbs

**ATTACHMENT A**

**ATC S-33-56-11**



San Joaquin Valley  
Unified Air Pollution Control District

## AUTHORITY TO CONSTRUCT

PERMIT UNIT: S-33-56-11

ISSUANCE DATE: 09/18/1998

LEGAL OWNER OR OPERATOR: EQUILON ENTERPRISES LLC

MAILING ADDRESS: P O BOX 1476  
BAKERSFIELD, CA 93302

LOCATION: 6451 ROSEDALE HWY (AREA 1 & 2), BAKERSFIELD

SECTION: 28 TOWNSHIP: 29S RANGE: 27E

### EQUIPMENT DESCRIPTION

REVISE ATCS S-33-56-7 & '56-9, MOD OF HYDROCRACKER UNIT #21 HEATER 21H20: RETROFIT WITH JOHN ZINK INFURNOX MODEL PSMR-19RM OR MODEL SMR LOW NOX BURNERS AND INCREASE TOTAL HEAT INPUT RATING TO 70 MMBTU/HR; ALSO INCREASE RATING HEATERS 21H11 & 21H12

## CONDITIONS

1. Hydrocracker unit shall include two 40.0 MMBtu/hr heaters (21H11 and 21H12), two 18.1 MMBtu/hr heaters (21H13 and 21H14), two 11.4 MMBtu/hr heaters (21H15 and 21H16), one 27.8 MMBtu/hr heater (21H17), one 34.6 MMBtu/hr heater (21H18), one 19.7 MMBtu/hr heater (21H19), one 70.0 MMBtu/hr heater (21H20), catalytic assembly, miscellaneous air coolers, heat exchangers, drums, pumps, piping, and vessels. [District Rule 2201]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

### CONDITIONS CONTINUE ON NEXT PAGE

This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (805) 862-5200 WHEN CONSTRUCTION OF THE EQUIPMENT IS COMPLETED. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

DAVID L. CROW, Executive Director/APCO

SEYED SADREDIN, Director of Permit Services

Southern Regional Office \*2700 M Street, Suite 275 \*Bakersfield, California 93301 \*(805) 862-5200\* FAX (805) 862-5201

JOINT INSPECTION NOT REQUIRED 1988-9-18 - LOUZZEM



**conditions continued:**

S-33-56-11

Page 2

3. Total stationary source (as defined in 40 CFR 63.2) emission shall not exceed 10 tons in any consecutive 12 month period of any hazardous air pollutant (HAP) (as defined in 40 CFR 63.2) and 25 tons in any consecutive 12 month period of any combination of HAPs. This limit is applicable beginning 8/18/98. [District Rule 2201]
4. Permittee shall use District approved emission estimating techniques to determine HAP emissions. Permittee shall maintain monthly records and annual records for each emission unit or group of emission unit sufficient to determine HAP emissions. Such records shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 1070 and 2201]
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
6. Valves and flanges shall be operated free of leaks (as defined by Rule 4451), inspected, labeled and records kept as required by Rule 4451. [District Rule 4451]
7. Pump and compressor seals shall operated free of leaks (as defined by Rule 4452), inspected, labeled and records kept as required by Rule 4452. [District Rule 4452]
8. Vessels shall be depressurized (during turnaround) as required by Rule 4454. [District Rule 4454]
9. Valves and connectors subject to Rule 4451 installed for production of low sulfur diesel shall not leak in excess of 100 ppmv above background when measured one (1) cm from the source. [District Rule 4451]
10. Pump and compressor seals subject to Rule 4452 that were installed for projection of low sulfur diesel shall not leak in excess of 500 ppmv above background when measured one (1) cm from the source. [District Rule 4452]
11. Sulfur content (as H<sub>2</sub>S) of fuel supplied to heaters 21H11 and 21H12 shall not exceed 0.1 gr/dscf based on a three hour rolling average. [District Rule 4001]
12. Heater 21H18 emission rates shall not exceed the following: NO<sub>x</sub> (as NO<sub>2</sub>) 0.036 lb/MMBtu or 30 ppmvd @ 3% O<sub>2</sub>, CO: 0.035 lb/MMBtu or 50 ppmv @ 3% O<sub>2</sub>, VOC: 0.005 lb/MMBtu, and PM<sub>10</sub>: 0.014 lb/MMBtu. [District Rule 2201]
13. Heater 21H20 emission rates shall not exceed NO<sub>x</sub> (as NO<sub>2</sub>): 0.036 lb/MMBtu or 30 ppmv @ 3% O<sub>2</sub>, and CO: 400 ppmv @ 3% O<sub>2</sub>. [District Rules 4305 and 4351]
14. Heaters 21H11 and 21H12 emission rates shall not exceed NO<sub>x</sub> (as NO<sub>2</sub>) 30 ppmvd @ 3% O<sub>2</sub>, CO: 50 ppmvd @ 3% O<sub>2</sub>, VOC: 0.003 lb/MMBtu, and PM<sub>10</sub>: 0.014 lb/MMBtu. [District Rules 2201, 4305, and 4351]
15. Permittee shall meet all applicable NSPS requirements, including Subparts A, J and GGG. [District Rule 4001]
16. For heaters 21H11, 21H12, 21H18 and 21H20, the acceptable range of stack O<sub>2</sub> concentration and visible mechanical burner settings shall be established by testing emissions from this unit or other representative units as approved by the District. The acceptable range shall be that for which compliance with the applicable NO<sub>x</sub> and CO emission rates have been demonstrated through source testing. [District Rule 4305]

CONDITIONS CONTINUE ON NEXT PAGE

**conditions continued:**

S-33-56-11

Page 3

17. The stack O2 concentration and inspection of mechanical adjustments/settings shall be conducted on a weekly basis. [District Rule 4305]
18. The permittee shall maintain records of the date and time of O2 measurements and burner adjustments, the measured O2 concentrations (by volume), and the observed settings. The records must also include a description of any corrective action taken to maintain the O2 concentration and the burner mechanical settings in the acceptable range. These records shall be retained at the facility for a period of no less than two years and shall be made readily available for District inspection upon request. [District Rule 4305]
19. If the O2 concentration or the burner mechanical settings deviate from the mechanical range, the permittee shall notify the District and take corrective action within one (1) hour after detection. If the O2 concentration or the burner settings are not corrected promptly, the permittee shall conduct an emissions test within 60 days, utilizing District-approved test methods, to demonstrate compliance with the applicable emission limits. [District Rule 4305]
20. Source testing to demonstrate compliance with NOx and CO emission limits shall be conducted within 60 days of startup and not less than once every 12 months, except as provided below. [District Rules 4305 and 4351]
21. Source testing to demonstrate compliance with NOx and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rules 4305 and 4351]
22. If permittee fails any compliance demonstration for NOx and CO emission limits when testing not less than once every 36 months, compliance with NOx and CO emission limits shall be demonstrated not less than once every 12 months. [District Rules 4305 and 4351]
23. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rules 4305 and 4351]
24. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081]
25. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081]
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
27. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4351]
28. Permittee shall maintain records of hhv of fuel burned and cumulative annual fuel use for a period of two years and shall make such records readily available for District inspection upon request. [District Rule 1070]

CONDITIONS CONTINUE ON NEXT PAGE

**conditions continued:**

S-33-56-11

Page 4

29. Permittee shall periodically monitor operational characteristics, such as exhaust oxygen percentage or other District approved characteristics, to verify efficient heater operation. [District Rule 4305 and 4351]

30. Sulfur content limit for heaters 21H11 and 21H12 is contingent upon the approval of ATC S-33-348-3, including a revised BACT determination for SO<sub>x</sub> emissions. If BACT reflects a sulfur content limit lower than 0.1 gr/dscf, permittee shall comply with the revised BACT limit. [District Rule 2201]

**ATTACHMENT B**

**PLOT PLANS**





# **ATTACHMENT C**

## **CALCULATIONS AND BASELINE OPERATING DATA**

## Emission Reduction Credit Calculations

### Heater 21H11

Permit Limitations	Pre-project	Post-project
MMBtu/hr	21	40
Emiss Rate	0.18 lb/MMBtu	0.036 lb/MMBtu
DEL	90.72 lb/day	34.56 lb/day

