San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

DEC - 7 2006

Debra Monterroso
Crimson Resource Management
5001 California Avenue, Suite 206
Bakersfield, CA 93309

RE: Notice of Final Action - Emission Reduction Credits
Project Number: S-#S-1052797

Dear Ms. Monterroso:

The Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Crimson Resource Management for emission reductions generated by the replacement of six existing IC engines driving gas compressors with three lower emitting IC engine/generator sets driving gas compressors, at the 1-C gas processing facility, at Hwy 119 and Midway Road, Taft. The quantity of ERCs issued is 76,329 lb/yr VOC, 14,242 lb/yr NOx, 40,405 lb/yr CO and 5,236 lb/yr PM10.

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

Notice of the District's preliminary decision to issue the ERC Certificates was published on October 25, 2006. The District's analysis of the proposal was also sent to CARB and US EPA Region IX on October 23, 2006. All comments received following the District's preliminary decision on this project were considered.

Comments received from the US EPA during the pubic notice period resulted in the District correcting and lowering the VOC emissions factors used in determining the historical actual emissions for four of the shutdown IC engines. This correction to emissions factors resulted in lower amounts of VOC being approved for ERC banking, from 92,775 lb/yr in our preliminary decision to a corrected, final amount of 76,329 lb/yr.

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061
www.valleyair.org

Southern Region
2700 M Street, Suite 275
Bakersfield, CA 93301-2373
Tel: (661) 326-6900 FAX: (661) 326-6985

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

Sincerely,

David Warner
Director of Permit Services

DW:RWK/ls

Enclosures

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

DEC - 7 2006

Mike Tollstrup, 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: S-#S-1052797

Dear Mr. Tollstrup:

The Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Crimson Resource Management for emission reductions generated by the replacement of six existing IC engines driving gas compressors with three lower emitting IC engine/generator sets driving gas compressors, at the 1-C gas processing facility, at Hwy 119 and Midway Road, Taft. The quantity of ERCs issued is 76,329 lb/yr VOC, 14,242 lb/yr NOx, 40,405 lb/yr CO and 5,236 lb/yr PM10.

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David Warner
Director of Permit Services

DW:RKW/ls

Enclosures

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

DEC - 7 2006

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

RE: Notice of Final Action - Emission Reduction Credits
Project Number: S-#S-1052797

Dear Mr. Rios:

Thank you for your 12/4/06 E-mail comment on the above project. Following is the District's specific response to your comment:

Comment: "...the VOC emissions factors used for engines '3, '4, '7 and '8 (average of two exhaust stacks) were higher than what is allowed by Rules 4701/4702, resulting in non-surplus credits being proposed for banking."

Response: We agree that the VOC emissions factors for engines '3, '4, '7 and '8 were averaged in an inappropriate manner, thus resulting in non-surplus VOC historical actual emissions being calculated. Therefore, we have corrected the VOC emissions factors accordingly: from 750 to 528 ppmv @ 15% O_2 for unit '3, from 750 to 710 ppmv @ 15% O_2 for unit '4, from 750 to 498 ppmv @ 15% O_2 for unit '7 and from 750 to 725 ppmv @ 15% O_2 for unit '8. The use of the corrected factors reduced the amount of VOC emission reduction credits being approved from 92,775 lb/yr in our preliminary decision to a revised, final amount of 76,329 lb/yr.

We trust that the above response satisfies your concerns and we appreciate your concurrence on this project.

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

If you have any questions, regarding the above response, or require additional clarification, please contact Mr. Thomas Goff at (661) 326-6900.

Sincerely,

David Warner
Director of Permit Services

DW:RWK/ls

Enclosures

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 (ERCs) to Crimson Resource Management for emissions reductions generated by the replacement of six existing IC engines driving gas compressors with three lower emitting IC engine/generator sets driving gas compressors, at the 1-C gas processing facility, Hwy 119 and Midway Road, Taft. The quantity of ERCs issued is 76,329 lb/yr VOC, 14,242 lb/yr NOx, 40,405 lb/yr CO and 5,236 lb/yr PM10.

Comments received from US EPA during the public notice period resulted in the District correcting and lowering the VOC emissions factors used in determining the historical actual emissions for four of the shutdown IC engines. This correction to emissions factors resulted in lower amounts of VOC being approved for ERC banking, from 92,775 lb/yr in our preliminary decision to a corrected, final amount of 76,329 lb/yr. The use of lower emissions factors being used and fewer credits being approved is a minor change and does not require additional public notice.

Project #S-1052797 is available for public inspection at the **SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 2700 'M' STREET SUITE 275, BAKERSFIELD, CA 93301.**

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 2700 M Street, Suite 275 • Bakersfield, CA 93301-2370

Emission Reduction Credit Certificate
S-2202-1

ISSUED TO: CRIMSON RESOURCE MANAGEMENT

ISSUED DATE: December 6, 2006

LOCATION OF REDUCTION: 1-C GAS PLANT
Intersection of Hwy 119 and Midway Rd
TAFT, CA

SECTION: SEC 1 TOWNSHIP: T32S RANGE: R23E

For VOC Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
23,063 lbs	20,161 lbs	19,126 lbs	13,979 lbs

[ ] Conditions Attached

Method Of Reduction

[ ] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[X] Other

Replacement of 6 IC engines driving compressors with IC engine electrical generators powering electrically driven inlet gas compressors

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director / APCO

David Warner, Director of Permit Services

Dec 6 2006 4:36PM – SARGENTL

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 2700 M Street, Suite 275 • Bakersfield, CA 93301-2370

Emission Reduction Credit Certificate
S-2202-2

ISSUED TO: CRIMSON RESOURCE MANAGEMENT

ISSUED DATE: December 6, 2006

LOCATION OF REDUCTION: 1-C GAS PLANT
Intersection of Hwy 119 and Midway Rd
TAFT, CA

SECTION: SEC 1 TOWNSHIP: T32S RANGE: R23E

For NOx Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
4,704 lbs	3,393 lbs	3,449 lbs	2,696 lbs

[ ] Conditions Attached

Method Of Reduction

[ ] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[X] Other

Replacement of 6 IC engines driving compressors with IC engine electrical generators powering electrically driven inlet gas compressors

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director / APCO

David Warner, Director of Permit Services

Dec 6 2006 4:35PM – SARGENTL

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 2700 M Street, Suite 275 • Bakersfield, CA 93301-2370

Emission Reduction Credit Certificate
S-2202-3

ISSUED TO: CRIMSON RESOURCE MANAGEMENT

ISSUED DATE: December 6, 2006

LOCATION OF REDUCTION: 1-C GAS PLANT
Intersection of Hwy 119 and Midway Rd
TAFT, CA

SECTION: SEC 1 TOWNSHIP: T32S RANGE: R23E

For CO Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
16,677 lbs	10,099 lbs	8,459 lbs	5,170 lbs

[ ] Conditions Attached

Method Of Reduction

[ ] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[X] Other

Replacement of 6 IC engines driving compressors with IC engine electrical generators powering electrically driven inlet gas compressors

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director / APCO

David Warner, Director of Permit Services

Dec 6 2006 4:36PM -- SARGENTL

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 2700 M Street, Suite 275 • Bakersfield, CA 93301-2370

Emission Reduction Credit Certificate
S-2202-4

ISSUED TO: CRIMSON RESOURCE MANAGEMENT

ISSUED DATE: December 6, 2006

LOCATION OF REDUCTION: 1-C GAS PLANT
Intersection of Hwy 119 and Midway Rd
TAFT, CA
SECTION: SEC 1 TOWNSHIP: T32S RANGE: R23E

For PM10 Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
1,745 lbs	1,292 lbs	1,258 lbs	941 lbs

[ ] Conditions Attached

Method Of Reduction
[ ] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[X] Other

Replacement of 6 IC engines driving compressors with IC engine electrical generators powering electrically driven inlet gas compressors

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director / APCO

David Warner, Director of Permit Services

Dec 6 2006 4:35PM – SARGENTL

3P

☐ NORTHERN REGION
☐ CENTRAL REGION
☒ SOUTHERN REGION

ERC/PUBLIC NOTICE CHECK LIST

PROJECT #s: #S-1052797

RECEIVED
DEC 13 2006
SJVAPCD
Southern Region

REQST.	COMPL.	
—	—	ERC TRANSFER OF PREVIOUSLY BANKED CREDITS
—	—	ERC PRELIMINARY PUBLIC NOTICE
√	—	ERC FINAL PUBLIC NOTICE
—	—	NSR/CEQA PRELIMINARY PUBLIC NOTICE
—	—	NSR/CEQA FINAL PUBLIC NOTICE

√ ☐ Newspaper Notice Emailed to Clerical (Check box and tab to generate Notice)

ENCLOSED DOCUMENTS REQUIRE:

— — Enter Correct Date, Print All Documents from File and Obtain Directors Signature

√ — Send ***FINAL*** Notice Letters to CARB, EPA and Applicant; Including the Following Attachments: — Application Evaluation
√ Other Public Notice

√ — Send ***FINAL*** Public Notice for Publication to ~~**Error! Reference source not found.**~~ Bakersfield Californian

√ — Send Signed Copies of ***FINAL*** Notice Letters to Regional Office Attn: Richard Karrs

√ — Director's Signature and District Seal Embossed on ERC Certificates

√ — Director's Signature on Cover Letter and Mail Cover Letter & ERC Certificates by Certified Mail to:
√ Applicant:
√ Applicant and Additional Addressees (see cover letters)
— Other

√ — Send Copies of Signed and Seal Embossed ERC Certificates and Signed cover letter to Regional Office Attn: Richard Karrs

√ — Assign Mailing Date: ID#_____ Project #:_____
— — Other Special Instructions (please specify):_____

Date Completed [DATE COMPLETED] /By [SELECT SUPERVISOR]

Date Added to Seyed Directory:

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete Item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Debra Monterroso
Crimson Resource Mgmt.
5001 California Ave., Suite 206
Bakersfield, CA 93309

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X J Ryan ☐ Agent ☐ Addressee

B. Received by (Printed Name) Jennifer Ryan
C. Date of Delivery 12/8/06

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail ☐ Express Mail
☐ Registered ☑ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

7003 1680 0001 3385 6737 ERC Project #S-1052797

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

PROOF OF PUBLICATION

Richard Karrs.

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

RECEIVED
NOV 06 2006
SJVAPCD
Southern Region

SAN JOAQUIN VALLEY A.P.C.D.
1990 E GETTYSBURG FRED BATES
FRESNO, CA 93726

RECEIVED
OCT 31 2006
FINANCE
SJVAPCD

Ad Number:	10048523	**PO #:**	S-1052797
Edition:	TBC	**Run Times**	1
Class Code	Legal Notices		
Start Date	10/25/2006	**Stop Date**	10/25/2006
Billing Lines	43	**Inches**	259.84
Total Cost	$ 79.97	**Account**	1SAN51
Billing Address	SAN JOAQUIN VALLEY A.P.C.D. 1990 E GETTYSBURGFRED BATES FRESNO,CA 93726		

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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: 10/25/06

ALL IN YEAR 2006

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

DATED AT BAKERSFIELD CALIFORNIA

10-25-06

Solicitor I.D.: 0

First Text
NOTICEOFPRELIMINARYDECISIONFORTHEPROP

Ad Number 10048523

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 to Crimson Resource Management for the replacement of six existing IC engines driving gas compressors with three lower emitting IC engine/generator sets driving electric gas compressors, at the 1-C gas processing facility, Hwy 119 and Midway Road, Taft. The quantity of ERCs proposed for banking is 92,775 lb/year VOC, 14,242 lb/year NOx, 40,405 lb/year CO and 5,236 lb/year PM10.

The analysis of the regulatory basis for this proposed action, Project S1052797, 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 DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 2700 'M' STREET SUITE 275, BAKERSFIELD, CA 93301.

October 25, 2006 (10048523)

San Joaquin Valley
Air Pollution Control District

OCT 2 3 2006

Debra Monterroso
Crimson Resource Management
5001 California Avenue, Suite 206
Bakersfield, CA 93309

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: S-1052797

Dear Ms. Monterroso:

Enclosed for your review and comment is the District's analysis of Crimson Resource Management's application for Emission Reduction Credits (ERCs) resulting from the replacement of six existing IC engines driving gas compressors with three lower emitting IC engine/generator sets driving electric gas compressors, at the 1-C gas processing facility, Hwy 119 and Midway Road, Taft. The quantity of ERCs proposed for banking is 92,775 lb/year VOC, 14,242 lb/year NOx, 40,405 lb/year CO and 5,236 lb/year PM10.

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

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Richard Karrs of Permit Services at (661) 326-6954.

Sincerely,

David Warner
Director of Permit Services

DW:RWK/ls

Enclosures

Seyed Sadredin
Executive Director / Air Pollution Control Officer

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San Joaquin Valley
Air Pollution Control District

OCT 2 3 2006

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

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: S-1052797

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Director of Permit Services

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San Joaquin Valley
Air Pollution Control District

OCT 2 3 2006

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

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Project Number: S-1052797

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David Warner
Director of Permit Services

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

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The analysis of the regulatory basis for these proposed actions, Project #S-1052797, 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 **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 2700 'M' STREET SUITE 275, BAKERSFIELD, CA 93301.**

ERC APPLICATION REVIEW

Engineer: Richard Karrs

Date:

Lead Engineer: Leonard Scandura

Date:

Facility Name: Crimson Resource Management
Mailing Address: 5001 California Avenue
Bakersfield, CA 93301

Contact Name: Debra Monterroso
Phone: (661) 716-5001 x11

Project #: 1052797
ERC #'s: S-2202-1, '2, '3 and '4
Date Received: May 31, 2005
Date Complete: June 23, 2005

I. SUMMARY:

Crimson Resource Management requests emission reduction credit (ERC) banking certificates for emission reductions generated by the replacement of six lean burn, natural gas fired IC engines (S-48-3, '4, '7, '8, '9 and '10) driving gas compressors at the 1-C natural gas processing plant, facility S-48, located at Section 1, Township 32S, Range 23 East, MDB&M. The above-listed engines were replaced with three new, lower emitting IC engine/electric generators driving electric gas compressors. (IC engine '5 has also been permanently shutdown, but as it was not operated within the baseline period there are no actual emissions reductions for this engine.) Actual emission reductions in the amounts shown below were shown to quality for emission reduction credit banking.