Delta CE = 0.8

PE lb/day  
(after mod) 18.1

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Baseline MMBtu/quarter <sup>1</sup>	33,608.5	39,455.1	37,755.3	33,263.9

Baseline Emiss. Rate (lb/MMBtu) <sup>2</sup>	0.16	0.16	0.16	0.16
HAE (lb/quarter)	5,377.4 <sup>2856.7</sup>	6,312.8 <sup>3354</sup>	6,040.8 <sup>3209.2</sup>	5,322.2 <sup>2827.4</sup>
AER (lb/quarter)	4,301.9 <sup>1245</sup>	5,050.3 <sup>1932</sup>	4,832.7 <sup>1848</sup>	4,257.8 <sup>1228</sup>

AQI Deduction 430.2 505.0 483.3 425.8

Reduction Quantified (lb/quarter) 3,871.7 4,545.2 4,349.4 3,832.0

PE Adjustment (lb/quarter) 1,481.4 <sup>3110.4</sup> 1,497.9 <sup>3145</sup> 1,514.3 <sup>3180</sup> 1,514.3 <sup>3180</sup>

**Adjusted Reduction (lb/quarter)** 2,390.3 3,047.4 <sup>209</sup> 2,835.1 <sup>29</sup> 2,317.7

<sup>1</sup> Based on monthly MMBtu/hr data from 10/1/96 through 9/30/98 (the previous 8 quarters).

<sup>2</sup> Based on results from a source test performed on 4/14/97.

AER = HAE x Delta CE

PE (after mod) = PEPM x (1-Delta CE)

Reduction Quantified = AER - AQI Deduction

PE Adjustment = (Proposed DEL - PE (after mod)) \* (days/quarter)

Adjusted Reduction = Reduction Quantified - PE Adjustment

Proposed DEL = Post-project Emiss Rate x Post-project MMBtu/hr x 24 hr/day

Delta CE = (EF1-EF2)/EF1

PEPM = Pre-project DEL

AQI Deduction = AER x 10%

CE = 0.524

1954



## Emission Reduction Credit Calculations

### Heater 21H12

Permit Limitations	Pre-project	Post-project			
MMBtu/hr	21	40			
Emiss Rate	0.18 lb/MMBtu	0.036 lb/MMBtu			
DEL	90.72 lb/day	34.56 lb/day			
Delta CE =	0.8				
PE lb/day (after mod)	18.1				
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	
Baseline					
MMBtu/quarter <sup>1</sup>	41,284.2	45,486.0	42,855.9	38,974.7	
Baseline Emiss. Rate (lb/MMBtu) <sup>2</sup>	0.14	0.14	0.14	0.14	
HAE (lb/quarter)	5,779.8	6,368.0	5,999.8	5,456.5	
AER (lb/quarter)	4,623.8 <sup>3509</sup>	5,094.4 <sup>3866</sup>	4,799.9 <sup>3643</sup>	4,365.2 <sup>3313</sup>	
AQI Deduction	462.4	509.4	480.0	436.5	
Reduction Quantified (lb/quarter)	4,161.4	4,585.0	4,319.9	3,928.6	
PE Adjustment (lb/quarter)	1,481.4 <sup>3110</sup>	1,497.9 <sup>3145</sup>	1,514.3 <sup>3181</sup>	1,514.3 <sup>3181</sup>	
<b>Adjusted Reduction (lb/quarter)</b>	<b>2,680.0</b> <sup>3291</sup>	<b>3,087.1</b> <sup>721</sup>	<b>2,805.6</b> <sup>463</sup>	<b>2,414.3</b> <sup>193</sup>	

<sup>1</sup> Based on monthly MMBtu/hr data from 10/1/96 through 9/30/98 (the previous 8 quarters).

<sup>2</sup> Based on results from a source test performed on 4/14/97.

AER = HAE x Delta CE

PE (after mod) = PEPM x (1-Delta CE)

Reduction Quantified = AER - AQI Deduction

PE Adjustment = (Proposed DEL - PE (after mod)) \* (days/quarter)

Adjusted Reduction = Reduction Quantified - PE Adjustment

Proposed DEL = Post-project Emiss Rate x Post-project MMBtu/hr x 24 hr/day

Delta CE = (EF1-EF2)/EF1

PEPM = Pre-project DEL

AQI Deduction = AER x 10%

### Heater 21H12 - Average Quarterly Baseline Fuel Gas Usage and Fuel Gas Btu Content

1st Quarter		2nd Quarter		3rd Quarter		4th Quarter	
	mscf/mo		mscf/mo		mscf/mo		mscf/mo
Jan-97	11,594	Apr-97	12,917	Jul-97	11,917	Oct-96	7,970
Feb-97	11,380	May-97	12,313	Aug-97	12,490	Nov-96	10,353
Mar-97	12,912	Jun-97	12,355	Sep-97	12,423	Dec-96	11,957
Jan-98	13,827	Apr-98	12,290	Jul-98	11,496	Oct-97	13,434
Feb-98	13,236	May-98	12,365	Aug-98	10,569	Nov-97	12,697
Mar-98	14,507	Jun-98	12,449	Sep-98	7,343	Dec-97	14,068
Ave. Quarterly Fuel Usage (mscf)	38,728		37,345		33,119		35,239
Ave. Quarterly Btu Content (Btu/dscf)	1,066		1,218		1,294		1,106
Ave. Quarterly MMBtu	41,284		45,486		42,856		38,975
Ave. MMBtu/hr	19		21		20		18

### Heater 21H11 - Average Quarterly Baseline Fuel Gas Usage and Fuel Gas Btu Content

1st Quarter		2nd Quarter		3rd Quarter		4th Quarter	
	mscf/mo		mscf/mo		mscf/mo		mscf/mo
Jan-97	9,211	Apr-97	10,084	Jul-97	8,993	Oct-96	6,971
Feb-97	8,954	May-97	9,220	Aug-97	9,955	Nov-96	8,363
Mar-97	10,138	Jun-97	9,609	Sep-97	10,395	Dec-96	9,860
Jan-98	11,292	Apr-98	11,626	Jul-98	11,240	Oct-97	11,738
Feb-98	11,073	May-98	12,199	Aug-98	10,118	Nov-97	11,033
Mar-98	12,388	Jun-98	12,048	Sep-98	7,654	Dec-97	12,187
Ave. Quarterly Fuel Usage (mscf)	31,528		32,393		29,177		30,076
Ave. Quarterly Btu Content (Btu/dscf)	1,066		1,218		1,294		1,106
Ave. Quarterly MMBtu	33,609		39,455		37,755		33,264
Ave. MMBtu/hr	16		18		17		15

**ATTACHMENT D**

**HEATER 21H11 AND 21H12 SOURCE TESTS PERFORMED 4/14/97**

**San Joaquin Valley Unified Air Pollution Control District  
Southern Region**

## **Compliance Source Test Report**

**for**

**Texaco Refining and Marketing Inc.**

**Bakersfield Plant Area 1  
Process Heater: 10 H2**

**Bakersfield Plant Area 2  
Process Heaters: 26-H11 A/B, 26 H13/15, 20 H11  
21 H17, 21 H13, 21 H11, 21 H12 and 21 H16**

**Bakersfield Plant Area 3  
Portable Boiler**

**Determination of Concentrations and Emissions of  
NO<sub>x</sub>, CO and O<sub>2</sub>**

**Project 426-829A**

**Tested April 1, 3, 14 & 15, 1997**



**Unit Operator:** Texaco Refining and Marketing Inc.  
 P.O. Box 1476  
 Bakersfield, CA 93302  
 (805) 326-4557 FAX (805) 326-4255  
  
*Attention: Ken Comey*

**Source Locations:** Bakersfield Plant Areas 1, 2 and 3  
 6451 Rosedale Highway  
 Bakersfield, CA 93308

**Source:**

Unit	Area	Permit No.
10 H2	1	ATC S-33-10-1
26 H11 A/B	2	ATC S-33-52-4
26 H13/15	2	
20 H11	2	ATC S-33-55-4
21 H17	2	PTO S-33-56-0
21 H13	2	
21 H11	2	
21 H12	2	
21 H16	2	
Portable Boiler	3	ATC S-34-40-0

**Independent Contractor:** Aeros Environmental, Inc.  
 18828 Highway 65  
 Bakersfield, CA 93308  
 (805) 391-0112 FAX (805) 391-0153  
  
*Attention: Tim Brennan*

**Agency:** San Joaquin Valley Unified  
 Air Pollution Control District  
 2700 "M" Street, Suite 275  
 Bakersfield, CA 93301  
 (805) 862-5200 FAX (805) 862-5201  
  
*Attention: Glenn Slitor*



18828 Highway 65  
Bakersfield, CA 93308  
(805) 391-0112 FAX (805) 391-0153

## CERTIFICATION

May 7, 1997

Linda Davis  
Texaco Refining and Marketing Inc.  
P.O. Box 1476  
Bakersfield, CA 93302

Dear Ms. Davis:

Regarding Project 426-829A, referred to in this report, I, Mark Campbell, as Project Supervisor and on-site director of the testing program described in this report, do hereby certify the sampling, analytical procedures, and results presented in this report are authentic and accurate according to the methods and procedures used.

  
Mark Campbell

Regarding Project 426-829A, referred to in this report, I certify that I have reviewed the sampling, analytical procedures, and results reported herein, and have found them to be accurate and true according to the methods and procedures used.

  
Tim Brennan

# AEROS ENVIRONMENTAL, INC.

## SUMMARY OF RESULTS

**Texaco Refining and Marketing  
Area 2, Process Heater 21-H11**

**Project 426-829 A  
April 14, 1997**

EMISSIONS	ppm	ppm @ 3% O2	lb/MMBtu	Permit Limits
<b>NOx</b>	136	129	0.15	0.18 lb/MMBtu or 147 ppm @ 3% O2
	139	132	0.16	
	140	133	0.16	
	<b>Mean:</b>	139	132	
<b>CO</b>	0	0	NA	400 ppm @ 3% O2
	0	0	NA	
	0	0	NA	
	<b>Mean:</b>	0	0	
<b>Comments:</b> _____				

**AEROS ENVIRONMENTAL, INC.**

**SUMMARY OF RESULTS**

**Texaco Refining and Marketing  
Area 2, Process Heater 21-H12**

**Project 426-829 A  
April 14, 1997**

<b>EMISSIONS</b>	<b>ppm</b>	<b>ppm @ 3% O2</b>	<b>lb/MMBtu</b>	<b>Permit Limits</b>
<b>NOx</b>	134	122	0.15	<b>0.18 lb/MMBtu or 147 ppm @ 3% O2</b>
	134	121	0.15	
	132	119	0.14	
	<b>Mean:</b>	<b>134</b>	<b>121</b>	
<b>CO</b>	0	0	NA	<b>400 ppm @ 3% O2</b>
	0	0	NA	
	0	0	NA	
	<b>Mean:</b>	<b>0</b>	<b>0</b>	
<b>Comments:</b> _____				





Remittance Statement

P. O. Box 430  
Bellaire, Texas 77402-0430

Check No. 0000108059  
Company Code 0201  
DATE 10/20/1998  
VENDOR NO. 500000760

VENDOR NAME SAN JOAQUIN VALLEY UNIFIED APCD

INVOICE NO.	INV. DATE	FI DOC #	DESCRIPTION	DISC. AMOUNT	NET AMOUNT
G1391016980D KRC	10/16/1998	3000932273	ERC banking application NOx Htrs 21h11 and 21h12 Contact: Janet Gardner Phone #: 805-326-4454	0.00	650.00
<b>EQUILON</b> ENTERPRISES LLC Shell & Texaco Working Together				0.00	650.00

PLEASE DETACH AND RETAIN THIS STATEMENT FOR YOUR RECORDS.

DETACH ALONG THIS PERFORATION

THIS DOCUMENT IS PRINTED IN BLUE, RED, AND BLACK INK AND HAS SECURITY FEATURES ON FACE AND REVERSE SIDE



P. O. Box 430  
Bellaire, Texas 77402

Chase Manhattan Bank  
6040 Tarbell Road  
Syracuse, New York 13208

60 - 937  
213

CHECK DATE	CHECK NUMBER	CHECK AMOUNT
10/20/1998	0000108059	*****650.00*

PAY \*\*\* SIX HUNDRED FIFTY DOLLARS and 00/100 \*\*\*

TO THE ORDER OF SAN JOAQUIN VALLEY UNIFIED APCD  
2700 M STREET STE 275  
BAKERSFIELD, CA 93301-2370

*Michael V. Corlucci*

AUTHORIZED SIGNATURE

0000108059 021309379 601819493

FORM NO. 2000-G

FOL

FOL

Intelligence Report Number 4,951,804

November 11, 1998

Certified Mail  
Z 579 478 294

Mr. Tom Goff  
San Joaquin Valley Unified  
Air Pollution Control District  
2700 "M" Street, Suite 275  
Bakersfield, CA 93301

RECEIVED

NOV 16 1998

SAN JOAQUIN VALLEY UNIFIED  
APCD-SOUTHERN REGION

Subject: **Emission Reduction Credit Banking Application**

Dear Mr. Goff:

Please find enclosed an Emission Reduction Credit (ERC) Banking application to bank reductions in NOx resulting from Heater 21H11 and 21H12 low NOx burner retrofits. Heaters 21H11 and 21H12 are located in Area 2 of the Bakersfield Refining Company.

A check for \$650 to cover the filing fee of this banking application is enclosed. If you have any questions regarding this application, please contact Mr. Ken Comey at (805) 326-4557.

Sincerely,

*AS Abay*  
A. S. Abay *amy*

Attachment

v:\ehs\private\air\Curtis Taylor\ERCs\ERC-APPL.doc  
File # 725,148

Armand S. Abay, President  
Bakersfield Refining Company  
a Division of Equilon Enterprises LLC  
P. O. Box 1476  
Bakersfield, CA 93302-1476

086914



## Remittance Statement

P. O. Box 430  
Bellaire, Texas 77402-0430

Check No. 0000108059  
Company Code 0201  
DATE 10/20/1998  
VENDOR NO. 500000760

VENDOR NAME SAN JOAQUIN VALLEY UNIFIED APCD

INVOICE NO.	INV. DATE	FI DOC #	DESCRIPTION	DISC. AMOUNT	NET AMOUNT
G1391016980D KRC	10/16/1998	3000932273	ERC banking application NOx Htrs 21h11 and 21h12 Contact: Janet Gardner Phone #: 805-326-4454	0.00	650.00
<b>TOTAL</b>				0.00	650.00

PLEASE DETACH AND RETAIN THIS STATEMENT FOR YOUR RECORDS.

DETACH ALONG THIS PERFORATION

TO OPEN - CAREFULLY REMOVE SIDE PERFORATIONS,  
THEN SLIDE FINGER UNDER EDGE BELOW

**EQUILON**  
ENTERPRISES LLC  
Shell & Texaco Working Together

Suite 402  
P. O. Box 430  
Bellaire, Texas 77402

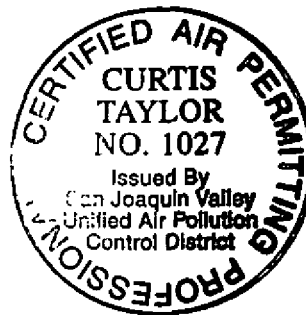
500008760 0000108059 - 01  
SAN JOAQUIN VALLEY UNIFIED APCD  
2700 M STREET STE 275  
BAKERSFIELD, CA 93301-2370



**San Joaquin Valley  
Unified Air Pollution Control District**

**PERMIT APPLICATION SUBMITTED BY  
CERTIFIED AIR PERMITTING PROFESSIONAL**

STAMP HERE



This application package is submitted by a Certified Air Permitting Professional. Included in this package is a complete application for Authority to Construct/Permit to Operate, a hard copy of the Application Review in the format prescribed by the District and a copy of the Application Review in either Microsoft Word or WordPerfect format on a 3 1/2 floppy.