Certificate	Pollutant	1Q (lb/qtr)	2Q (lb/qtr)	3Q (lb/qtr)	4Q (lb/qtr)
S-2202-1	VOC	23063	20161	19126	13979
S-2202-2	NOx	4704	3393	3449	2696
S-2202-3	CO	16677	10099	8459	5170
S-2202-4	PM10	1745	1292	1258	941

II. APPLICABLE RULES:

Rule 2201: New and Modified Stationary Source Review Rule (April 20, 2005)

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

III. PROJECT LOCATION:

The 1C gas plant facility (S-48) is located near the intersection of Highway 119 and Midway Road, Taft, Kern County. The facility is located within Section 1, Township 32S, and Range 23E.

IV. EQUIPMENT LISTING:

The descriptions shown below for the shutdown engines are taken from the current Permits to Operate. Engines S-48-27, '28 and '29, which were approved in project 1030826, replaced the service of the shutdown engines. The approval of engines S-48-28, '29 and '30 required that the engines being replaced be designated as emergency standby engines with no more than 100 hrs/yr of operation or be removed from service. Engines '9 and '10 were removed from service and never designated as emergency standby engines. Emergency standby service was implemented for brief periods for engines '3, '4, '7 and '8 prior to the engines being permanently shutdown. The shutdown date for each engine is included under Section VII.F, of this evaluation. Each of the shutdown engines operated as a full time engine during the baseline period.

S-48-3

600 HP CLARK MODEL RA-6 NATURAL GAS-FIRED EMERGENCY STANDBY IC ENGINE POWERING COMPRESSOR S/N A-21184

S-48-4

600 HP CLARK MODEL RA-6 NATURAL GAS-FIRED EMERGENCY STANDBY IC ENGINE DRIVING COMPRESSOR S/N 21167

S-48-7

660 HP CLARK MODEL HRA-6-M NATURAL GAS-FIRED EMERGENCY STANDBY IC ENGINE DRIVING COMPRESSOR S/N 21287

S-48-8

660 HP CLARK MODEL HRA-6-M NATURAL GAS-FIRED EMERGENCY STANDBY IC ENGINE DRIVING COMPRESSOR S/N A-21286

S-48-9

800 BHP NATURAL GAS FIRED CLARK MODEL RA-8 IC ENGINE DRIVING COMPRESSOR, S/N 25748

S-48-10

660 BHP NATURAL GAS FIRED CLARK MODEL HRA-6-M IC ENGINE DRIVING COMPRESSOR, S/N A-21383

V. METHOD OF GENERATING REDUCTIONS:

Actual Emissions Reductions (AER) were generated by the replacement and permanent shutdown of six internal combustion engines driving gas compressors at the I-C gas processing plant.

The gas compression service previously provided by the six subject engines has been replaced by electric motor driven gas compressors that derive their electric power from three natural gas-fired IC engine generators, units S-48-28, -29 and '30. Units 28, -29 and '30 were approved to replace the service of the subject engines in Project 1030826. Each of the replacing engines is rated at 1970 hp, drives a 1469 kw generator and is equipped with a three-way catalyst and air/fuel ratio controllers, and meets the following emissions limits: NOx (as NO2): 5 ppmvd @ 15% O2, CO: 56 ppmvd @ 15% O2, VOC: 25 ppmvd @ 15% O2, and PM10: 0.02 gram/hp hr.

Units S-48-28, 29 and 30 have significantly lower emissions of NOx, VOC, CO and PM10 than the replaced engines, allowing the same level of service and the opportunity to bank credits. To validate the emissions reductions approved for banking as "real" reductions, they have been reduced in amounts equal to the permitted emissions increases approved for units S-48-28, '29 and '30.

VI. CALCULATIONS:

A. Assumptions

- As the applicant has not request Actual Emissions Reductions for SOx, emissions calculation for SOx will not be made.
- Historical Actual Emissions (HAE) were calculated using the actual measured quantities of fuel burned during the two year baseline period and the lower of the Rule 4702 required emissions limit or the source test derived emissions factor for each exhaust stack. (Each engine has two exhaust stacks and each stack was individually source tested. For each engine, the source test derived emissions factors represent the average of the results from the two individually source tested stacks.) The applicant has provided copies of records keep at the facility

("Daily Rounds Report") showing the amounts of fuel used for each engine during the baseline period (Appendix A) and copies of source test reports (Appendix B). The following additional assumptions were made in calculating the HAE:

Heating value	974 Btu/scf, gas sample analysis, Appendix C
Standard Temp	60 °F
O2 Correction	15%
EPA F Factor	8777 dscf/MMBTU gas sample analysis, Appendix C
Molar Volume	379.5 ft^3/lb-mol

MW NOx = 46.0 lb/lb-mole, EPA Reference Test Method 7E, Rule 4702
MW CO = 28.0 lb/lb-mole, EPA Reference Test Method 10, Rule 4702
MW VOC = 16 lb/lb-mole, EPA Reference Test Method 25, Rule 4702

- As previously discussed, AER were generated by shutting down six IC engine driven gas compressors and replacing the service provided by those units with lower emitting IC engine electric generators providing power to drive electric gas compressors, units S-48-28, '29 and '30. For the emissions reductions to be considered real, they must be discounted for the approved increases in permitted emissions from the replacement engines. The permitted emissions for the replacement units were calculated using emissions factors set forth below, which were required to satisfy Rule 2201 BACT requirements. The following assumptions were made in calculating the permitted emissions for each unit:

Engine Rating	1970 BHP
Utilization	8760 hrs/yr
Engine Efficiency	30% (worst-case assumption used in the District calculator for ppmv to g/Bhp-hr conversion 30%
Standard Temp	60 °F
EPA F Factor	8777 dscf/MMBTU gas sample analysis, Appendix C
Heating value	974 Btu/scf, gas sample analysis, Appendix C
Constant	2542 Btu/BHP-HR
Molar Vol	379.5 ft^3/lb-mol
O_2 Correction	15%

B. Emission Factors

Emission Factors used in calculating HAE for eng '3 are shown below:

Emission Factors			
Pollutant	**Emission Factors (ppmv @ 15% O2)**	**Emission Factors (lb/MM Btu)**	**Reference**
VOC	528	0.692	Rules 4701/4702
NOx	61.5	0.232	Source Test
CO	131	0.301	Source Test
PM_{10}	-	0.0483	AP-42, Table 3.2-1

Emission Factors used in calculating HAE for eng '4 are shown below:

Emission Factors			
Pollutant	**Emission Factors (ppmv @ 15% O2)**	**Emission Factors (lb/MM Btu)**	**Reference**
VOC	710	0.931	Rules 4701/4702
NOx	28.5	0.107	Source Test
CO	120	0.275	Source Test
PM_{10}	-	0.0483	AP-42, Table 3.2-1

Emission Factors used in calculating HAE for eng '7 are shown below:

Emission Factors			
Pollutant	**Emission Factors (ppmv @ 15% O2)**	**Emission Factors (lb/MM Btu)**	**Reference**
VOC	498	0.653	Rules 4701/4702
NOx	65	0.245	Rules 4701/4702
CO	293	0.672	Source Test
PM_{10}	-	0.0483	AP-42, Table 3.2-1

Emission Factors used in calculating HAE for eng '8 are shown below:

Emission Factors			
Pollutant	**Emission Factors (ppmv @ 15% O2)**	**Emission Factors (lb/MM Btu)**	**Reference**
VOC	725	0.950	Rules 4701/4702
NOx	64.2	0.242	Source Test
CO	277.5	0.637	Source Test
PM_{10}	-	0.0483	AP-42, Table 3.2-1

Emission Factors used in calculating HAE for eng '9 are shown below:

Emission Factors			
Pollutant	**Emission Factors (ppmv @ 15% O2)**	**Emission Factors (lb/MM Btu)**	**Reference**
VOC	327.1	0.429	Source Test
NOx	65	0.245	Rules 4701/4702
CO	185.0	0.424	Source Test
PM_{10}	-	0.0483	AP-42, Table 3.2-1

Emission Factors used in calculating HAE for eng '10 are shown below:

Emission Factors			
Pollutant	**Emission Factors (ppmv @ 15% O2)**	**Emission Factors (lb/MM Btu)**	**Reference**
VOC	324.6	0.425	Source Test
NOx	65	0.245	Rules 4701/4702
CO	434.0	0.996	Source Test
PM_{10}	-	0.0483	AP-42, Table 3.2-1

The following emissions factors were used in calculating the permitted emissions for engines '28, '29 and '30:

Emission Factors			
Pollutant	Emission Factors	Units	Reference
VOC	25	Ppmv	BACT Guideline 3.3.12
NOx	5	Ppmv	BACT Guideline 3.3.12
CO	56	Ppmv	BACT Guideline 3.3.12
PM_{10}	0.02	g/bhp.hr	BACT Guideline 3.3.12

C. Baseline Period Historical Fuel Usage

The baseline period is defined in Rule 2201, 3.8.1 as the two consecutive years of operation immediately prior to submission of the Complete Application for ERC. The application for ERC was deemed complete on June 23, 2005. District practice is to exclude terminal downtime from the baseline period; that is, the period following the shutdown of equipment but before submission of the complete ERC application.

The baseline period for this project is the consecutive two-year period January, 2003 through December, 2004, which is the most recent period of operation without terminal downtime for the engines taken as a group. The dates the engines were shutdown are included in Section VII. F (Timeliness)

Shown below are the quantities of fuel consumed during the baseline period.

Fuel use by engine for 2003				
	Q1 Mcf/qtr	Q2 Mcf/qtr	Q3 Mcf/qtr	Q4 Mcf/qtr
S-48-3	1402	5000	5087	11811
S-48-4	10	476	1840	714
S-48-7	10409	13217	10177	10129
S-48-8	2398	243	4902	6168
S-48-9	16169	12805	21661	21658
S-48-10	15206	14477	14972	15445

Fuel use by engine for 2004				
	Q1 Mcf/qtr	Q2 Mcf/qtr	Q3 Mcf/qtr	Q4 Mcf/qtr
S-48-3	11170	12028	11894	301
S-48-4	1562	6012	0	0
S-48-7	1397	2771	6309	1434
S-48-8	12241	10505	6824	1022
S-48-9	19290	0	0	0
S-48-10	15417	7684	0	0

Fuel use by engine, average for the two yr baseline period				
	Q1 Mcf/qtr	Q2 Mcf/qtr	Q3 Mcf/qtr	Q4 Mcf/qtr
S-48-3	6286	8514	8490.5	6056
S-48-4	786	3244	920	357
S-48-7	5903	7994	8243	5781.5
S-48-8	7319.5	5374	5863	3595
S-48-9	17729.5	6402.5	10830.5	10829
S-48-10	15311.5	11080.5	7486	7722.5

D. Calculation of Historical Actual Emissions

Shown below are a set of sample calculations for engine S-48-3 and below that a summary of the HAE for each engine for each pollutant. Spreadsheet calculations for the HAE, AER and bankable AER are included in Appendix D.

Sample Calculations for S-48-3

VOC
6286 (MSCF/qtr) x (974 Btu/scf) x 0.692 lb VOC/MM Btu = 4237 lb VOC/qtr

NOx
6286 (MSCF/qtr) x (974 Btu/scf) x 0.232 lb NOx/MM Btu = 1420 lb NOx/qtr

CO
6286 (MSCF/qtr) x (974 Btu/scf) x 0.301 lb CO/MM Btu = 1843 lb CO/qtr

PM10
6286 (MSCF/qtr) x (974 Btu/scf) x 0.0483 lb PM10/MM Btu = 296 lb PM10/qtr

Historical Actual Emissions (HAE)

Unit	VOC	VOC	VOC	VOC
	Qtr 1	Qtr 2	Qtr 3	Qtr 4
3	4237	5739	5723	4082
4	713	2942	834	324
7	3754	5084	5243	3677
8	6773	4973	5425	3326
9	7408	2675	4525	4525
10	6338	4587	3099	3197
HAE Total	29223	25999	24849	19131

Unit	NOx	NOx	NOx	NOx
	Qtr 1	Qtr 2	Qtr 3	Qtr 4
3	1420	1924	1919	1368
4	82	338	96	37
7	1409	1908	1967	1380
8	1725	1267	1382	847
9	4231	1528	2584	2584
10	3654	2644	1786	1843
HAE Total	12521	9608	9734	8060

Unit	CO	CO	CO	CO
	Qtr 1	Qtr 2	Qtr 3	Qtr 4
3	1843	2496	2489	1775
4	211	869	246	96
7	3864	5232	5395	3784
8	4541	3334	3638	2230
9	7322	2644	4473	4472
10	14854	10749	7262	7492
HAE Total	32634	25325	23503	19849

Unit	PM10	PM10	PM10	PM10
	Qtr 1	Qtr 2	Qtr 3	Qtr 4
3	296	401	399	285
4	37	153	43	17
7	278	376	388	272
8	344	253	276	169
9	834	301	510	509
10	720	521	352	363
HAE Total	2509	2005	1968	1616

E. Permitted Emissions for Replacement Engines

Summarized below are the potentials to emit (permitted emissions) for the three replacement engines, S-48-28, '29 and '30. These potentials will be subtracted from the HAE to obtain actual emission reductions. Permitted emissions for each air contaminant are the same for each calendar quarter. The calculation spreadsheet results and example calculations are included as Appendix E.

Unit	VOC	NOx	CO	PM10
	lb/qtr	lb/qtr	lb/qtr	lb/qtr
28	1199	690	4701	190
29	1199	690	4701	190
30	1199	690	4701	190
Total	3598	2069	14104	570

F. Actual Emissions Reductions (AER), Air Quality Improvement Deduction (10% of AER), NOx Reductions Required by Mutual Settlement Agreement and Bankable AER

Pursuant to Section 4.12 of Rule 2201, AER shall be calculated, on a pollutant-by-pollutant basis, as follows:
AER = HAE – PE2; *Where, HAE = Historic Actual Emissions*
PE2 = Post-Project Potential to Emit
The PE2 for the shutdown engines is zero.

The AER have been reduced by the permitted emissions approved for the replacement engines, by a further10%, for an Air Quality Improvement Deduction (AQID) and, for NOx, by the 50% reduction in credits required as a result of the settlement agreement entered into between the District and Crimson Resource Management Corporation on April 6, 2005.