Signature Curtis Taylor Date 11/11/98

**CERTIFICATION AIR PERMITTING PROFESSIONALS (CAPP) PROGRAM:  
EMISSION REDUCTION CREDIT (ERC) BANKING**

**CALCULATION OF EMISSION REDUCTION CREDITS (ERC'S) - HANDOUT**

**CALCULATION OF BANKABLE EMISSION REDUCTIONS**  
**(Calculated in Accordance with Section 6.5 of Rule 2201)**

1) **AER Due to Reduction in Operating Hours or Throughput**

$$\text{AER} = \text{HAE} - \text{PE (Rule 2201, Sec. 6.5.1)}$$

$$\text{AQI Deduction} = 10\% \times \text{AER} \quad (\text{per District Policy NSR/ERC-15})$$

$$\text{Reduction Quantified} = \text{AER} - \text{AQI Deduction}$$

2) **AER Due to Shutdown of an Emissions Unit(s)**

$$\text{AER} = \text{HAE (for unit prior to shutdown, Section 6.5.2)}$$

$$\text{AQI Deduction} = 10\% \times \text{AER}$$

$$\text{Reduction Quantified} = \text{AER} - \text{AQI Deduction}$$

3) **AER from Installation of a Control Device or More Efficient Process**

$$\text{AER} = \text{HAE} \times \Delta\text{CE} \quad (\text{Sec. 6.5.3})$$

$$\text{where, } \Delta\text{CE} = \frac{(\text{EF1} - \text{EF2})}{\text{EF1}} \quad \text{or} \quad \frac{\text{CE2} - \text{CE1}}{100 - \text{CE1}}$$

EF1 = Pre-Project Emission Factor  
EF2 = Post-Project Emission Factor  
CE1 = Pre-Project Control Efficiency  
CE2 = Post-Project Control Efficiency

$$\text{AQI Deduction} = 10\% \times \text{AER}$$

$$\text{Reduction Quantified} = \text{AER} - \text{AQI Deduction}$$

**Test to Account for Throughput or Process Rate Increase**

$$\text{PE (after modification)} = \text{PEPM} (1 - \Delta\text{CE}) \quad \text{per Sec. 6.5.3}$$

- If PE (after modification) = proposed DEL, then AER Calculation is valid
- If PE (after modification) < proposed DEL, then AER must be adjusted

**Adjustment :**

$$\text{PE Adjustment} = \text{Proposed DEL} - \text{PE (after modification, Sec. 6.5)}$$

$$\text{Adjusted Reduction} = \text{Reduction Quantified (after 10\% deduction)} - \text{PE Adjustment}$$

**CALCULATION OF AN AER DUE TO INSTALLATION OF A CONTROL DEVICE**

**EXAMPLE #1: AER WITHOUT PROCESS RATE INCREASE**

**1) Permit Limitations**

	Pre-Project	Post-Project
Emission Factor	0.90 lb-PM10/ton	0.65 lb-PM10/ton
Process Rate Limit	400 tons/day	400 tons/day
DEL	360 lb-PM10/day	260 lb-PM10/day

**2) Historical Actual Emissions (HAE):**

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Process Rate (Year #1)	31,500 tons	31,850 tons	32,200 tons	32,200 tons
Process Rate (Year #2)	28,800 tons	29,120 tons	29,440 tons	29,440 tons
Baseline Production	30,150 tons	30,485 tons	30,820 tons	30,820 tons
HAE (lb-PM10/qtr)	27,135	27,437	27,738	27,738

AVERAGE  
EX- 70.1, 70.2

**3) Actual Emissions Reductions (due to installation of control device):**

$AER = HAE \times \Delta CE$  (Sec. 6.5.3)

$\Delta CE = \frac{EF1 - EF2}{EF1} = \frac{0.90 - 0.65}{0.90} = 0.278 = 27.8\%$

	1st Quarter (lb-PM10/qtr)	2nd Quarter (lb-PM10/qtr)	3rd Quarter (lb-PM10/qtr)	4th Quarter (lb-PM10/qtr)
AER (HAE x ΔCE)	7,544	7,627	7,711	7,711



**CALCULATION OF AN AER DUE TO INSTALLATION OF A CONTROL DEVICE**

**EXAMPLE #1: AER WITHOUT PROCESS RATE INCREASE**

**4) Air Quality Improvement Deduction (Rule 2201 & Policy NSR/ERC-15):**

$AQI = 10\% \times AER$

$Reduction\ Quantified = AER - AQI\ Deduction$

	1st Quarter (lb-PM10/qtr)	2nd Quarter (lb-PM10/qtr)	3rd Quarter (lb-PM10/qtr)	4th Quarter (lb-PM10/qtr)
<b>AQI</b>	754	763	771	771
<b>Reduction Quantified</b>	6,790	6,864	6,940	6,940

**5) Surplus Test (Check for Throughput Increases):**

$PE\ (after\ modification) = PEPM \times (1 - \Delta CE)$   
 $= 400\ tons/day \times 0.90\ lb/ton \times (1 - 0.278) = 260\ lb-PM10/day$

$Proposed\ DEL = New\ Emission\ Factor \times Process\ Rate$   
 $= 0.65\ lb/ton \times 400\ tons/day = 260\ lb-PM10/day$

**\*\* Since Proposed DEL = PE (after modification), the amount of bankable reductions does not require adjustment.**

**6) Bankable Emission Reduction Credit:**

$ERC = Reduction\ Quantified$

	1st Quarter (lb-PM10/qtr)	2nd Quarter (lb-PM10/qtr)	3rd Quarter (lb-PM10/qtr)	4th Quarter (lb-PM10/qtr)
<b>Reduction Quantified</b>	6,790	6,864	6,940	6,940

**CALCULATION OF AN AER DUE TO INSTALLATION OF A CONTROL DEVICE**

**EXAMPLE #2: AER WITH PROCESS RATE INCREASE**

**1) Permit Limitations**

	Pre-Project	Post-Project
Emission Factor	0.90 lb-PM10/ton	0.65 lb-PM10/ton
Process Rate Limit	400 tons/day	554 tons/day
DEL	360 lb-PM10/day	360 lb-PM10/day

**2) Historical Actual Emissions (HAE):**

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Process Rate (Year #1)	31,500 tons	31,850 tons	32,200 tons	32,200 tons
Process Rate (Year #2)	28,800 tons	29,120 tons	29,440 tons	29,440 tons
Baseline Production	30,150 tons	30,485 tons	30,820 tons	30,820 tons
HAE (lb-PM10/qtr)	27,135	27,437	27,738	27,738

**3) Actual Emissions Reductions (due to installation of control device):**

$$AER = HAE \times \Delta CE \text{ (Sec. 6.5.3)}$$

$$\Delta CE = \frac{EF1 - EF2}{EF1} = \frac{0.90 - 0.65}{0.90} = 0.278 = 27.8\%$$

	1st Quarter (lb-PM10/qtr)	2nd Quarter (lb-PM10/qtr)	3rd Quarter (lb-PM10/qtr)	4th Quarter (lb-PM10/qtr)
AER (HAE x ΔCE)	7,544	7,627	7,711	7,711

**CALCULATION OF AN AER DUE TO INSTALLATION OF A CONTROL DEVICE**

**EXAMPLE #2: AER WITH PROCESS RATE INCREASE**

**4) Air Quality Improvement Deduction (Rule 2201 & Policy NSR/ERC-15):**

$AQI = 10\% \times AER$   
 $Reduction\ Quantified = AER - AQI\ Deduction$

	1st Quarter (lb-PM10/qtr)	2nd Quarter (lb-PM10/qtr)	3rd Quarter (lb-PM10/qtr)	4th Quarter (lb-PM10/qtr)
<b>AQI</b>	754	763	771	771
<b>Reduction Quantified</b>	6,790	6,864	6,940	6,940

**5) Surplus Test (Check for Throughput Increases):**

$PE\ (after\ modification) = PEPM \times (1 - ACE)$   
 $= 400\ tons/day \times 0.90\ lb/ton \times (1 - 0.278) = 260\ lb-PM10/day$

$Proposed\ DEL = New\ Emission\ Factor \times Process\ Rate$   
 $= 0.65\ lb/ton \times 554\ tons/day = 360\ lb-PM10/day$

**\*\*** Since Proposed DEL > PE (after modification), the amount of bankable reductions must be adjusted to account for the throughput increase.