The bankable AER are summarized below:

	VOC	VOC	VOC	VOC
	Qtr 1	Qtr 2	Qtr 3	Qtr 4
HAE Total	29223	25999	24849	19131
Permitted Emissions	3598	3598	3598	3598
AER	25625	22401	21251	15533
AQID	2563	2240	2125	1553
Bankable AER	23063	20161	19126	13979

	NOx	NOx	NOx	NOx
	Qtr 1	Qtr 2	Qtr 3	Qtr 4
HAE Total	12521	9608	9734	8060
Permitted Emissions	2069	2069	2069	2069
AER	10452	7539	7665	5991
AQID	1045	754	767	599
Reduction Req'd By Settlement	4703	3392	3449	2696
Bankable AER	4704	3393	3449	2696

	CO	CO	CO	CO
	Qtr 1	Qtr 2	Qtr 3	Qtr 4
HAE Total	32634	25325	23503	19849
Permitted Emissions	14104	14104	14104	14104
AER	18530	11221	9399	5745
AQID	1853	1122	940	575
Bankable AER	16677	10099	8459	5170

	PM10 Qtr 1	PM10 Qtr 2	PM10 Qtr 3	PM10 Qtr 4
HAE Total	2509	2005	1968	1616
Permitted Emissions	570	570	570	570
AER	1939	1435	1398	1046
AQID	194	143	140	105
Bankable AER	1745	1292	1258	941

VII. COMPLIANCE:

To be eligible for banking, emission reduction credits (ERC's) must be verified as being real, enforceable, quantifiable, permanent, and surplus pursuant to District Rules 2201 and 2301. In addition, the application must be submitted within 180 days of when the reduction occurred (Rule 2301, 4.2.3).

A. Real

The AERs quantified in this project were based on actual, historical emissions from the six subject engines located at the IC gas plant, as they were operated during the baseline period. The engines have been permanently shutdown and the permits surrendered. The emissions from the replacement engines, IC engine/generators '28.'29 and '30, have been assessed at 100% capacity and utilization and have been subtracted from the HAE as required by District Rule 2201.

IC engines '28, 29 and '30 and the gas compressors attached to those generators handle all of the natural gas compression workload at the plant that was previously handled by the six shutdown engines. There are two additional full time use IC engines permitted at the 1-C plant, units '11 and '24, but these engines are used to compress propane, which is the refrigerant in a separate heat exchange system at the plant and are not available to pick up any of the natural gas compression workload. Emissions from engines '28, '29 and '30 have been accounted for at the stationary source and have been subtracted from HAE as required by District Rule 2201.

The 1C gas plant is subject to ongoing District inspection that has confirmed the shutdown engines are no longer operational at cannot be relocated and re-started within the air basin.

Therefore, the reductions are real.

B. Enforceable

The reductions are enforceable in that the subject engines have been rendered permanently inoperable and the emissions from the replacement engines have been fully accounted for at the stationary source. The replacement engines have satisfied all applicable New Source Review requirements, including BACT, offsets and noticing.

Therefore the reductions are enforceable.

C. Quantifiable

The AERs were calculated using the actual quantities of fuel burned in each engine in the baseline period. The amounts of fuel burned were determined from copies of the "Daily Rounds Report" that were kept and recorded daily by the plant operator. The "Daily Rounds Report" shows the daily and cumulative fuel burned for each engine (MSCF). For NOx, CO and VOC, the emissions factors used were the lower of the source test derived values or the emissions limits required by Rule 4702. For PM10, an emissions factor from AP-42, Table 3.2-1, *Uncontrolled Emissions For 2-Stroke Lean Burn Engines,* was used.

Therefore the reductions have been properly quantified.

D. Permanent

The permits for the subject engines have been cancelled. The District will verify through on-site inspection that the equipment has been rendered permanently inoperable.

The reductions are considered permanent.

E. Surplus

Rule 2201 New and Modified Source Review (NSR)

Approval of replacement engines S-48-28, '29 and '30 required that the permitted emissions increases from these engines be mitigated as required under the provisions set forth in Rule 2201. As the emission reduction credits being granted in this project have been reduced by the permitted emissions increases from engines S-48-28, '29 and '30, full mitigation has occurred and the remaining emissions reduction credits are surplus of NSR requirements.

Rule 4701 (Internal Combustion Engines – Phase 1)

For lean burn engines, this rule requires emissions levels not exceeding 75 ppmv NOx, 2000 ppmv CO and 750 ppmv VOC, all at 15% O2. For NOx, CO and VOC, the HAE and AER were calculated in this project using the lower of the source test derived emissions factor or the rule required emissions limit. Thus, by the manner in which they were quantified, the HAE, AER and ERC approved in this project are surplus of the reductions required by this rule.

Rule 4702 (Internal Combustion Engines – Phase 2, as amended 4/20/06)

For lean burn engines, this rule proposes emissions levels not exceeding 65 ppmv NOx, 2000 ppmv CO and 750 ppmv VOC, all at 15% O2. For NOx, CO and VOC, the HAE and AER were calculated in this project using the lower of the source test derived emissions factor or the rule required emissions limit. Thus, by the manner in which they were quantified, the HAE, AER and ERC approved in this project are surplus of the reductions required by this rule. It is noted that each of the replaced engines was permanently shutdown prior to the earliest compliance date set forth in this rule, June 1, 2005 for 25% of the engines at a stationary source.

Settlement Agreement of April 6, 2005

As stipulated in the settlement agreement entered into between the District and Crimson Resource Management on April 6, 2005, Crimson agreed to surrender one-half of any NO_x generated and approved by the District as a result of the genset electrification project at the 1C Gas Plant. The NO_x ERC approved in this project have been reduced by one-half, and are thus surplus of the reduction required of the settlement agreement.

There are no emission reductions required for the engines under evaluation in this project by any other rule, regulation, agreement, or order of the District, State, or Federal Government, either existing, noticed for workshop, or proposed or contained in a State Implementation Plan. The reductions are surplus.

F. Timeliness

Applications for ERC were received on May 31, 2005, which was within 180 days of the date of reduction. Effective on the dates listed below, the operator notified the District that the engines were permanently shutdown and requested cancellation of the permits.

Unit	Date of Shutdown
S-48-3	July, 2005
S-48-4	January 10, 2005
S-48-7	May 5, 2005
S-48-8	May 5, 2005
S-48-9	December 2, 2004
S-48-10	December 2, 2004

The dates that operator notified the District are the dates the reductions officially occurred. The applications were filed within 180 days of the dates the reductions occurred, thus the applications were timely.

VIII. RECOMMENDATION:

After public notice, review by the EPA and ARB, and after addressing any comments received during the noticing period, issue ERC Banking Certificates to Crimson Resource Management in the amounts shown in Section 1 of this evaluation.

Appendix A

RAW Fuel Use Records

1C Gas Plant Fired Equipment Daily Rounds Report

Date: 1-2-03

Day Operator Signature Mon

Night Operator Signature Sullivan

Compressors

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	#7	#8	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today / Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter	
Clark # 1																				0	21376	0	24				1
Clark #2																				0	7446	0	0				2
Clark #5	389	3	203	200	225		570	580	560	520	580	50			177	184	—	—	46	224	27225	18	0	278	912312	2[illegible]07	5
Clark #6																				33	27186	30	23				6
Clark #12	382	5	215	200	230	215	580	610	550	500	550	590	510	500	157	172	—	—	35	350	65225 / 64851	17	0	2[illegible]35	124[illegible]	[illegible]	12
Clark #14																											13
Clark #15																											15
Clark #16	421	4	220	210	225		720	760	215	480	460	750			145	152			40	299	49625 / 49326	46	0	[illegible]1	805677	[illegible]497	16
XVG K-2	736		160	155	200	210	Elect Assist On?		Are One Shot Lubricators Full?	✓					73	83			54	64		24	0	2[illegible]19		69[illegible]	K-2
XVG K-3							Elect Assist On?		Are One Shot Lubricators Full?											0		0	0				K-3

R.O. System

Inlet Filter D. P.		Pass Press. 1 st.	Pass Press. 2 nd.	Flow Rate 2 nd.	Flow Rate 1 st.	Flow Rate Final	Pump Press
							165

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Hrs. On	Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A	0	24			

Emergency Flare

Equipment	Up	Down
F-1		
F-2		

Pump Seals

Pump	OK	Leaks	Pump	OK	Leaks
P-5A	✓				
P-5B	✓				
P-6A	✓				
P-6B	✓				
P-7A	✓				
P-7B	✓				
P-8A	✓				
P-8B	✓				

Stand By Electric Generators

Equipment	Eng RPM	Oil Temp	Oil Press.	Fuel Level	Fuel Tank Level	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
KW								25	24			
								0	24			

Hot Oil Skid

Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
24	0			54

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01		
Hot oil Skid	3.598		

54

1C Gas Plant Fired Equipment Daily Rounds Report

Day Operator Signature: Sullivan Night Operator Signature: Mott Date: 3-30-03

Compressors

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	#7	#8	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter
Clark #1																					22779 / 22773	1	13	8778	4026	7269
Clark #2																					7456 / 7454	22	13	9,960	82001	39086
Clark #5	316		260	262	254		560	520	520	520	460	420									37634 / 37541	20	4	4414	742065	230447
Clark #6																					29384 / 29383	1	23	2667	656078	246860
#12	307						550	560	560	560	580	420	550	560							13676 / 12929	22	2	1307	418549	263064
Clark #14																								6554		18587
Clark #15																										
Clark #16	329						680	560	640	580	320	560									64532 / 64427	20	4	2415	815865	435135
XVG K-2	335						Elect Assist On?		Are One Shot Lubricators Full?													20	4	4573		
XVG K-3							Elect Assist On?		Are One Shot Lubricators Full?													8	24			

R.O. System

Inlet Filter D. P.		Pass Press. 1 st.	Pass Press. 2 nd.	Flow Rate 2 nd.	Flow Rate 1 st.	Flow Rate Final	Pump Press

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Hrs. On	Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A	0	24			

Emergency Flare

Equipment	Up	Down
F-1	300	
F-2	135	

Pump Seals

Pump	OK	Leaks
P-5A	—	
P-5B	—	
P-6A	—	
P-6B	—	
P-7A	—	
P-7B	—	
P-8A	—	
P-8B	—	

Stand By Electric Generators

Equipment	Eng RPM		Oil Temp	Oil Press.	Fuel Level	Fuel Tank Level	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
500 KW									0	24			
50 KW									0	24			

Hot Oil Skid

Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
22	2			

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01	9.6	2.0
Hot oil Skid	3.598	6.3	3.6

Comments:

TC Gas Plant Fired Equipment Daily Rounds Report

Day Operator Signature Bob Price

Night Operator Signature ED NITRO

Date: 6-30-03

Compressors

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	#7	#8	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today / Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter	
Clark # 1	310		230	260	280		600	500	540	600	580	610			140	140	140	180	35		27728 / 2738	24	~~0~~	0423	4026	7269	1
Clark #2																					7932 / 7932						2
Clark #5	300		240	260	280		620	600	610	580	600	580			140	148	140	185	35		50851 / 50876	24	~~0~~	5723	793931	230054	5
Clark #6																					29827 / 29827						6
Clark #12																					26481 / 26481						12
Clark #14			210	220												98			45			24	~~0~~	7151		10176	14
Clark #15																											15
Clark #16	320		280	240	260		600	600	580	570	610	600			140	142			35		79009 / 78773	24	~~0~~	8209	553783	167471	16
XVG K-2	330		140	140	150	160	Elect Assist On? NO		Are One Shot Lubricators Full? ✓						135	190			30			24	~~0~~	—		38552	K-2
XVG K-3	335		140	145	150	160	Elect Assist On? YES		Are One Shot Lubricators Full? ✓						125	140			45			24	~~0~~	5706		24259	K-3

R.O. System

Inlet Filter D. P.		Pass Press. 1 st.	2 nd.	Flow Rate 2 nd.	1 st.	Final	Pump Press

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Hrs. On	Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A	~~0~~	<24			

Emergency Flare

Equipment	Up	Down
F-1	191	
F-2	182	

Pump Seals

Pump	OK	Leaks
P-5A	✓	
P-5B	✓	
P-6A	✓	
P-6B	✓	
P-7A	✓	
P-7B	✓	
P-8A	✓	
P-8B	✓	

Stand By Electric Generators

Equipment	Eng RPM		Oil Temp	Oil Press.	Fuel Level	Fuel Tank Level	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
500 KW									~~0~~	24			
150 KW									~~0~~	24			

Hot Oil Skid

Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
24	~~0~~			

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01	9.4	5.4
Hot oil Skid	3.598		

Comments:

TC Gas Plant Fired Equipment Daily Rounds Report

Day Operator Signature Sullivan

Night Operator Signature Moss

Date: 9-30-03

Compressors

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	#7	#8	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today / Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter	
Clark #1	294	✓																			32865 / 32716	24	0	6145	4026	7268	1
Clark #2																					9772 / 9772	0	24	9228	096121	569855	2
Clark #5	297	✓	240	235	245																61028 / 60846	24	0	6599	47084?	230059	5
Clark #6																					34729 / 34729	0	24	2658	656?8	370390	6
#12	320	✓																			48142 / 47859	24	0	6199	055485	3?3007	12
Clark #14																						0	24	7426		39549	14
Clark #15																						0	24	9727		31650	15
Clark #16	315																				93861 / 93801	24	0	3633	789040	167590	16
XVG K-2	339						Elect Assist On? ✓				Are One Shot Lubricators Full? ✓											24	0	5042		49973	K-2
XVG K-3							Elect Assist On?				Are One Shot Lubricators Full?											0	24	5940		01585	K-3

R.O. System

Inlet Filter D. P.		Pass Press. 1 st.	Pass Press. 2 nd.	Flow Rate 2 nd.	Flow Rate 1 st.	Flow Rate Final	Pump Press

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Hrs. On	Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A	0	24			

Emergency Flare

Equipment	Up	Down
F-1	166	
F-2	173	

Pump Seals

Pump	OK	Leaks
P-5A	✓	
P-5B	✓	
P-6A	✓	
P-6B	✓	
P-7A	✓	
P-7B	✓	
P-8A	✓	
P-8B	✓	

Stand By Electric Generators

Equipment	Eng RPM	Oil Temp	Oil Press.	Fuel Level	Fuel Tank Level	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
30 KW								0	24			
30 KW								0	24			

Hot Oil Skid

Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
24	0			

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01	9.4	2.5
Hot oil Skid	3.598	6.5	3.0

Comments:

TC Gas Plant Fired Equipment Daily Rounds Report

Date: 12-31-03

Day Operator Signature Rob Price

Night Operator Signature ED NITRO

Compressors

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	#7	#8	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter	
Clark # 1	310	YES	220	240	260										120	130			46		[illegible] /	24	0	—	4026	7269	1
Clark #2																					10486 /						2
Clark #5																					[illegible] /						5
Clark #6	305	YES	230	245	240										[illegible]	130	100	120	55		[illegible] /	24	0	—	[illegible]	16132	6
#12	313	YES	240	220	260	250									130	140	40	90	32		[illegible] /						12
Clark #14																											14
Clark #15																60			[illegible]					9999		[illegible]	15
Clark #16	320	YES	280	250	280										[illegible]	100			[illegible]		9426 /	[illegible]	0	514	4913	[illegible]	16
XVG K-2	338		120	120	140	150	Elect Assist On? YES		Are One Shot Lubricators Full? ✓						120	130			45	.		24	0	—		5571	K-2
XVG K-3							Elect Assist On?		Are One Shot Lubricators Full?																		K-3

R. O. System

Inlet Filter D. P.		Pass Press. 1 st.	Pass Press. 2 nd.	Flow Rate 2 nd.	Flow Rate 1 st.	Flow Rate Final	Pump Press

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Hrs. On	Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A					

Emergency Flare

Equipment	Up	Down
F-1		
F-2		

Pump Seals

Pump	OK	Leaks
P-5A		
P-5B		
P-6A		
P-6B		
P-7A		
P-7B		
P-8A		
P-8B		

Stand By Electric Generators

Equipment	Eng RPM		Oil Temp	Oil Press.	Fuel Level	Fuel Tank Level	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
500 KW													
150 KW													

Hot Oil Skid

Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01	9.7	2.3
Hot oil Skid	3.598		

Comments:

1C Gas Plant Fired Equipment Daily Rounds Report

Day Operator Signature Bob Price

Night Operator Signature Barry Sullivan

Date: 3-29-04

Compressors

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	#7	#8	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today / Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter	
Clark # 1																					55846 / 55267	24	0				1
Clark #2																					12048 / 11881	0	24				2
Clark #5																					72554 / 71855	24	0				5
Clark #6																					53138 / 53003	0	24				6
C #12																					89090 / 88026	24	0				12
Clark #14																						24	0				14
Clark #15																						0	24				15
Clark #16																					24843 / 23979	24	0				16
XVG K-2							Elect Assist On?		Are One Shot Lubricators Full?													0	24				K-2
XVG K-3							Elect Assist On?	✓	Are One Shot Lubricators Full?		1											24	0				K-3

R. O. System

Inlet Filter D. P.	Pass Press. 1 st.	Pass Press. 2 nd.	Flow Rate 2 nd.	Flow Rate 1 st.	Flow Rate Final	Pump Press

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Hrs. On	Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A	0	24			

Emergency Flare

Equipment	Up	Down
F-1	196	
F-2	170	

Pump Seals

Pump	OK	Leaks
P-5A	✓	
P-5B	✓	
P-6A	✓	
P-6B	✓	
P-7A	✓	
P-7B	✓	
P-8A	✓	
P-8B	✓	

Stand By Electric Generators

Equipment	Eng RPM		Oil Temp	Oil Press.	Fuel Level	Fuel Tank Level	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
500 KW													
150 KW													

Hot Oil Skid

Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
24	0			

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01	9.6	2.4
Hot oil Skid	3.598	6.4	3.2

Comments: Top fuel reading taken 4-2-04 @ 9:00 am.

1C Gas Plant Fired Equipment Daily Rounds Report

Day Operator Signature Sullivan Night Operator Signature Nitro Date: 6-30-04

Compressors

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	#7	#8	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today / Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter	
Clark # 1	297	✓																			67874 / 67738	24	0	N/O	4026	7269	1
Clark #2	293	✓																			18060 / 17926	24	0	N/O	239167	115631	2
Clark #5																					75325 / 75325	0	24	8303	395245	230061	5
Clark #6	297	✓																			63643 / 63499	24	0	5385	656088	118317	6
Clark #12	—	—																			— / —	—	—	—	—	—	1
Clark #14																						24	0	260		59346	1
Clark #15																						24	0	0227		046022	1
Clark #16																					32523 / 32517	0	24	1621	541321	165222	1
XVG K-2							Elect Assist On?				Are One Shot Lubricators Full?											0	24	N/O		41391	K
XVG K-3	331						Elect Assist On?	—			Are One Shot Lubricators Full?	—										24	0	6256		19787	K

R. O. System

Inlet Filter D. P.		Pass Press. 1 st.	Pass Press. 2 nd.	Flow Rate 2 nd.	Flow Rate 1 st.	Flow Rate Final	Pump Press

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Hrs. On	Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A	0	24			

Emergency Flare

Equipment	Up	Down
F-1	222	
F-2	182	

Pump Seals

Pump	OK	Leaks
P-5A	—	
P-5B	—	
P-6A	—	
P-6B	—	
P-7A	—	
P-7B	—	
P-8A	—	
P-8B	—	

Stand By Electric Generators

Equipment	Eng RPM		Oil Temp	Oil Press.	Fuel Level	Fuel Tank Level	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
500 KW									0	24			
150 KW									0	24			

Hot Oil Skid

Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
24	0			

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01	4.6	2.0
Hot oil Skid	3.598	6.6	3.3

Comments:

1C Gas Plant Fired Equipment Daily Rounds Report

Day Operator Signature Price "THE C-17 LOG MASTER" Night Operator Signature Nitro "THE MASTER" Date: 9-26-04

Compressors

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	#7	#8	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today / Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter	
Clark # 1	294	10	210	271	150										125	135			38		79768 / 79463						1
Clark #3																											3
Clark #5	302	10	220	229	235										125	136	—		37		81634 / 31307						5
Clark #6																					70467 / 70467						6
#12																					— / —	6	24				12
Clark #14			240	224												87			49					2034		46619	14
Clark #15			255	265												89			77					0871		31000	15
Clark #16																					32527 / 32527						16
XVG K-2							Elect Assist On?		Are One Shot Lubricators Full?																		K-2
XVG K-3	335		140	141	190	193	Elect Assist On? ✓		Are One Shot Lubricators Full? ✓						130	134			43					6429		00966	K-3

R.O. System

Inlet Filter D. P.		Pass Press. 1 st.	Pass Press. 2 nd.	Flow Rate 2 nd.	Flow Rate 1 st.	Flow Rate Final	Pump Press

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Hrs. On	Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A					

Emergency Flare

Equipment	Up	Down
F-1		
F-2		

Pump Seals

Pump	OK	Leaks
P-5A		
P-5B		
P-6A		
P-6B		
P-7A		
P-7B		
P-8A		
P-8B		

Stand By Electric Generators

Equipment	Eng RPM		Oil Temp	Oil Press.	Fuel Level	Fuel Tank Level	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
500 KW													
150 KW													

Hot Oil Skid

Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01	9.7	2.2
Hot oil Skid	3.598	6.5	4.7

Comments:

1C Gas Plant Fired Equipment Daily Rounds Report

Date: 12-31-04

Day Operator Signature Price

Morning Tower Operator Signature Nitro

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today / Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter	
Clark # 1																			60069 / 59019						1
Clark #3			195	260	215									—			46			24	E	1311	88739	443198	3
Clark #5																			83065 / 83268						5
Clark #6																			71489 / 71459						6
Clark #12			200	205	230	250								—						24	E	5903			12
Clark #14																				24	E	3349		29483	14
Clark #15																									15
Clark #16																									16
XVG K-2							Elect Assist On?		Are One Shot Lubricators Full?																K-2
XVG K-3	336		120	120	45	140	Elect Assist On?	YES	Are One Shot Lubricators Full?	✓			85	100			52			24	E	6509		15743	K-3

R. O. System

Inlet Filter D. P.	Total D. S.	Pass Press. 1 st.	2 nd.	Flow Rate 2 nd.	1 st.	Final	Pump Press

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment Hrs.			Fuel Prev. Read	Fuel Today Read	Fuel Used
	On	Off			
4-1A	E	24			

Emergency Flare

Equipment	Up	Down
F-1	200	
F-2	140	

Pump Seals

Pump	OK	Leaks
P-5A	✓	
P-5B	✓	
P-6A	✓	
P-6B	✓	
P-7A	✓	
P-7B	✓	
P-8A	✓	
P-8B	✓	

Stand By Electric Generators

Equipment	Eng RPM	Oil Level	Oil Temp	Oil Press.	Fuel Level Day Tank	Fuel Level Storg. Tank	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read
500 KW									E	24		
150 KW									E	24		

Hot Oil Skid

Hours On	Hours Off	Fuel Used
24	E	

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01		
Hot oil Skid	3.598		

Comments:

Appendix B

Engine Source Test Results

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
IC Engine 7D 1 - North Stack

Project 129-3370D
October 24, 2003
Permit No. S-48-3-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
NOx	58	142	47	
	58	144	48	
	75	181	60	
Mean	64	156	52	75 ppm @ 15% O_2
CO	145	356	117	
	142	353	116	
	141	341	112	
Mean	143	350	115	2000 ppm @ 15% O_2
VOC	382.0	936.6	308.7	
	383.2	952.7	314.1	
C_3 - C_6+ as C_1	371.8	899.4	296.4	
Mean	379.0	929.6	306.4	750 ppm @ 15% O_2

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
IC Engine 7D 1 - South Stack

Project 129-3370D
October 24, 2003
Permit No. S-48-3-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
NOx	79	214	71	
	81	220	72	
	77	212	70	
Mean	79	215	71	75 ppm @ 15% O_2
CO	156	423	139	
	164	445	147	
	171	471	155	
Mean	164	446	147	2000 ppm @ 15% O_2
VOC	1917.3	5199.9	1713.9	
C_1 - C_6+ as C_1	1976.3	5359.9	1766.7	
	1743.8	4802.1	1582.9	
Mean	1879.1	5120.6	1687.8	750 ppm @ 15% O_2

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
I C Engine 2 - North Stack

Project 129-3370A
August 29, 2003
Permit No. S-48-4-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
NOx	34	85	28	
	36	91	30	
	38	93	31	
Mean	**36**	**90**	**30**	**75 ppm @ 15% O_2**
CO	153	380	125	
	155	391	129	
	151	370	122	
Mean	**153**	**380**	**125**	**2000 ppm @ 15% O_2**
VOC	1772.1	4405.7	1452.1	
	1846.2	4654.4	1534.1	
C_3 - C_6+ as C_1	1906.6	4675.1	1541.0	
Mean	**1841.6**	**4578.4**	**1509.1**	**750 ppm @ 15% O_2**

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
IC Engine 2 - South Stack

Project 129-3370A
August 29, 2003
Permit No. S-48-4-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
NOx	36	79	26	
	38	84	28	
	36	81	27	
Mean	**37**	**81**	**27**	**75 ppm @ 15% O_2**
CO	160	349	115	
	159	351	116	
	154	345	114	
Mean	**158**	**348**	**115**	**2000 ppm @ 15% O_2**
VOC	968.2	2113.5	696.7	
	890.9	1968.8	648.9	
C_3 - C_6+ as C_1	898.3	2009.9	662.4	
Mean	**919.1**	**2030.7**	**669.3**	**750 ppm @ 15% O_2**

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
IC Engine 5 - North Stack

Project 129-3370A
August 27, 2003
Permit No. S-48-7-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
	109	250	82	
NOx	116	263	87	
	116	273	90	
Mean	**114**	**262**	**86**	**75 ppm @ 15% O_2**
	321	737	243	
CO	345	782	258	
	336	791	261	
Mean	**334**	**770**	**254**	**2000 ppm @ 15% O_2**
	332.9	764.0	251.8	
VOC	333.4	755.4	249.0	
C_3 - C_6+ as C_1	306.6	722.2	238.1	
Mean	**324.3**	**747.2**	**246.3**	**750 ppm @ 15% O_2**

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
IC Engine 5 - South Stack

Project 129-3370A
August 27, 2003
Permit No. S-48-7-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
NOx	94	267	88	
	92	266	88	
	100	280	92	
Mean	**95**	**271**	**89**	**75 ppm @ 15% O_2**
CO	343	975	321	
	365	1054	347	
	356	996	328	
Mean	**355**	**1008**	**332**	**2000 ppm @ 15% O_2**
VOC	1824.5	5183.9	1708.7	
	1934.7	5585.7	1841.1	
C_3 - C_6+ as C_1	1936.6	5416.5	1785.3	
Mean	**1898.6**	**5395.4**	**1778.4**	**750 ppm @ 15% O_2**

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Aera
IC Engine 6 - North Stack

Project 129-3370B
October 2, 2003
Permit No. S-48-8-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
	82.5	183.9	60.6	
NOx	94.4	205.1	67.6	
	86.6	190.2	62.7	
Mean	**87.8**	**193.1**	**63.6**	**75 ppm @ 15% O_2**
	432	963	317	
CO	450	978	322	
	459	1008	332	
Mean	**447**	**983**	**324**	**2000 ppm @ 15% O_2**
	1014.8	2262.0	745.6	
VOC	1034.4	2247.1	740.6	
C_3 - C_6+ as C_1	851.1	1869.3	616.1	
Mean	**966.8**	**2126.1**	**700.8**	**750 ppm @ 15% O_2**

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Aera
IC Engine 6 - South Stack

Project 129-3370B
October 2, 2003
Permit No. S-48-8-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
	66.5	197.1	65.0	
NOx	62.8	187.7	61.9	
	68.2	204.1	67.3	
Mean	**65.8**	**196.3**	**64.7**	**75 ppm @ 15% O_2**
	239	708	233	
CO	224	669	221	
	242	724	239	
Mean	**235**	**700**	**231**	**2000 ppm @ 15% O_2**
	1721.2	5100.9	1681.3	
VOC	1796.9	5369.7	1770.0	
C_3 - C_6+ as C_1	1911.4	5721.5	1885.8	
Mean	**1809.8**	**5397.4**	**1779.0**	**750 ppm @ 15% O_2**

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
IC Engine 12 North Stack

Project 129-3370E
November 26, 2003
Permit No. S-48-9-4

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
	191.6	453.7	149.5	
NOx	178.5	410.2	135.2	
	165.3	377.9	124.6	
Mean	**178.5**	**413.9**	**136.4**	**75 ppm @ 15% O_2**
	237	561	185	
CO	212	487	161	
	217	496	164	
Mean	**222**	**515**	**170**	**2000 ppm @ 15% O_2**
	291.7	690.7	227.7	
VOC	342.4	786.8	259.3	
C_3 - C_5+ as C_1	268.7	614.2	202.5	
Mean	**300.9**	**697.2**	**229.8**	**750 ppm @ 15% O_2**