**6) Adjusted Bankable Emission Reduction Credit:**

$PE\ Adjustment = Proposed\ DEL - PE\ (after\ modification)$   
 $= 360\ lb-PM10/day - 260\ lb-PM10/day = 100\ lb-PM10/day$

$Adjusted\ Reduction = Reduction\ Quantified - PE\ Adjustment$

	1st Quarter (90 days)	2nd Quarter (91 days)	3rd Quarter (92 days)	4th Quarter (92 days)
<b>Reduction Quantified (lb-PM10)</b>	6,790	6,864	6,940	6,940
<b>PE Adjust.</b>	9,000	9,100	9,200	9,200
<b>Adjusted Reduction</b>	-2,210 = 0	-2,236 = 0	-2,260 = 0	-2,260 = 0

**\*\*** Since the Adjusted Reduction is negative, the amount of reduction eligible for banking is zero.

# ERC APPLICATION REVIEW

Project #: 981134

**Facility Name:** Equilon Enterprises LLC  
**Mailing Address:** P.O. Box 1476  
Bakersfield, CA 93302-1476

**Contact Name:** Ken Comey  
**Telephone:** (805) 326-4557

**Engineer:** Mark Loutzenhiser  
**Date:** February 2, 1999

**Lead Engineer:** Lance Ericksen *LE*  
**Date:** 2/10/99

**Certificate #(s):** S-1014-2  
**Received:** November 17, 1998  
**Deemed Complete:** December 8, 1998

## I. SUMMARY:

Authority to Construct S-33-56-11 was issued by the District to allow Equilon to increase the firing rate capacities of heaters 21H11 and 21H12 from 21 to 40 MMBtu/hr in order to improve product yields through the hydrocracking unit. The firing rate increases for these heaters resulted in increases in NO<sub>x</sub> emissions greater than 2 lb/day and therefore triggered Best Available Control Technology requirements. BACT requirements for process heaters required the retrofitting of the heaters with low NO<sub>x</sub> technology (burners in this case) capable of achieving NO<sub>x</sub> emissions of 0.036 lb/MMBtu.

District Rules 4305 and 4351 require bottom-firing, cylindrical natural draft process heaters to achieve NO<sub>x</sub> emissions of 0.18 lb/MMBtu. Actual emission reductions that resulted from retrofitting heaters 21H11 and 21H12 are not precluded for ERC banking per Rule 2201, section 3.2.3.1.

The following NO<sub>x</sub> emission reductions have been found to qualify for banking:

1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
4645 lb	5658 lbs.	5190 lbs.	4325 lbs.

**II. APPLICABLE RULES:**

- Rule 2201 New and Modified Stationary Source Review Rule (amended 6/16/95)
- Rule 2301 Emission Reduction Credit Banking (amended 12/17/92)
- Rule 4305 Boilers, Steam Generators, and Process Heaters (amended 12/19/96)
- Rule 4351 Boilers, Steam Generators, and Process Heaters - Reasonably Available Control Technology (amended 3/16/95)

**III. PROJECT LOCATION:**

Area 2 Refinery  
6451 Rosedale Hwy  
Bakersfield, CA 93308  
Section 28, Township 29S, Range 27E  
This project is not located within 1,000 feet of a K-12 school.

**IV. METHOD OF GENERATING REDUCTIONS:**

Heaters 21H11 and 21H12 were retrofitted with low NO<sub>x</sub> burners capable of achieving a NO<sub>x</sub> emissions rate of 0.036 lb/MMBtu. District Rules 4305 and 4351 require these heaters to achieve a NO<sub>x</sub> emissions rate of 0.18 lb/MMBtu. Although the firing rate of these heaters was increased, as the calculations of Section V of this application show the modification resulted in an actual emission reduction (AER) as defined in Rule 2201.

**V. CALCULATIONS:**

**A. Assumptions and Emission Factors**

Pre-project NO<sub>x</sub> emission factors:

21H11: 0.16 lb/MMBtu - from source test conducted 4/14/97 (see **Appendix A**)

(Note: a 4/9/96 source test documented an emission factor of 0.18 lb/MMBtu, but this value was not included in this evaluation as the test was done outside of the baseline period.)

21H12: 0.14 lb/MMBtu - from source test conducted 4/14/97 (see **Appendix A**)

Post-project NO<sub>x</sub> emission factors:

21H11: 0.036 lb/MMBtu - from permit condition and verified via source test

21H12: 0.036 lb/MMBtu - from permit condition and verified via source test

**V. CALCULATIONS (cont):**

**B. Baseline Period Determination and Data**

The heaters were capable of firing at the higher NO<sub>x</sub> emission factor up until the modification to retrofit the burners occurred, October 1, 1998. The applicant has proposed the 8 consecutive quarters immediately preceding the retrofit for the baseline period.

Historical fuel gas consumption is stored electronically at the Bakersfield refinery as monthly hourly averages (i.e. the hourly average fuel consumption rate in mscf/hr over the entire month). Monthly fuel consumption is calculated by multiplying the monthly hourly averages by 24 hr/day and by the number of days in the month. Quarterly fuel gas Btu content is obtained from the refinery database (fuel gas samples are taken periodically and analyzed in the lab for Btu content and the results are entered into the database). This database produced the quarterly average fuel gas Btu contents the applicant supplied for this application.

**Table 1. Fuel Use and Heat Input Data for Heater 21H11**

Month	1996 (Mscf)	1997 (Mscf)	1998 (Mscf)	Mo. Total (Mscf)	Mo. Avg. (Mscf)	Qtr Avg. (Mscf)	Avg. Quarterly Btu content (Btu/dscf)	Avg. Quarterly MMBtu
January		9,211	11,292	20,503	10,252	<b>31,528</b>	1,066	<b>33,609</b>
February		8,954	11,073	20,027	10,014			
March		10,138	12,388	22,526	11,263			
April		10,084	11,626	21,710	10,855	<b>32,393</b>	1,218	<b>39,455</b>
May		9,220	12,199	21,419	10,710			
June		9,609	12,048	21,657	10,829			
July		8,993	11,240	20,233	10,117	<b>29,178</b>	1,294	<b>37,756</b>
August		9,955	10,118	20,073	10,037			
September		10,395	7,654	18,049	9,025			
October	6,971	11,738		18,709	9,355	<b>30,076</b>	1,106	<b>33,264</b>
November	8,363	11,033		19,396	9,698			
December	9,860	12,187		22,047	11,024			

**Table 2. Fuel Use and Heat Input Data for Heater 21H12**

Month	1996 (Mscf)	1997 (Mscf)	1998 (Mscf)	Mo. Total (Mscf)	Mo. Avg. (Mscf)	Qtr Avg. (Mscf)	Avg. Quarterly Btu content (Btu/dscf)	Avg. Quarterly MMBtu
January		11,594	13,827	25,421	12,711	<b>38,728</b>	1,066	<b>41,284</b>
February		11,380	13,236	24,616	12,308			
March		12,912	14,507	27,419	13,710			
April		12,917	12,290	25,207	12,604	<b>37,345</b>	1,218	<b>45,486</b>
May		12,313	12,365	24,678	12,339			
June		12,355	12,449	24,804	12,402			
July		11,917	11,496	23,413	11,707	<b>33,119</b>	1,294	<b>42,856</b>
August		12,490	10,569	23,059	11,530			
September		12,423	7,343	19,766	9,883			
October	7,970	13,434		21,404	10,702	<b>35,240</b>	1,106	<b>38,975</b>
November	10,353	12,697		23,050	11,525			
December	11,957	14,068		26,025	13,013			

**V. CALCULATIONS (cont):**

**C. Historical Actual Emissions (HAE)**

HAEs are calculated by multiplying the baseline MMBtu/qtr by the baseline NO<sub>x</sub> emission rate.

Heater 21H11 NO<sub>x</sub> Calculations:

$$\begin{aligned} 1^{\text{st}} \text{ Qtr} &= (33,609 \text{ MMBtu/qtr})(0.16 \text{ lb/MMBtu}) = 5,377 \text{ lb/qtr} \\ 2^{\text{nd}} \text{ Qtr} &= (39,455 \text{ MMBtu/qtr})(0.16 \text{ lb/MMBtu}) = 6,313 \text{ lb/qtr} \\ 3^{\text{rd}} \text{ Qtr} &= (37,755 \text{ MMBtu/qtr})(0.16 \text{ lb/MMBtu}) = 6,041 \text{ lb/qtr} \\ 4^{\text{th}} \text{ Qtr} &= (33,264 \text{ MMBtu/qtr})(0.16 \text{ lb/MMBtu}) = 5,322 \text{ lb/qtr} \end{aligned}$$

Heater 21H12 NO<sub>x</sub> Calculations:

$$\begin{aligned} 1^{\text{st}} \text{ Qtr} &= (41,284 \text{ MMBtu/qtr})(0.14 \text{ lb/MMBtu}) = 5,780 \text{ lb/qtr} \\ 2^{\text{nd}} \text{ Qtr} &= (45,486 \text{ MMBtu/qtr})(0.14 \text{ lb/MMBtu}) = 6,368 \text{ lb/qtr} \\ 3^{\text{rd}} \text{ Qtr} &= (42,856 \text{ MMBtu/qtr})(0.14 \text{ lb/MMBtu}) = 6,000 \text{ lb/qtr} \\ 4^{\text{th}} \text{ Qtr} &= (38,975 \text{ MMBtu/qtr})(0.14 \text{ lb/MMBtu}) = 5,457 \text{ lb/qtr} \end{aligned}$$

**D. Actual Emission Reductions (AER)**

Actual Emission Reductions are calculated per section 6.5.3 of Rule 2201 (AER due to control device installation).

$$\text{AER} = (\text{HAE} \times \text{CE})$$

$$\text{CE} = \text{change in control efficiency for actual emission reductions} = (1 - \text{EF}_{\text{ap}}/\text{EF}_{\text{bp}})$$

EF<sub>ap</sub> = emission factor after permitting action

EF<sub>bp</sub> = tested emission factor before permitting action

For Heater 21H11

$$\text{CE} = 1 - (0.036 \text{ lb/MMBtu}/0.16 \text{ lb/MMBtu}) = 0.775$$

$$\begin{aligned} 1^{\text{st}} \text{ Qtr} &= (5,377 \text{ lb/qtr})(0.775) = 4,167 \text{ lb/qtr} \\ 2^{\text{nd}} \text{ Qtr} &= (6,313 \text{ lb/qtr})(0.775) = 4,893 \text{ lb/qtr} \\ 3^{\text{rd}} \text{ Qtr} &= (6,041 \text{ lb/qtr})(0.775) = 4,682 \text{ lb/qtr} \\ 4^{\text{th}} \text{ Qtr} &= (5,322 \text{ lb/qtr})(0.775) = 4,125 \text{ lb/qtr} \end{aligned}$$

For Heater 21H12

$$\text{CE} = 1 - (0.036 \text{ lb/MMBtu}/0.14 \text{ lb/MMBtu}) = 0.743$$

$$\begin{aligned} 1^{\text{st}} \text{ Qtr} &= (5,780 \text{ lb/qtr})(0.743) = 4,295 \text{ lb/qtr} \\ 2^{\text{nd}} \text{ Qtr} &= (6,368 \text{ lb/qtr})(0.743) = 4,731 \text{ lb/qtr} \\ 3^{\text{rd}} \text{ Qtr} &= (6,000 \text{ lb/qtr})(0.743) = 4,458 \text{ lb/qtr} \\ 4^{\text{th}} \text{ Qtr} &= (5,457 \text{ lb/qtr})(0.743) = 4,054 \text{ lb/qtr} \end{aligned}$$

**V. CALCULATIONS (cont):**  
**E. Air Quality Improvement (AQI) Deduction**

The Air Quality Improvement deduction, is 10% of the AER (section 6.5, Rule 2201).

Table 3. AQI Deduction

	Heater 21H11		Heater 21H12	
	AQI	Reduction Quantified	AQI	Reduction Quantified
1 <sup>st</sup> Quarter	417 lb	3750 lb	430 lb	3865 lb
2 <sup>nd</sup> Quarter	489 lb	4404 lb	473 lb	4258 lb
3 <sup>rd</sup> Quarter	468 lb	4214 lb	446 lb	4012 lb
4 <sup>th</sup> Quarter	413 lb	3712 lb	405 lb	3649 lb

**F. Increase in Permitted Emissions**

There is no increase in emissions associated with this project. However, there was an increase in emissions associated with the project authorizing the increase in burner rating and lowering of the NO<sub>x</sub> emissions factor. Therefore, pursuant to Rule 2201, section 6.5.3, a "Surplus Test" needs to be performed to determine if the bankable reductions need to be adjusted for the increase in burner rating.

**1. Surplus Test**

Pursuant to section 6.5.3 of Rule 2201, the daily emission limit after the modification is compared to the permitted emissions prior to modification adjusted for the increase in control efficiency. If the post-project DEL exceeds the pre-project PE adjusted for the increase in control efficiency, the amount of the increase is not surplus and this amount must be deducted from the calculated AER.

For Heaters 21H11 and 21H12

$$\text{Pre-project Adjusted PE} = \text{PEPM} \cdot (1 - \text{CE})$$

$$\text{CE} = \text{change in control efficiency for permitted emission reductions} = 1 - \text{EF}_{\text{ap}}/\text{EF}_{\text{bp}}$$

EF<sub>ap</sub> = permitted emission factor after permitting action

EF<sub>bp</sub> = permitted emission factor before permitting action

$$\text{CE} = 1 - (0.036 \text{ lb/MMBtu}/0.18 \text{ lb/MMBtu}) = 0.8$$



**V. CALCULATIONS (cont):**

$$\begin{aligned} \text{Pre-project Adjusted PE} &= (21 \text{ MMBtu/hr})(0.18 \text{ lb/MMBtu})(24 \text{ hr/day})(1-0.8) \\ &= 18.1 \text{ lb/day} \end{aligned}$$

$$\begin{aligned} \text{Post-project DEL} &= (\text{new emission factor})(\text{burner rating})(24 \text{ hr/day}) \\ &= (40 \text{ MMBtu/hr})(0.036 \text{ lb/MMBtu})(24 \text{ hr/day}) \\ &= 34.6 \text{ lb/day} \end{aligned}$$

Since the post-project DEL > pre-project adjusted PE, this increase must be deducted from the AER (it is not surplus).

**2. Adjusted Bankable Emission Reduction**

For Heaters 21H11 and 21H12

$$\begin{aligned} \text{AER}_{\text{ADJUSTMENT}} &= \text{Post-project DEL} - \text{pre-project adjusted PE} \\ &= (34.6 \text{ lb/day}) - (18.1 \text{ lb/day}) \\ &= 16.5 \text{ lb/day} \end{aligned}$$

The quarterly adjustment is determined by multiplying the daily adjustment by the number of days in each quarter.

$$\text{Adjusted AER} = (\text{Reduction Quantified in Table 3}) - (\text{AER adjustment})$$

**Table 4. Adjusted Actual Emissions Reductions for Heater 21H11**

	1 <sup>st</sup> Qtr (90 days)	2 <sup>nd</sup> Qtr (90 days)	3 <sup>rd</sup> Qtr (90 days)	4 <sup>th</sup> Qtr (90 days)
AER	3,750 lb	4,404 lb	4,214 lb	3,712 lb
AER adjustment	1,485 lb	1,502 lb	1,518 lb	1,518 lb
Adjusted AER	2,265 lb	2,902 lb	2,696 lb	2,194 lb

**Table 5. Adjusted Actual Emissions Reductions for Heater 21H12**

	1 <sup>st</sup> Qtr	2 <sup>nd</sup> Qtr	3 <sup>rd</sup> Qtr	4 <sup>th</sup> Qtr
AER	3,865 lb	4,258 lb	4,012 lb	3,649 lb
AER adjustment	1,485 lb	1,502 lb	1,518 lb	1,518 lb
Adjusted AER	2,380 lb	2,756 lb	2,494 lb	2,131 lb

**V. CALCULATIONS (cont):**

**G. Bankable Emissions Reduction Credits**

Table 6. Total Bankable Emission Reduction Credits

	1 <sup>st</sup> Qtr	2 <sup>nd</sup> Qtr	3 <sup>rd</sup> Qtr	4 <sup>th</sup> Qtr
Heater 21H11	2,265 lb	2,902 lb	2,696 lb	2,194 lb
Heater 21H12	2,380 lb	2,756 lb	2,494lb	2,131 lb
<b>TOTAL</b>	<b>4,645 lb</b>	<b>5,658 lb</b>	<b>5,190 lb</b>	<b>4,325 lb</b>

**VI. COMPLIANCE:**

**A. Real**

The NO<sub>x</sub> reduction is due to the installation of control equipment on Heaters 21H11 and 21H12. The requested credits are based on actual fuel use data, fuel gas BTU content data, and source test results during the baseline period. Therefore, the reductions are real.