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
IC Engine 12 South Stack

Project 129-3370E
November 26, 2003
Permit No. S-48-9-4

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
NOx	83.9	232.1	76.5	
	87.6	240.1	79.1	
	87.1	242.5	79.9	
Mean	**86.2**	**238.2**	**78.5**	75 ppm @ 15% O_2
CO	224	620	204	
	218	598	197	
	217	604	199	
Mean	**220**	**607**	**200**	2000 ppm @ 15% O_2
VOC	454.9	1258.5	414.8	
	469.0	1285.7	423.8	
C_3 - C_6+ as C_1	473.3	1317.6	434.4	
Mean	**465.7**	**1287.3**	**424.3**	750 ppm @ 15% O_2

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Aera
IC Engine 16

Project 129-3370B
October 2, 2003
Permit No. S-48-10-4

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
NOx	145.9	362.7	119.6	
	128.2	310.1	102.2	
	127.4	304.5	100.4	
Mean	**133.8**	**325.8**	**107.4**	**75 ppm @ 15% O_2**
CO	549	1365	450	
	526	1272	419	
	548	1310	432	
Mean	**541**	**1316**	**434**	**2000 ppm @ 15% O_2**
VOC	393.8	979.1	322.8	
	403.2	975.4	321.5	
C_3 - C_6+ as C_1	418.2	999.5	329.4	
Mean	**405.1**	**984.7**	**324.6**	**750 ppm @ 15% O_2**

Comments:

Appendix C

Natural Gas Heating Value and F-Factor

Midway Laboratory Inc.
Petroleum-Industrial-Environmental
315 Main Street P.O. Box 1151
Taft California 93268

State Certificate #
Phone # (661) 765-
Fax # (661) 765-
E-Mail mid

NATURAL GAS ANALYSIS

ELAP Cert. 1396

Rev.1/12/03

Customer: Crimson Resources
Attention: Rick Hood

Log #: 7432-7
Date Received: 1/12/2004
Date Completed: 1/12/2004
Report Date: 1/13/2004

Sample Description: Meter # 17

Analytical Parameter: Natural Gas Analysis

Constituent	Mole %	Wt. %	Lv. %
Oxygen	0.861	1.263	0.868 *
Nitrogen	5.279	6.889	3.769 *
Carbon Dioxide	9.023	16.497	16.733 *
Methane	75.323	50.289	63.714 *
Ethane	5.584	7.793	10.402 *
Propane	2.661	5.466	3.659
Iso-Butane	0.283	0.766	0.462
N-Butane	0.558	1.510	0.878
Iso-Pentane	0.170	0.571	0.310
N-Pentane	0.279	0.937	0.504
Hexanes Plus	0.000	0.000	0.000
Hydrogen	0.000	0.000	0.000
Hydrogen Sulfide	0.000	0.000	0.000
Total	100.000	100.000	100.000

Hydrogen Sulfide, ppm 0
Total Sulfur, as H2S ppm Not Requested

Physical Data	dry	sat		
BTU cu.ft. ideal	971.55	954.64	GPM	1.162
BTU cu.ft. real	974.08	957.13	z factor	0.9974
BTU/lb. ideal	17173.91	16875.08	F. factor	8777
Sp. Gr. ideal	0.7412		Sp. Vol.	17.67
Sp. Gr. real	0.7429			

CHONS	% by Wt.	References
% Carbon	61.019	ASTM D 6228-98
% Hydrogen	17.360	ASTM D 1945-96
% Oxygen	14.732	ASTM D 1946-94
% Nitrogen	6.889	ASTM D 3588-91
% Sulfur	0.000	GPA 2145-00
Total	100.000	

Notes: * Not added to GPM value.
All Calculations tabulated @ 60/60

Michael E. Mayfield
Laboratory Director
Midway Laboratory

Post-it: Fax Note 7671 | Date 2/4/05 | # of pages ▲ 1
To Dave | From Patty
Co./Dept. | Co
Phone # 916-652-5335 | Phone #
Fax # | Fax #

Appendix D

Spreadsheet Calculation of HAE, AER and Bankable AER

HAE, AER and Bankable AER

Unit	VOC E.F. lb/MM Btu	Qtr 1	Qtr 2	Qtr 3	Qtr 4
3	0.692	4237	5739	5723	4082
4	0.931	713	2942	834	324
7	0.653	3754	5084	5243	3677
8	0.95	6773	4973	5425	3326
9	0.429	7408	2675	4525	4525
10	0.425	6338	4587	3099	3197
HAE Total		29223	25999	24849	19131
PE2		3598	3598	3598	3598
AER		25625	22401	21251	15533
AQI Ded		2563	2240	2125	1553
Bankable AER		23063	20161	19126	13979

HAE, AER and Bankable AER

Unit	NOx E.F. lb/MM Btu	Qtr 1	Qtr 2	Qtr 3	Qtr 4
3	0.232	1420	1924	1919	1368
4	0.107	82	338	96	37
7	0.245	1409	1908	1967	1380
8	0.242	1725	1267	1382	847
9	0.245	4231	1528	2584	2584
10	0.245	3654	2644	1786	1843
HAE Total		12521	9608	9734	8060
PE2		2069	2069	2069	2069
AER		10452	7539	7665	5991
AQI Ded		1045	754	767	599
Bankable AER		9407	6785	6898	5392

HAE, AER and Bankable AER

Unit	CO lb/MM Btu	Qtr 1	Qtr 2	Qtr 3	Qtr 4
3	0.301	1843	2496	2489	1775
4	0.275	211	869	246	96
7	0.672	3864	5232	5395	3784
8	0.637	4541	3334	3638	2230
9	0.424	7322	2644	4473	4472
10	0.996	14854	10749	7262	7492
HAE Total		32634	25325	23503	19849
PE2		14104	14104	14104	14104
AER		18530	11221	9399	5745
AQI Ded		1853	1122	940	575
Bankable AER		16677	10099	8459	5170

HAE, AER and Bankable AER

Unit	PM lb/MM Btu	Qtr 1	Qtr 2	Qtr 3	Qtr 4
3	0.0483	296	401	399	285
4	0.0483	37	153	43	17
7	0.0483	278	376	388	272
8	0.0483	344	253	276	169
9	0.0483	834	301	510	509
10	0.0483	720	521	352	363
HAE Total		2509	2005	1968	1616
PE2		570	570	570	570
AER		1939	1435	1398	1046
AQI Ded		194	143	140	105
Bankable AER		1745	1292	1258	941

Appendix E

Spreadsheet Calculation of Permitted Emissions
Replacement Engines '28, '29 and '30

Unit	Hrs/qtr	Hp	VOC	VOC	NOx	NOx	CO	CO	PM10	PM10
S-48			EF ppmv	lb/qtr	EF ppmv	lb/qtr	EF ppmv	lb/qtr	EF g/bhp.hr	lb/qtr
28	2190	1970	25	1199	5	690	56	4701	0.02	190
29	2190	1970	25	1199	5	690	56	4701	0.02	190
30	2190	1970	25	1199	5	690	56	4701	0.02	190
Total				3598		2069		14104		570

2190 hr/qtr x 1970 hp x 8483 Btu/bhp.hr x 25 scf/MM scf x 8777 scf/MM Btu x lbmol/379.5 scf x 16 lb/lbmol x 20.9/(20.9-15)
= 1199 lb VOC/qtr

2190 hr/qtr x 1970 hp x 8483 Btu/bhp.hr x 5 scf/MM scf x 8777 scf/MM Btu x lbmol/379.5 scf x 46 lb/lbmol x 20.9/(20.9-15)
= 690 lb NOx/qtr

2190 hr/qtr x 1970 hp x 8483 Btu/bhp.hr x 56 scf/MM scf x 8777 scf/MM Btu x lbmol/379.5 scf x 28 lb/lbmol x 20.9/(20.9-15)
= 4701 lb CO/qtr

2190 hr/qtr x 1970 hp x 0.02 gram/bhp.hr/454
= 190 lb PM10/qtr

ERC PROJECT ROUTING FORM

FACILITY NAME: Crimson Resource Management

FACILITY ID: S-48 PROJECT NUMBER: 1052797

ERC #'s:

DATE RECEIVED: May 31, 2005

PRELIMINARY REVIEW	ENGR	DATE	SUPR	DATE
A. Application Deemed Incomplete				
Second Information Letter				
B. Application Deemed Complete			[illegible]	6/23/05
C. Application Pending Denial				
D. Application Denied				

ENGINEERING EVALUATION	INITIAL	DATE
E. Engineering Evaluation Complete	RWK	7-18-05
F. Supervising Engineer Approval		
G. Compliance Division Approval [ ] Not Required		
H. Applicant's Review of Draft Authority to Construct Completed [ ] 3-day Review [ ] 10-day Review [ ] No Review Requested		
I. Permit Services Regional Manager Approval	[illegible]	OCT 2 0 2006

DIRECTOR REVIEW: [ ] Not Required [X] Required

DIRECTOR REVIEW	INITIAL	DATE
J. Preliminary Approval to Director		
K. Final Approval to Director		

NSPS/NESHAP TRIGGERED: [ ] Yes [ ] No
If "Yes" then do the following:
1. Complete form (on AIRnet at Per » General » Internal Forms : Miscellaneous: NSPS/NESHAP Report) and attach copy to engineering evaluation.
2. Send or email form to Compliance (Tanya Good) after management approval of project.

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

DEC 11 2006

Ms. Debra Monterroso
Crimson Resource Management
5001 California Avenue, Suite 206
Bakersfield, CA 93309

Re: Invoice of Engineering Evaluation Fees
Project Number: 1052797 – Crimson Resource Management

Dear Ms. Monterroso:

The Air Pollution Control Officer has issued Emission Reduction Credits to Crimson Resource Management for emission reductions generated by the replacement of six existing IC engines driving gas compressors with three lower emitting IC engine/generator sets driving gas compressors, at the I-C gas processing plant, Hwy 119 and Midway Road, Taft. The ERC documents will be mailed separately from our Central Region office.

Please find enclosed the invoice for the engineering evaluation fees for Project S1052797. Engineering evaluation fees are charged pursuant to District Rule 3010 for projects requiring public notice. Please remit the amount owed, along with a copy of the attached invoice, within 30 days.

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

Sincerely,

for David Warner
Director of Permit Services

DW:RWK
Enclosures
c: Thomas E. Goff, Permit Services Manager

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
2700 M Street, Suite 275
Bakersfield, CA 93301-2373
Tel: (661) 326-6900 FAX: (661) 326-6985

www.valleyair.org

Due Date	Amount Due
1/5/2007	$ 3,393.50

Amount Enclosed

ERCFEE
48 S64057 12/6/2006

CRIMSON RESOURCE MANAGEMENT
ATTN: ENV. H & S ENGINEER
5001 CALIFORNIA AVE., SUITE #206
BAKERSFIELD, CA 93309

SJVAPCD
2700 M Street, Suite 275
Bakersfield, CA 93301-2370

Facility ID	Invoice Date	Invoice Number
S48	12/6/2006	S64057

Invoice Type
Project: S1052797

CRIMSON RESOURCE MANAGEMENT
1-C GAS PLANT
TAFT, CA

PROJECT NUMBER: 1052797

APPLICATION FILING FEES	$ 650.00
ENGINEERING TIME FEES	$ 3,393.50
TOTAL FEES	$ 4,043.50
LESS PREVIOUSLY PAID PROJECT FEES APPLIED TO THIS INVOICE	($ 650.00)
PROJECT FEES DUE (Enclosed is a detailed statement outlining the fees for each item.)	**$ 3,393.50**

San Joaquin Valley Air Pollution Control District

Invoice Detail

Facility ID: S48

CRIMSON RESOURCE MANAGEMENT
1-C GAS PLANT
TAFT, CA

Invoice Nbr: S64057
Invoice Date: 12/6/2006
Page: 1

Application Filing Fees

Project Nbr	Permit Number	Description	Application Fee
S1052797	S-48-1052797-0	Emission Reduction Credit Banking Evaluation Fee	$ 650.00
		Total Application Filing Fees:	**$ 650.00**

Engineering Time Fees

Project Nbr	Quantity	Rate	Description	Fee
S1052797	50 hours	$ 80.87 /h	Standard Engineering Time	$ 4,043.50
			Less Credit For Application Filing Fees	($ 650.00)
			Standard Engineering Time SubTotal	$ 3,393.50
			Total Engineering Time Fees:	**$ 3,393.50**

San Joaquin Valley Air Pollution Control District

Account Summary

Facility ID: S48

CRIMSON RESOURCE MANAGEMENT
1-C GAS PLANT
TAFT, CA

Statement Date: 12/6/2006

Invoice Date	Invoice Number	Invoice Due Date	Description of Fees			Amount Due
10/31/2006	S63551	12/30/2006	Title V Hourly Fees: 3rd Quarter 2006			$ 121.31
10/31/2006	S63552	12/30/2006	Title V Hourly Fees: 3rd Quarter 2006	Fees Invoiced	$ 242.61	
				Payments	($ 30.00)	
				Balance Due		$ 212.61
12/06/2006	S64057	01/05/2007	Project: S1052797	Fees Invoiced	$ 4,043.50	
				Payments	($ 650.00)	
				Balance Due		$ 3,393.50
				Total Outstanding Balance:		**$ 3,727.42**

Richard Karrs

From: Yannayon.Laura@epamail.epa.gov
Sent: Monday, December 04, 2006 11:03 AM
To: Richard.Karrs@valleyair.org
Subject: EPA comments on Project S-1052797, ERCs for Crimson Resource

Richard,

EPA has reviewed the proposed ERC package and has only one comment regarding the methodology used to calculate the actual VOC emissions. For permit units '3, '4, '7 and '8, the VOC emission factors used are too high. For these engines source test data is available, which must be used rather than the VOC emission limit of Rules 4701 and 4702. The source test results for each engine are for two separate stacks. For each engine, one of the two stacks had measured VOC emissions greater than the 750 ppmv @ 15% O2 limit of both District rules. In these cases, the rule limit of 750 ppmv should be averaged with the other stack reading for each engine. I calculated the following emission factors, based on source test data, correcting for the 750 ppmv emission limit of the two prohibitory rules:
Engine unit '3 - 528 ppmv, unit '4 - 710 ppmv, unit '7 - 498 ppmv, and unit '8 - 725 ppmv. Please revise the baseline historic actual emissions for VOC using these VOC emission factors, and recalculate the revised amount of VOC ERC's to be issued.