**B. Enforceable**

Permit to Operate (PTO) S-33-56-11 requires a NO<sub>x</sub> emissions limit of 0.036 lb/MMBtu or 30 ppmv @ 3% O<sub>2</sub>. Compliance with the emission limit was verified through source testing performed on November 12, 1998. The PTO also requires periodic source testing and monitoring to demonstrate ongoing compliance with the NO<sub>x</sub> emission limit. Therefore, the emission reductions are enforceable.

**C. Quantifiable**

The calculation section shows that actual fuel use data, fuel heating value, and source test results were used to quantify the emission reductions. Therefore, the emission reductions are quantifiable.

**D. Permanent**

PTO S-33-56-11 requires that the applicant meet the NO<sub>x</sub> emission limit of 0.036 lb/MMBtu. The emissions limit has been incorporated into the Permit to Operate and will be verified through periodic source testing and ongoing monitoring of operational parameters. (See **Appendix B** for a copy of PTO S-33-56-11). Therefore, the emission reductions are permanent.

**VI. COMPLIANCE (cont):**

**E. Surplus**

Discounting of the AERs for Rules 4305 and 4351 is not required because the heaters emitted less than allowed under those rules (NO<sub>x</sub> limit of 0.18 lb/MMBtu or 147 ppmv @ 3% O<sub>2</sub>). The AER has been reduced to compensate for the increase in capacity as required by Rule 2201, section 6.5.3. Therefore, the bankable emission reductions are surplus.

**F. Timeliness**

The control equipment resulting in the emission reductions was installed on October 1, 1998. The ERC banking application was November 16, 1998. As the application was received within 180 days of the actual reduction, this banking application is timely.

**VII. RECOMMENDATION:**

Publish preliminary decision to issue emission reduction credits to Equilon Enterprises LLC in the following amounts:

Certificate #	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
S-1014-2	4,645 lb	5,658 lb	5,190 lb	4,325 lb

**VIII. BILLING INFORMATION:**

*Equilon Enterprises LLC  
Project #981134  
February 2, 1999*

# **Appendix A**

**(Source Test Results)**





*Equilon Enterprises LLC  
Project #981134  
February 2, 1999*

# **Appendix B**

**(PTO S-33-56-11)**

# San Joaquin Valley Unified Air Pollution Control District

PERMIT UNIT: S-33-56-11

EXPIRATION DATE: 08/31/1999

SECTION: 28 TOWNSHIP: 29S RANGE: 27E

## EQUIPMENT DESCRIPTION:

291.1 MM BTU/HR HYDROCRACKER UNIT #21 INCLUDING 9 HEATERS, CATALYTIC ASSEMBLY, AND MISC AIR COOLERS, EXCHANGERS, DRUMS, AND PUMPS - AREA 2

## Permit Unit Requirements

---

1. Hydrocracker unit shall include two 40.0 MMBtu/hr heaters (21H11 and 21H12), two 18.1 MMBtu/hr heaters (21H13 and 21H14), two 11.4 MMBtu/hr heaters (21H15 and 21H16), one 27.8 MMBtu/hr heater (21H17), one 34.6 MMBtu/hr heater (21H18), one 19.7 MMBtu/hr heater (21H19), one 70.0 MMBtu/hr heater (21H20), catalytic assembly, miscellaneous air coolers, heat exchangers, drums, pumps, piping, and vessels. [District Rule 2201]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Total stationary source (as defined in 40 CFR 63.2) emission shall not exceed 10 tons in any consecutive 12 month period of any hazardous air pollutant (HAP) (as defined in 40 CFR 63.2) and 25 tons in any consecutive 12 month period of any combination of HAPs. This limit is applicable beginning 8/18/98. [District Rule 2201]
4. Permittee shall use District approved emission estimating techniques to determine HAP emissions. Permittee shall maintain monthly records and annual records for each emission unit or group of emission unit sufficient to determine HAP emissions. Such records shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 1070 and 2201]
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
6. Valves and flanges shall be operated free of leaks (as defined by Rule 4451), inspected, labeled and records kept as required by Rule 4451. [District Rule 4451]
7. Pump and compressor seals shall operated free of leaks (as defined by Rule 4452), inspected, labeled and records kept as required by Rule 4452. [District Rule 4452]
8. Vessels shall be depressurized (during turnaround) as required by Rule 4454. [District Rule 4454]
9. Valves and connectors subject to Rule 4451 installed for production of low sulfur diesel shall not leak in excess of 100 ppmv above background when measured one (1) cm from the source. [District Rule 4451]

Permit unit requirements continue on next page

These terms and conditions are part of the facilitywide Permit to Operate.



**Permit unit requirements continued:**

S-33-56-11

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10. Pump and compressor seals subject to Rule 4452 that were installed for projection of low sulfur diesel shall not leak in excess of 500 ppmv above background when measured one (1) cm from the source. [District Rule 4452]
11. Sulfur content (as H<sub>2</sub>S) of fuel supplied to heaters 21H11 and 21H12 shall not exceed 0.1 gr/dscf based on a three hour rolling average. [District Rule 4001]
12. Heater 21H18 emission rates shall not exceed the following: NO<sub>x</sub> (as NO<sub>2</sub>) 0.036 lb/MMBtu or 30 ppmvd @ 3% O<sub>2</sub>, CO: 0.035 lb/MMBtu or 50 ppmv @ 3% O<sub>2</sub>, VOC: 0.005 lb/MMBtu, and PM<sub>10</sub>: 0.014 lb/MMBtu. [District Rule 2201]
13. Heater 21H20 emission rates shall not exceed NO<sub>x</sub> (as NO<sub>2</sub>): 0.036 lb/MMBtu or 30 ppmv @ 3% O<sub>2</sub>, and CO: 400 ppmv @ 3% O<sub>2</sub>. [District Rules 4305 and 4351]
14. Heaters 21H11 and 21H12 emission rates shall not exceed NO<sub>x</sub> (as NO<sub>2</sub>) 30 ppmvd @ 3% O<sub>2</sub>, CO: 50 ppmvd @ 3% O<sub>2</sub>, VOC: 0.003 lb/MMBtu, and PM<sub>10</sub>: 0.014 lb/MMBtu. [District Rules 2201, 4305, and 4351]
15. Permittee shall meet all applicable NSPS requirements, including Subparts A, J and GGG. [District Rule 4001]
16. For heaters 21H11, 21H12, 21H18 and 21H20, the acceptable range of stack O<sub>2</sub> concentration and visible mechanical burner settings shall be established by testing emissions from this unit or other representative units as approved by the District. The acceptable range shall be that for which compliance with the applicable NO<sub>x</sub> and CO emission rates have been demonstrated through source testing. [District Rule 4305]
17. The stack O<sub>2</sub> concentration and inspection of mechanical adjustments/settings shall be conducted on a weekly basis. [District Rule 4305]
18. The permittee shall maintain records of the date and time of O<sub>2</sub> measurements and burner adjustments, the measured O<sub>2</sub> concentrations (by volume), and the observed settings. The records must also include a description of any corrective action taken to maintain the O<sub>2</sub> concentration and the burner mechanical settings in the acceptable range. These records shall be retained at the facility for a period of no less than two years and shall be made readily available for District inspection upon request. [District Rule 4305]
19. If the O<sub>2</sub> concentration or the burner mechanical settings deviate from the acceptable range, the permittee shall notify the District and take corrective action within one (1) hour after detection. If the O<sub>2</sub> concentration or the burner settings are not corrected within one hour, the permittee shall conduct an emissions test within 60 days, utilizing District-approved test methods, to demonstrate compliance with the applicable emission limits. [District Rule 4305]
20. Source testing to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be conducted within 60 days of startup and not less than once every 12 months, except as provided below. [District Rules 4305 and 4351]
21. Source testing to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rules 4305 and 4351]

Permit unit requirements continue on next page

These terms and conditions are part of the facilitywide Permit to Operate.

**Permit unit requirements continued:**

S-33-56-11

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22. If permittee fails any compliance demonstration for NOx and CO emission limits when testing not less than once every 36 months, compliance with NOx and CO emission limits shall be demonstrated not less than once every 12 months. [District Rules 4305 and 4351]
23. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rules 4305 and 4351]
24. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081]
25. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081]
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
27. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4351]
28. Permittee shall maintain records of hhv of fuel burned and cumulative annual fuel use for a period of two years and shall make such records readily available for District inspection upon request. [District Rule 1070]
29. Permittee shall periodically monitor operational characteristics, such as exhaust oxygen percentage or other District approved characteristics, to verify efficient heater operation. [District Rule 4305 and 4351]
30. Sulfur content limit for heaters 21H11 and 21H12 is contingent upon the approval of ATC S-33-348-3, including a revised BACT determination for SOx emissions. If BACT reflects a sulfur content limit lower than 0.1 gr/dscf, permittee shall comply with the revised BACT limit. [District Rule 2201]

**These terms and conditions are part of the facilitywide Permit to Operate.**

# PROJECT ROUTING FORM

PROJECT NUMBER: 981134

PERMIT NUMBERS: S-33

APPLICANT NAME: Equilon Enterprise LLC

MAILING ADDRESS: P.O. Box 1476, Bakersfield, CA 93302-1476

PRELIMINARY REVIEW	ENGR	DATE	SUPR	DATE
A. Application Deemed Incomplete				
B. Incomplete 2 <sup>nd</sup> Letter				
C. Application Deemed Complete	<i>MSL</i>	<i>12/8/98</i>	<i>FE</i>	<i>12/8/98</i>
180 <sup>th</sup> Day for Developmental Projects				
D. Application Pending Denial				
E. Application Denied				

ENGINEERING EVALUATION	INITIAL	DATE
F. Engineering Evaluation Complete	<i>MSL</i>	<i>2/5/99</i>
G. Supervising Engineer Approval	<i>FE</i>	<i>2/5/99</i>
H. Compliance Division Approval	<i>N/R, ERL</i>	
I. Permit Services Regional Manager Approval	<i>[Signature]</i>	<i>11 Feb 99</i>

DIRECTOR REVIEW:

Not Required

Required

## PROJECTS REQUIRING PUBLIC NOTIFICATION

### PRELIMINARY DECISION:

- \_\_\_\_\_ Date emailed to Fresno
- \_\_\_\_\_ 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 emailed to Fresno
- \_\_\_\_\_ Date of distribution to applicant, EPA, and CARB

Facility #: 33

Project #: 48134

**FINAL ENGINEERING PROJECT CHECKLIST**

- X Project Routing form has been prepared.
- X Application Review includes all items described in guidelines, all items appear in correct order, and all parts of analysis read logically.
- \_\_\_\_\_ Problems encountered summary sheet has been prepared which includes all items resulting in unnecessary expenditures of time (the time would not have been spent if the application had been correctly submitted, the data was all correct, no changes were made during processing).
- X All necessary draft Public Notices have been prepared.
- \_\_\_\_\_ Facility NSR Balance/SSPE has been updated in Excel.
- X Project and Status records have been updated with any applicable dates, location, etc.

MSL \_\_\_\_\_ Engineer

\_\_\_\_\_ JE \_\_\_\_\_ Reviewing

**POST REVIEW CHECKLIST**

- \_\_\_\_\_ Copy of ERC has been photocopied for the Banking Registry.
- \_\_\_\_\_ Necessary permits and analyses have been sent to District office for permitting Director's approval, comments, and signature.

### Time Spent on Project 981134

Employee	Project	Project Code	Activity Code	Time	Date
2095	981134	1	11	3	02/02/99
2095	981134	1	11	5	02/04/99
2095	981134	3	38	0.5	02/04/99
2095	981134	1	11	3	02/05/99
2095	981134	1	11	2	02/08/99
2095	981134	1	11	1	02/09/99
2095	981134	3	38	2.5	03/08/99 → EPA
2095	981134	3	38	1	03/09/99
2095	981134	3	38	0.5	03/29/99
Total Entries	9		Total Hours	18.5	

04/06/99



San Joaquin Valley  
Air Pollution Control District

March 13, 2000

Berry Petroleum Company  
P. O. Bin X  
Taft, CA 93268

**Authority to Construct Number(s):** S-1246-9-13

**Rule 2010 3.0 – AUTHORITY TO CONSTRUCT**

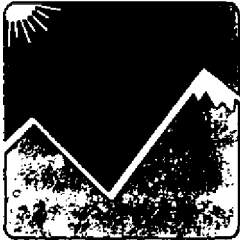
**Enclosed please find Authority to Construct document(s) for your project. Please read the document(s) carefully and contact the Permit Services Division if the information does not appear correct or if you have any questions.**

**Remember to notify the Compliance Division when you begin operating to schedule a start-up inspection. After the Compliance Division has verified that the operation has satisfied all conditions of the Authority to Construct, a Permit to Operate may be issued. You will receive a Permit to Operate and billing, which must be paid to validate your Permit to Operate.**

**Contact the Permit Services Division prior to making changes to the equipment or operation, other than those described on the attached Authority to Construct document(s).**

**Permit Services Division or the Compliance Division can be reached at (661) 326-6900.**

**DAVID L. CROW  
EXECUTIVE-DIRECTOR/APCO**



San Joaquin Valley  
Unified Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

PERMIT NO: S-1246-9-13

ISSUANCE DATE: 03/08/2000

LEGAL OWNER OR OPERATOR: BERRY PETROLEUM COMPANY  
MAILING ADDRESS: P O BIN X  
TAFT, CA 93268

LOCATION: HEAVY OIL WESTERN  
CA

SECTION: SW31 TOWNSHIP: 32S RANGE: 24E

EQUIPMENT DESCRIPTION:  
MODIFICATION OF 25.2 MMBTU/HR DUAL-FIRED SUPERIOR HEATER TREATER (CFJ302): DELETE OIL FIRING PROVISIONS.

**CONDITIONS**

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. Only PUC-quality natural gas shall be used as fuel. [District Rule 2201]
4. Natural gas fired emission rate for this unit shall not exceed any of the following: PM10 - 0.005 lb/MMBtu, SOx (as SO2) - 0.0006 lb/MMBtu, NOx (as NO2) - 0.14 lb/MMBtu, VOC - 0.003 lb/MMBtu, or CO - 46.6 ppmv @ 3% O2. [District Rule 2201]
5. Total heat input to this unit shall be less than 30 billion Btu per calendar year. [District Rule 4305]
6. Unit shall be either: (1) tuned at least once each calendar year in which it operates by a qualified technician in accordance with Rule 4304, or (2) operated with exhaust oxygen concentration no greater than 3.00% by-volume on a dry basis. [District Rule 4305]
7. Unit shall be operated in accordance with the manufacturer's recommendations. [District Rule 4305]
8. Permittee shall maintain records of monthly and annual fuel consumption and shall make such records readily available for District inspection upon request for a period of two years. [District Rule 1070]

CONDITIONS CONTINUE ON NEXT PAGE

This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. **YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 326-6900 WHEN CONSTRUCTION OF THE EQUIPMENT IS COMPLETED.** Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

DAVID L. CROW, Executive Director / APCO

SEYED SADEEDIN, Director of Permit Services

Mar 8 2000 9:08AM - GRUBERU : Joint Inspection NOT Required

9. All permits for facilities #S-1246 and #S-2265 are included in Berry Petroleum Company's Heavy Oil Western stationary source. [District Rule 2201]