If you have any questions, please feel free to call me.

Laura Yannayon

US EPA, Region 9
Air Division, Permits Office (Air-3)
San Francisco, CA 94105-3901

(415) 972-3534
(415) 947-3579 (fax)
yannayon.laura@epa.gov

San Joaquin Valley
Air Pollution Control District

August 2, 2005

Patty Lee Kusek
Crimson Resource Management
5001 California Avenue, Suite 206
Bakersfield, CA 93309

Re: Emission Reduction Credit (ERC) Project -1052797

Dear Ms. Kusek:

Processing on the above-referenced project to grant ERCs for the shutdown and replacement of six IC engines at the 1C gas processing plant has halted. This is due to the failure of the replacement engines, units '28-0, '29-0 and '30-0, to demonstrate compliance with one or more of their permitted emissions limits. We understand that the replacement engines are operating under variance and that you have applied to modify the engines to add catalyst to affect compliance.

The District will resume processing of your application for ERCs once the engines have demonstrated compliance with all emissions limits and conditions of operation as set forth in the Authorities to Construct.

Thank you for your cooperation in this matter. If you have any questions, please contact Richard Karrs at (661) 326-6954.

Sincerely,

David Warner
Director of Permit Services

Thomas Goff, P.E.
Permit Services Manager
rwk

David L. Crow
Executive Director/Air Pollution Control Officer

Northern Region Office
4230 Kiernan Avenue, Suite 130
Modesto, CA 95356-9322
(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 93301-2373
(661) 326-6900 • FAX (661) 326-6985

www.valleyair.org

Summary of Phone Conversation

With:	Patty Lee Kusek	Telephone:	(661) 716-5001 ext-11
Date:	8/2/05	Company:	Crimson Resource Management
District Rep:	Richard Karrs	Project:	1052797(S-48)

RWK I asked PLK about engines 28, 29 and 30, which are under variance to add catalyst and to meet their BACT limit. We want to delay issuing the ERC until the engines have been modified and demonstrated compliance through source testing with their limits.

PLK I have reviewed the draft ATCs to add catalyst. It is no problem to delay issuing the ERCs.

RWK I asked if she had a preference for how we issued the ERCs, in light of the requirements to provide 50% of the NOx credits back to the District. I asked about the disposition of the shutdown engines. I asked about the history of the replacement action.

PLK No, we don't have a preference. Most of the engines have been disposed of as scrap. I think one or two remain onsite. Sometime in 2004 the three replacement engines were installed at one time. We were unsure of our plans. We requested emergency service for all of the shutdown engines, though we only were contemplating converting one or two to emergency. I am not sure if any of the replaced engines ever served as emergency backups. I am also not sure if emergency backup service from PGE.

Summary of Phone Conversation

With:	Patty Lee Kusek	Telephone:	(661) 716-5001 ext-11
Date:	7/14/05	Company:	Crimson Resource Management
District Rep:	Richard Karrs	Project:	1052797(S-48

RWK Why hasn't the PTO for engine '3 been cancelled yet?

PLK I have just recently canceled as part of annual renewal biling.

RWK I asked how the remaining full time use engines, units '11 (K2) and '24 (K3) were picking up any of the load that the surrendered engines used to carry.

PLK No. They are not picking up any of the load. These two engines are part of a separate system and are used to compress propane. Propane is used as a refrigerant in a separate cooling loop used in the plant.

RWK I asked about some discrepancies in the raw fuel use data for engine '9.

PLY Patty checked some of the raw records for that unit for some of the intervening dates in the first quarter. The most likely scenario is that the gas meter was replaced around 1/16/03. The new meter was zeroed, run for a short period and reset to zero again.

RWK This make sense and seems to agree with the fuel use calculated by your consultant.

San Joaquin Valley
Air Pollution Control District

June 23, 2005

Ms. Patty Lee Kusek
Crimson Resource Management
5001 California Avenue, Suite 206
Bakersfield, CA 93309

Re: Notice of Receipt of Complete Application - Emission Reduction Credits
Project Number: 1052797

Dear Ms. Kusek:

The District has completed a preliminary review of your application for Emission Reduction Credits (ERCs) resulting from the shutdown and surrender of permits for seven natural gas-fired IC engines located at the 1C Gas Plant.

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

Pursuant to District Rule 3010, section 3.0, your application may be subject to an hourly Engineering Evaluation Fee. If the applicable fees exceed the submitted application filing fee, the District will notify you at the conclusion of our review.

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

Sincerely,

David Warner
Director of Permit Services

Leonard Kanteen
for Thomas Goff, P.E.
Permit Services Manager

DW:rwk

RECEIVED
MAY 31 2005
SJVAPCD
Southern Region

San Joaquin Valley Air Pollution Control District

Application for

[X] EMISSION REDUCTION CREDIT (ERC) [ ] CONSOLIDATION OF ERC CERTIFICATES

1. ERC TO BE ISSUED TO: Crimson Resource Management — Facility ID: S - 48 (if known)

2. MAILING ADDRESS: Street/P.O. Box: 5001 California Avenue, Suite 206

City: Bakersfield State: CA Zip Code: 93309

3. LOCATION OF REDUCTION:
Street: 1630 North Lincoln

City: Taft

/4 SECTION 1 TOWNSHIP 32 S RANGE 23 E

4. DATE OF REDUCTION:

5. PERMIT NO(S): EXISTING ERC NO(S):

6. METHOD RESULTING IN EMISSION REDUCTION:

[X] SHUTDOWN [ ] RETROFIT [ ] PROCESS CHANGE [ ] OTHER

DESCRIPTION:

Shutdown compressor engines, installed gensets to drive electric motors

(Use additional sheets if necessary)

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

	VOC	NOx	CO	PM10	SOx	OTHER
1ST QUARTER	26697	9443	22268	1752		
2ND QUARTER	24990	6803	15608	1293		
3RD QUARTER	23891	6895	13892	1254		
4TH QUARTER	14490	3760	10604	616		

8. SIGNATURE OF APPLICANT: Patty Lee Kusek

TYPE OR PRINT TITLE OF APPLICANT: ES&H Engineer

9. TYPE OR PRINT NAME OF APPLICANT: Patty Lee Kusek

DATE: 5/31/05

TELEPHONE NO: (661)716-5001 ext 11

FOR APCD USE ONLY:

DATE STAMP

FILING FEE RECEIVED: $ 650.00

DATE PAID: 6/15/05

PROJECT NO.: 1052797 FACILITY ID.: S-48

Initial ERC Application S-48

Application to the San Joaquin Valley Air Pollution Control District for Emission Reduction Credits

Prepared for:

CRIMSON RESOURCE MANAGEMENT

5001 California Avenue, Suite 206
Bakersfield, CA 93306

Prepared by:

IMPACT SCIENCES

3256 Penryn Road, Suite 220
Loomis, CA 95630
Phone: (916) 652-6300
Fax: (916) 652-5335

May 2005

Application to the San Joaquin Valley Air Pollution Control District for Emission Reduction Credits

Prepared for:

Crimson Resource Management
5001 California Avenue, Suite 206
Bakersfield, California 93306

Prepared by:

Impact Sciences, Inc.
3256 Penryn Road, Suite 220
Loomis, California 95630
Phone: (916) 652-6300
Fax: (916) 652-5335

May 2005

Summary

Crimson Resource Management (Crimson) is requesting Emission Reduction Credits (ERCs) for the shutdown of seven internal combustion (IC) engines at its 1C gas processing facility in Taft. The facility is located at Section 1, Township 32 South, Range 23 East, in Kern County.

Crimson is installing three engine-generator sets each powered by a 1,970 brake horsepower (bhp) gas-fired Waukesha internal combustion engine to replace seven existing engines at its 1C Gas Plant. The existing engines, which provided power to gas compressors, are being shutdown. The compressors will be powered by electric motors, with the electrical power provided by the new engine-generator sets.

San Joaquin Valley Air Pollution Control District (SJVAPCD or District) Rule 2301, Emission Reduction Credit Banking, will be applicable for these changes as the compressor engines will result in emission reductions of oxides of nitrogen (NO_x), volatile organic compounds (VOC), suspended particulate matter (PM_{10}), and carbon monoxide (CO). As documented in this application, all the emission reductions meet the criteria of being real, quantifiable, surplus, permanent, and enforceable.

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1.0 PROJECT DESCRIPTION

1.1 Applicant's Name and Business Description

Name: Crimson Resource Management

Facility Location: Section 1, Township 32 South, Range 23 East, Kern County

Mailing Address: 5001 California Avenue, Suite #206, Bakersfield, CA 93306

General Business: Gas processing

Facility Contact: Patty Lee Kusek
Phone: (661) 716-5001 X11

Consultants: Impact Sciences, Inc.
3256 Penryn Road, Suite 220
Loomis, CA 95650
Contact: David Deckman
Phone: (916) 652-6300

Estimated Date of Activity: **Table 1, Shutdown Dates of Existing Compressor Engines**, shows the dates on which the permits to operate were or are expected to be surrendered.[1]

Table 1
Shutdown Dates of Existing Compressor Engines

PTO Number[1]	Date of Shutdown
S-48-3	December 2, 2004
S-48-4	January 10, 2005
S-48-5	Expected June 2005
S-48-7	May 3, 2005
S-48-8	May 3, 2005
S-48-9	December 2, 2004
S-48-10	December 2, 2004

Source: Crimson Resource Management
[1] *Permit To Operate (PTO) Number*

1.2 Type of Application

This application is for banking emission reduction credits generated by the shutdown of gas-fired compressor engines.

1 Per SJVAPCD Rule 2301, Section 3.11, the date of shutdown of a permitted source is the earlier of date of the **permanent** cessation of emissions from an emitting unit or the date on which the permit to operate is surrendered.

1.3 Description of Facility

1.3.1 Site Location: The facility is located at Section 1, Township 32 South, Range 23 East, in western Kern County.

1.3.2 General Purpose: Gas processing.

1.3.3 Current Equipments: **Table 2, Specifications of Existing Compressor Engines**, provides the detailed information about engines.

Table 2
Specifications of Existing Compressor Engines

Engine ID No.	1	2	3	5	6	12	16
PTO Number	S-48-3	S-48-4	S-48-5	S-48-7	S-48-8	S-48-9	S-48-10
Manufacturer	Clark	Clark	Clark	Clark	Clark	Clark	Clark
Model	RA 6	RA 6	RA 6	HRA 6M	HRA 6M	RA 8	HRA 6M
BHP[1]	600	600	600	660	660	800	660
Fuel/Ignition	Natural gas/ spark	Natural gas/ spark	Natural gas/ spark	Natural gas/ spark	Natural gas/ spark	Natural gas/ spark	Natural gas/ spark
Combustion Type	Lean burn	Lean burn	Lean burn	Lean burn	Lean burn	Lean burn	Lean burn

Source: Crimson Resource Management
[1] *Brake Horse Power (BHP).*

1.4 Proposed Modifications

Crimson Resource Management is installing three engine-generator sets each powered by a 1,970 bhp gas-fired Waukesha IC engine. The engine-generator sets will provide power to electric-powered gas compressors, which will replace seven existing engine-driven gas compressors at its 1C Gas Plant. After installing the generator sets, use of these compressor engines will be discontinued.

2.0 EMISSIONS

2.1 Historic Actual Emissions

The District requires that the historic actual emissions (HAE) be calculated on a quarterly basis. The HAE are the emissions that occurred during the baseline period and which are considered surplus. Accordingly, the HAE are based on the lesser of emission limits in existing or proposed rules or the actual emissions, based on source test results, fuel consumption, or similar process data. Fuel consumption records and source test results are found in Appendices D and E, respectively. The basis for the HAE is discussed further in Section 3.2 of this application. The applicable emission limits are found in District Rule 4702. The existing limits are shown in **Table 3, Current Emission Limits for Natural Gas-Fired Two-Stroke Engines.** Quarterly Emissions for the compressor engines for the two years prior to the date of application are listed in **Table 4** to **Table 17**. Sulfur oxides emissions have not been calculated as the combustion fuel has less than 1 part per million (ppm) of sulfur, and the resultant HAE would be minimal. Refer to Section 2.2 and **Appendix A** for additional information regarding the HAE calculations.

Table 3
Current Emission Limits for Natural Gas-Fired Two-Stroke Engines

Pollutant	ppmv (at 15% Oxygen)
NO_x	65
CO	2000
VOC	750

Source: SJVAPCD Rule 4702

Table 4
Quarterly Emissions of Engine No. 1 (S-48-3) in 2003

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	316.52	1,128.82	1,148.47	2,666.51
CO	410.39	1,463.60	1,489.07	3,457.32
VOC	1,342.62	4,788.22	4,871.54	11,310.74
PM_{10}	65.96	235.24	239.33	555.68

Source: Impact Sciences, Inc.

Table 5
Quarterly Emissions of Engine No. 1 (S-48-3) in 2004

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	2,521.79	2,715.50	2,685.25	67.96
CO	3,269.68	3,520.84	3,481.61	88.11
VOC	10,696.89	11,518.55	11,390.23	288.25
PM_{10}	525.53	565.89	559.59	14.16

Source: Impact Sciences, Inc.

Table 6
Quarterly Emissions of Engine No. 2 (S-48-4) in 2003

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	1.05	49.80	192.51	74.70
CO	2.68	127.63	493.38	191.45
VOC	9.58	455.84	1,762.07	683.76
PM_{10}	0.47	22.39	86.57	33.59

Source: Impact Sciences, Inc.

Table 7
Quarterly Emissions for Engine No. 2 (S-48-4) in 2004

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	163.42	628.99	0	0
CO	418.84	1,612.06	0	0
VOC	1,495.84	5,757.36	0	0
PM_{10}	73.49	282.85	0	0

Source: Impact Sciences, Inc.

Table 8
Quarterly Emissions of Engine No. 3 (S-48-5) in 2003

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	Required	Required	Required	Required
CO	Required	Required	Required	Required
VOC	Required	Required	Required	Required
PM_{10}	Required	Required	Required	Required

Source: Impact Sciences, Inc.

Table 9
Quarterly Emissions of Engine No. 3 (S-48-5) in 2004

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	Required	Required	Required	Required
CO	Required	Required	Required	Required
VOC	Required	Required	Required	Required
PM_{10}	Required	Required	Required	Required

Source: Impact Sciences, Inc.

Table 10
Quarterly Emissions of Engine No. 5 (S-48-7) in 2003

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	2,483.72	3,153.75	2,428.37	2,416.91
CO	6,814.87	8,653.30	6,662.98	6,631.56
VOC	9,968.12	12,657.19	9,745.95	9,699.98
PM_{10}	489.72	621.83	478.81	476.55

Source: Impact Sciences, Inc.

Table 11
Quarterly Emissions of Engine No. 5 (S-48-7) in 2004

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	333.34	661.20	1,505.41	342.17
CO	914.63	1,814.20	4,130.56	938.85
VOC	1,337.83	2,653.63	6,041.78	1,373.26
PM_{10}	65.73	130.37	296.83	67.47

Source: Impact Sciences, Inc.

Table 12
Quarterly Emissions of Engine No. 6 (S-48-8) in 2003

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	546.71	57.22	1,154.39	1,452.52
CO	1,486.94	150.68	3,039.61	3,824.62
VOC	2,296.43	232.71	4,694.37	5,906.75
PM_{10}	112.82	11.43	230.63	290.19

Source: Impact Sciences, Inc.

Table 13
Quarterly Emissions of Engine No. 6 (S-48-8) in 2004

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	2,882.67	2,473.85	1,607.00	240.67
CO	7,590.34	6,513.89	4,231.39	633.72
VOC	11,722.53	10,060.06	6,534.97	978.71
PM_{10}	575.92	494.24	321.06	48.08

Source: Impact Sciences, Inc.

Table 14
Quarterly Emissions of Engine No. 12 (S-48-9) in 2003

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	3,858.14	3,055.44	5,168.60	5,167.88
CO	5,148.48	4,077.33	6,897.23	6,896.27
VOC	6,752.13	5,347.33	9,045.57	9,044.31
PM_{10}	760.72	602.45	1019.11	1018.97

Source: Impact Sciences, Inc.

Table 15
Quarterly Emissions of Engine No. 12 (S-48-9) in 2004

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	4,602.85	0	0	0
CO	6,142.26	0	0	0
VOC	8,055.45	0	0	0
PM_{10}	907.56	0	0	0

Source: Impact Sciences, Inc.

Table 16
Quarterly Emissions of Engine No. 16 (S-48-10) in 2003

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	3,628.35	3,454.40	3,572.52	66.57
CO	14,746.40	14,039.43	14,519.47	14,977.20
VOC	6,302.41	6,000.26	6,205.42	115.64
PM_{10}	715.41	681.11	704.40	13.13

Source: Impact Sciences, Inc.

Table 17
Quarterly Emissions of Engine No. 16 (S-48-10) in 2004

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	3,678.70	1,833.50	0	0
CO	14,951.02	7,451.75	0	0
VOC	6,389.86	3,184.78	0	0
PM_{10}	725.34	361.52	0	0

Source: Impact Sciences, Inc.

Table 18, Quarterly Emissions of All Engines, Average 2003–2004, shows the quarterly emissions averaged over the two-year period prior to this application for ERCs.

Table 18
Quarterly Emissions of All Engines
Average 2003–2004

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	12,518	9,606	9,731	6,248
CO	32,633	25,320	23,501	19,848
VOC	33,186	31,328	30,146	19,701
PM_{10}	2,509	2,005	1,968	1,259

Source: Impact Sciences, Inc.

2.2 Emission Reduction Calculations

The HAE is the decrease of actual emissions, during the Baseline Period from an emissions unit. For the proposed shutdowns, the emission reductions meet all the criteria specified by District Rule 2201 to qualify for the HAE, specifically:

- These emissions are real, enforceable, quantifiable, and permanent.
- These emissions are surplus as:
    - These are available in excess of any emissions that are required or encumbered by any laws, rules, regulations, agreements, or orders.
    - No additional emission reductions are attributed to a control measure noticed for workshop, are proposed or contained in a State Implementation Plan, or are proposed in the Air Pollution Control Officer's adopted air quality plan pursuant to the California Clean Air Act.

The emission reduction calculations are based on the equations in *USEPA Method 19 – Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxide Emission Rates.*[2] Sample calculations for the NO_x emissions for PTO S-48-3 are shown below. The HAE for each engine for every quarter during the baseline period is shown in the **Appendix A.**

Sample Calculations

Engine PTO: S-48-3

When measurements are on a dry basis for both oxygen ($\%O_{2d}$) and pollutant (C_d) concentrations, the following equation is used:[2]

$$E = C_d \times F_d \times \frac{20.9}{(20.9 - \%O_{2d})}$$

where:
E is emission factor in lbs/10^6 Btu
C_d is pollutant concentration in lbs/dscf[3]
F_d is volume of combustion components per unit of heat content (F-factor) based on 0 percent oxygen (dry basis) in dscf/10^6 Btu
$\%O_{2d}$ is the concentration of oxygen on a dry percent basis.

F_d = 8777 dscf/10^6 Btu at 60°F

The F-Factor used in these calculations was taken from a fuel gas analysis dated January 13, 2004. A copy of the gas analysis is found in **Appendix B.**

C_d = Concentration in ppm × Molecular Weight of NO_x in lbs/lb-mole × Molar Volume in dscf/lb-mole

Hence, concentration of NO_x is calculated as:

$$C_d = \frac{61.5}{10^6}\frac{parts}{parts} \times \frac{46}{1}\frac{lbs}{lb-mole} \times \frac{1}{379.5}\frac{lb-mole}{dscf}$$
$$= 7.455 \times 10^{-6}\frac{lbs}{dscf}$$

Hence, emission factor is calculated as:

$$E = 7.455 \times 10^{-6}\frac{lbs}{dscf} \times \frac{8777}{10^6}\frac{dscf}{Btu} \times \frac{20.9-0}{20.9-15}$$
$$= \frac{0.232}{10^6}\frac{lbs}{Btu}$$

---

2 Source: United States Environmental Protection Agency Technology Transfer Network Emission Measurement Center. http://www.epa.gov/ttn/emc/methods/method19.html.

3 Dry standard cubic feet (dscf).

Therefore,

HAE for NO_x is calculated as:

HAE = E in lbs/10^6 Btu × Heat Content in Btu/dscf × Fuel Usage in 1,000 dscf/Quarter

$$= \frac{0.232}{10^6}\frac{lbs}{Btu} \times 974.08\frac{Btu}{dscf} \times 1402 \times 10^3 \frac{dscf}{quarter}$$

$$= 316.8\frac{lbs}{quarter}$$

2.3 Actual Emission Reduction

Per Section 4.12 of Rule 2201, the Actual Emission Reduction (AER) is the HAE less the Post-Project Potential to Emit (PE2). **Table 19, Post-Project Potential to Emit**, shows the new Engine-Generator emissions that represent PE2. **Table 20, Quarterly Actual Emission Reduction,** shows the emissions after subtracting the PE2 from the HAE.

Table 19
Post-Project Potential to Emit

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	2,025	2,048	2,070	2,070
CO	7,891	7,978	8,066	8,066
VOC	3,523	3,562	3,601	3,601
PM_{10}	562	568	575	575

Source: SJVAPCD Application Review, Project # S-1030826. Annual emissions have been distributed by quarter based on the number of days per quarter.

Table 20
Quarterly Actual Emission Reduction

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	10,492	7,558	7,661	4,178
CO	24,742	17,342	15,435	11,782
VOC	29,663	27,766	26,545	16,100
PM_{10}	1,947	1,436	1,393	684

Source: Impact Sciences, Inc.

2.4 Air Quality Improvement Deduction

Per Section 4.12.1 of Rule 2201, a 10 percent Air Quality Improvement (AQI) Deduction factor applies to the AER before the AER becomes eligible for banking. Hence, 90 percent of AER is available to the applicant for banking. The adjusted AER is shown in **Table 21, Quarterly Emission Reductions after AQI Deduction**.

Table 21
Quarterly Emission Reductions after AQI Deduction

Pollutant	Emissions (pounds per quarter)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NO_x	9,443	6,803	6,895	3,760
CO	22,268	15,608	13,892	10,604
VOC	26,697	24,990	23,891	14,490
PM_{10}	1,752	1,293	1,254	616

Source: Impact Sciences, Inc.

3.0 COMPLIANCE WITH APPLICABLE RULES AND REGULATIONS

3.1 General

The District is responsible for ensuring that Kern County's air quality meets state and federal health standards. The facility is subjected to the District's Rules and Regulations. The following rules may apply to the proposed action.

Regulation 2 – Permits

Rule 2201: New and Modified Source Review
Rule 2301: Emission Reduction Credit Banking

Regulation 3 – Fees

Rule 3060: Emission Reduction Credit Banking Fees

Regulation 4 – Prohibitions

Rule 4701: Internal Combustion Engines Phase I
Rule 4702: Internal Combustion Engines Phase II

3.2 Permitting and Prohibitory Rules

Rule 2201

- General: Rule 2201 provides an orderly procedure for the review of new sources and of the modification and operation of existing sources through the issuance of permits. It also establishes the methods by which emission reductions for which emission reduction banking is requested per Rule 2301 are to be calculated.
- Significance with the Proposed Project: This permit application, seeking the emission reduction credits for the shutdown of seven gas-fired engines, is intended to conform to the rule. The HAE from the shutdown of the engines has been calculated in accordance with Rule 2201.

Rule 2301

- General: Rule 2301 provides an administrative mechanism for sources to store and transfer emission reduction credits to other sources for use as offsets where allowed by the District Rules and Regulations. It also defines eligibility standards, quantitative procedures, and administrative practices to ensure that emission reduction credits are real, permanent, surplus, quantifiable, and enforceable. A brief description of these terms is as follows.

  Surplus: The emission reductions that are not required by State Implementation Plan (SIP), not already relied on for SIP planning purposes, and not used by the source to meet any other regulatory requirement can be considered surplus.

  Quantifiable: The emissions calculated on the reliable basis for calculating the amount and the rate of reduction and describing its characteristics.

  Permanent: The emissions that are assured for the life of the corresponding change, whether unlimited or limited in duration.

Enforceable: The emission reductions must be approved by the District and must be federally enforceable at the time an ERC is used.

Actual: The emissions having occurred from a source, based on source test or monitoring data, actual fuel consumption, and process data.

- Significance with the Proposed Project:

  The ERCs requested in this application will meet the criteria in Rule 2301 as follows:

  Surplus: The HAE for each engine has been based on the lesser of the measured emissions or the limits in Rule 4702. Thus, only those emissions that have not been counted as part of the District's attainment strategy have been included in this application.

  Quantifiable: The HAE has been quantified using standard engineering calculations using the equations in USEPA Method 19 (to convert measure exhaust concentrations to lbs/MMBtu) and the measured fuel gas consumption.

  Permanent: The PTOs for these engines have or will be surrendered to the District. Furthermore, Crimson has signed a settlement agreement, which requires the engines be permanently disabled within 15 days of the start-up of all of the engine-generator sets. Per the agreement, "permanently disable" means to render the engines forever inoperable so that they may never be re-sold or re-used. A copy of the settlement agreement is included in **Appendix C**.

  Enforceable: Rule 2010 requires that any person building, altering or replacing any operation, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants, shall first obtain a written permit from the APCO. The PTOs have been or will be surrendered, and Crimson would not be allowed to operate the compressor engines. Furthermore, Crimson has signed a settlement agreement that will enforce the permanent disabling of the compressor engines.

  Actual: The HAE for each engine has been calculated using actual source test data (or the limits in Rule 4702), monitoring fuel consumption data, and the measured heat content of the fuel gas. Accordingly, these emissions represent the actual emissions that occurred during the baseline period.

Rule 3060

- General: Rule 3060 establishes fees to be charged for emission reduction credit applications requiring public notice, as well as, for applications not requiring public notice pursuant to Rule 2201.

- Significance with the Proposed Project: The proposed change requires public notice pursuant to Rule 2201. Hence, a nonrefundable fee of $650 has to be paid by the applicant.

Rule 4701

- General: Rule 4701 limits the emissions of oxides of nitrogen (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC) from any internal combustion engine rated more than 50 bhp that requires a PTO.

- Significance with the Proposed Project: The proposed project consists of spark ignited gas-fired two-stroke engines with rate at more than 50 bhp. Rule 4701 is applicable currently, but Rule 4702 will be partially applicable from June 1, 2005 and fully applicable from June 1, 2007. Since

Rule 4702 contains NO_x emission limits that are more stringent, it establishes the maximum allowable levels of calculating surplus NO_x emissions.

Rule 4702

- General: Rule 4702 limits the emissions of oxides of nitrogen (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC) from spark ignited internal combustion engines.

- Significance with the Proposed Project: The proposed project consists of spark ignited gas-fired two-stroke engines rated at more than 100 bhp. Hence, the Rule 4702 applies to these engines, and the rule contains NO_x, CO, and VOC emission limits of 65 ppm, 2000 ppm, and 750 ppm, respectively, for the purpose of establishing surplus emissions.

APPENDIX A

Emission Calculations

Crimson Resource Management
Historic Actual Emission Calculations
Assumptions

	Data Source	Value	Units
Standard Temperature	1	60	°F
Molar Volume	2	379.5	scf/lb-mole
Heat Content of Gas	3	974.08	Btu/scf
F-Factor	3	8,777	dscf/MMBtu
Molecular Weight			
NOx		46	lb/lb-mole
CO		28	lb/lb-mole
VOC		16	lb/lb-mole
PM10 Emission Factor	4	4.83E-02	lb/MMBtu (filterable + condensible)

Data Sources:
1. SJVAPCD Rule 1020
2. Ideal Gas Law
3. Midway Laboratory Inc., Natural Gas Analysis, January 2004
4. USEPA, AP-42, Section 3.2

Crimson Resource Management
Historic Actual Emissions

Permit No. S-48-3

Pollutant	Year	Quarter	Actual Concentration in ppm	Rule 4702 limit in ppm	Concentration used for calculations in ppm	Emission factor in lbs/MMBtu	kscf			lbs/quarter
							Reading at the start of quarter	Reading at the end of quarter	Usage in kscf/quarter	
NOx	2003	1	52.0				21376	22778	1402	316.52
		2	71.0		61.5	0.232	22778	27778	5000	1,128.82
		3	61.5				27778	32865	5087	1,148.47
		4		65			32865	44676	11811	2,666.51
	2004	1					44676	55846	11170	2,521.79
		2			61.5	0.232	55846	67874	12028	2,715.50
		3					67874	79768	11894	2,685.25
		4					79768	80069	301	67.96
	Average	1								1,419.16
		2								1,922.16
		3								1,916.86
		4								1,367.23
CO	2003	1	115.0				21376	22778	1402	410.39
		2	147.0		131.0	0.301	22778	27778	5000	1,463.60
		3	131.0				27778	32865	5087	1,489.07
		4		2000			32865	44676	11811	3,457.32
	2004	1					44676	55846	11170	3,269.68
		2			131.0	0.301	55846	67874	12028	3,520.84
		3					67874	79768	11894	3,481.61
		4					79768	80069	301	88.11
	Average	1								1,840.04
		2								2,492.22
		3								2,485.34
		4								1,772.71
VOC	2003	1	306.4				21376	22778	1402	1,342.62
		2	1687.8		750.0	0.983	22778	27778	5000	4,788.22
		3	997.1				27778	32865	5087	4,871.54
		4		750			32865	44676	11811	11,310.74
	2004	1					44676	55846	11170	10,696.89
		2			750.0	0.983	55846	67874	12028	11,518.55
		3					67874	79768	11894	11,390.23
		4					79768	80069	301	288.25
	Average	1								6,019.75
		2								8,153.39
		3								8,130.88
		4								5,799.50
PM10	2003	1					21376	22778	1402	65.96
		2					22778	27778	5000	235.24
		3					27778	32865	5087	239.33
		4					32865	44676	11811	555.68
	2004	1					44676	55846	11170	525.53
		2					55846	67874	12028	565.89
		3					67874	79768	11894	559.59
		4					79768	80069	301	14.16
	Average	1								295.74
		2								400.57
		3								399.46
		4								284.92

Crimson Resource Management
Historic Actual Emissions

Permit No. S-48-4

Pollutant	Year	Quarter	Actual Concentration in ppm	Rule 4702 limit in ppm	Concentration used for calculations in ppm	Emission factor in lbs/MMBtu	kscf			lbs/quarter
							Reading at the start of quarter	Reading at the end of quarter	Usage in kscf/quarter	
NOx	2003	1	27.0				7446	7456	10	1.05
		2	30.0		28.5	0.107	7456	7932	476	49.80
		3	28.5				7932	9772	1840	192.51
		4		65			9772	10486	714	74.70
	2004	1					10486	12048	1562	163.42
		2			28.5	0.107	12048	18060	6012	628.99
		3							0	0.00
		4							0	0.00
	Average	1								82.23
		2								339.40
		3								96.25
		4								37.35
CO	2003	1	115.0				7446	7456	10	2.68
		2	125.0		120.0	0.275	7456	7932	476	127.63
		3	120.0				7932	9772	1840	493.38
		4		2000			9772	10486	714	191.45
	2004	1					10486	12048	1562	418.84
		2			120.0	0.275	12048	18060	6012	1,612.06
		3							0	0.00
		4							0	0.00
	Average	1								210.76
		2								869.85
		3								246.69
		4								95.73
VOC	2003	1	669.3				7446	7456	10	9.58
		2	1509.1		750.0	0.983	7456	7932	476	455.84
		3	1089.2				7932	9772	1840	1,762.07
		4		750			9772	10486	714	683.76
	2004	1					10486	12048	1562	1,495.84
		2			750.0	0.983	12048	18060	6012	5,757.36
		3							0	0.00
		4							0	0.00
	Average	1								752.71
		2								3,106.60
		3								881.03
		4								341.88
PM10	2003	1					7446	7456	10	0.47
		2					7456	7932	476	22.39
		3					7932	9772	1840	86.57
		4					9772	10486	714	33.59
	2004	1					10486	12048	1562	73.49
		2					12048	18060	6012	282.85
		3							0	0.00
		4							0	0.00
	Average	1								36.98
		2								152.62
		3								43.28
		4								16.80

Crimson Resource Management
Historic Actual Emissions

Permit No. S-48-5

Pollutant	Year	Quarter	Actual Concentration in ppm	Rule 4702 limit in ppm	Concentration used for calculations in ppm	Emission factor in lbs/MMBtu	kscf			lbs/quarter
							Reading at the start of quarter	Reading at the end of quarter	Usage in kscf/quarter	
NOx	2003	1	52.0				21376	22764	1388	0.31
		2	71.0		61.5	0.232			0	0.00
		3	61.5						0	0.00
		4		65					0	0.00
	2004	1							0	0.00
		2			61.5	0.232			0	0.00
		3							0	0.00
		4							0	0.00
	Average	1								0.16
		2								0.00
		3								0.00
		4								0.00
CO	2003	1	115.0				27225	34277	7052	2.06
		2	147.0		131.0	0.301			0	0.00
		3	131.0						0	0.00
		4		2000					0	0.00
	2004	1							0	0.00
		2			131.0	0.301			0	0.00
		3							0	0.00
		4							0	0.00
	Average	1								1.03
		2								0.00
		3								0.00
		4								0.00
VOC	2003	1	306.4				21376	22764	1388	1.33
		2	1687.8		750.0	0.983			0	0.00
		3	997.1						0	0.00
		4		750					0	0.00
	2004	1							0	0.00
		2			750.0	0.983			0	0.00
		3							0	0.00
		4							0	0.00
	Average	1								0.66
		2								0.00
		3								0.00
		4								0.00
PM10	2003	1					21376	22764	1388	0.07
		2							0	0.00
		3							0	0.00
		4							0	0.00
	2004	1							0	0.00
		2							0	0.00
		3							0	0.00
		4							0	0.00
	Average	1								0.03
		2								0.00
		3								0.00
		4								0.00

Crimson Resource Management
Historic Actual Emissions

Permit No. S-48-7

Pollutant	Year	Quarter	Actual Concentration in ppm	Rule 4702 limit in ppm	Concentration used for calculations in ppm	Emission factor in lbs/MMBtu	kscf			lbs/quarter
							Reading at the start of quarter	Reading at the end of quarter	Usage in kscf/quarter	
NOx	2003	1	86.0				27225	37634	10409	2,483.72
		2	89.0		65.0	0.245	37634	50851	13217	3,153.75
		3	87.5				50851	61028	10177	2,428.37
		4		65			61028	71157	10129	2,416.91
	2004	1					71157	72554	1397	333.34
		2			65.0	0.245	72554	75325	2771	661.20
		3					75325	81634	6309	1,505.41
		4					81634	83068	1434	342.17
	Average	1								1,408.53
		2								1,907.47
		3								1,966.89
		4								1,379.54
CO	2003	1	254.0				27225	37634	10409	6,814.87
		2	332.0		293.0	0.672	37634	50851	13217	8,653.30
		3	293.0				50851	61028	10177	6,662.98
		4		2000			61028	71157	10129	6,631.56
	2004	1					71157	72554	1397	914.63
		2			293.0	0.672	72554	75325	2771	1,814.20
		3					75325	81634	6309	4,130.56
		4					81634	83068	1434	938.85
	Average	1								3,864.75
		2								5,233.75
		3								5,396.77
		4								3,785.20
VOC	2003	1	246.3				27225	37634	10409	9,968.12
		2	1778.4		750.0	0.983	37634	50851	13217	12,657.19
		3	1012.4				50851	61028	10177	9,745.95
		4		750			61028	71157	10129	9,699.98
	2004	1					71157	72554	1397	1,337.83
		2			750.0	0.983	72554	75325	2771	2,653.63
		3					75325	81634	6309	6,041.78
		4					81634	83068	1434	1,373.26
	Average	1								5,652.98
		2								7,655.41
		3								7,893.87
		4								5,536.62
PM10	2003	1					27225	37634	10409	489.72
		2					37634	50851	13217	621.83
		3					50851	61028	10177	478.81
		4					61028	71157	10129	476.55
	2004	1					71157	72554	1397	65.73
		2					72554	75325	2771	130.37
		3					75325	81634	6309	296.83
		4					81634	83068	1434	67.47
	Average	1								277.72
		2								376.10
		3								387.82
		4								272.01

Crimson Resource Management
Historic Actual Emissions

Permit No. S-48-8

Pollutant	Year	Quarter	Actual Concentration in ppm	Rule 4702 limit in ppm	Concentration used for calculations in ppm	Emission factor in lbs/MMBtu	kscf			lbs/quarter
							Reading at the start of quarter	Reading at the end of quarter	Usage in kscf/quarter	
NOx	2003	1	64.7				27186	29584	2398	564.71
		2	63.6		64.2	0.242	29584	29827	243	57.22
		3	64.2				29827	34729	4902	1,154.39
		4		65			34729	40897	6168	1,452.52
	2004	1					40897	53138	12241	2,882.67
		2			64.2	0.242	53138	63643	10505	2,473.85
		3					63643	70467	6824	1,607.00
		4					70467	71489	1022	240.67
	Average	1								1,723.69
		2								1,265.54
		3								1,380.69
		4								846.60
CO	2003	1	231.0				27186	29584	2398	1,486.94
		2	324.0		277.5	0.637	29584	29827	243	150.68
		3	277.5				29827	34729	4902	3,039.61
		4		2000			34729	40897	6168	3,824.62
	2004	1					40897	53138	12241	7,590.34
		2			277.5	0.637	53138	63643	10505	6,513.89
		3					63643	70467	6824	4,231.39
		4					70467	71489	1022	633.72
	Average	1								4,538.64
		2								3,332.28
		3								3,635.50
		4								2,229.17
VOC	2003	1	1779.0				27186	29584	2398	2,296.43
		2	700.8		750.0	0.983	29584	29827	243	232.71
		3	1239.9				29827	34729	4902	4,694.37
		4		750			34729	40897	6168	5,906.75
	2004	1					40897	53138	12241	11,722.53
		2			750.0	0.983	53138	63643	10505	10,060.06
		3					63643	70467	6824	6,534.97
		4					70467	71489	1022	978.71
	Average	1								7,009.48
		2								5,146.38
		3								5,614.67
		4								3,442.73
PM10	2003	1					27186	29584	2398	112.82
		2					29584	29827	243	11.43
		3					29827	34729	4902	230.63
		4					34729	40897	6168	290.19
	2004	1					40897	53138	12241	575.92
		2					53138	63643	10505	494.24
		3					63643	70467	6824	321.06
		4					70467	71489	1022	48.08
	Average	1								344.37
		2								252.84
		3								275.84
		4								169.14

Crimson Resource Management
Historic Actual Emissions

Permit No. S-48-9

Pollutant	Year	Quarter	Actual Concentration in ppm	Rule 4702 limit in ppm	Concentration used for calculations in ppm	Emission factor in lbs/MMBtu	kscf			lbs/quarter
							Reading at the start of quarter	Reading at the end of quarter	Usage in kscf/quarter	
NOx	2003	1	136.4				65252	81421	16169	3,858.14
		2	78.5				13676	26481	12805	3,055.44
		3			65.0	0.245	26481	48142	21661	5,168.60
		4	107.5				48142	69800	21658	5,167.88
	2004	1		65			69800	89090	19290	4,602.85
		2							0	0.00
		3			65.0	0.245			0	0.00
		4							0	0.00
	Average	1								4,230.49
		2								1,527.72
		3								2,584.30
		4								2,583.94
CO	2003	1	170.0				65252	81421	16169	6,683.99
		2	200.0				13676	26481	12805	5,293.37
		3			185.0	0.424	26481	48142	21661	8,954.30
		4	185.0				48142	69800	21658	8,953.06
	2004	1		2000			69800	89090	19290	7,974.16
		2							0	0.00
		3			185.0	0.424			0	0.00
		4							0	0.00
	Average	1								7,329.08
		2								2,646.69
		3								4,477.15
		4								4,476.53
VOC	2003	1	229.8				65252	81421	16169	6,752.13
		2	424.3				13676	26481	12805	5,347.33
		3			327.1	0.429	26481	48142	21661	9,045.57
		4	327.1				48142	69800	21658	9,044.31
	2004	1		750			69800	89090	19290	8,055.45
		2							0	0.00
		3			327.1	0.429			0	0.00
		4							0	0.00
	Average	1								7,403.79
		2								2,673.66
		3								4,522.78
		4								4,522.16
PM10	2003	1					65252	81421	16169	760.72
		2					13676	26481	12805	602.45
		3					26481	48142	21661	1,019.11
		4					48142	69800	21658	1,018.97
	2004	1					69800	89090	19290	907.56
		2							0	0.00
		3							0	0.00
		4							0	0.00
	Average	1								834.14
		2								301.23
		3								509.55
		4								509.48

Crimson Resource Management
Historic Actual Emissions

Permit No. S-48-10

Pollutant	Year	Quarter	Actual Concentration in ppm*	Rule 4702 limit in ppm	Concentration used for calculations in ppm	Emission factor in lbs/MMBtu	kscf			lbs/quarter
							Reading at the start of quarter	Reading at the end of quarter	Usage in kscf/quarter	
NOx	2003	1	107.4				49326	64532	15206	3,628.35
		2	107.4		65.0	0.245	64532	79009	14477	3,454.40
		3	107.4				79009	93981	14972	3,572.52
		4		65			93981	94260	~~279~~ 13,445	66.57
	2004	1					9426	24843	15417	3,678.70
		2			65.0	0.245	24843	32527	7684	1,833.50
		3							0	0.00
		4							0	0.00
	Average	1								3,653.53
		2								2,643.95
		3								1,786.26
		4								33.29
CO	2003	1	434.0				49326	64532	15206	14,746.40
		2	434.0		434.0	0.996	64532	79009	14477	14,039.43
		3	434.0				79009	93981	14972	14,519.47
		4		2000			93981	9426	15444	14,977.20
	2004	1					9426	24843	15417	14,951.02
		2			434.0	0.996	24843	32527	7684	7,451.75
		3							0	0.00
		4							0	0.00
	Average	1								14,848.71
		2								10,745.59
		3								7,259.73
		4								7,488.60
VOC	2003	1	324.6				49326	64532	15206	6,302.41
		2	324.6		324.6	0.425	64532	79009	14477	6,000.26
		3	324.6				79009	93981	14972	6,205.42
		4		750			93981	94260	~~279~~	115.64
	2004	1					9426	24843	15417	6,389.86
		2			324.6	0.425	24843	32527	7684	3,184.78
		3							0	0.00
		4							0	0.00
	Average	1								6,346.14
		2								4,592.52
		3								3,102.71
		4								57.82
PM10	2003	1					49326	64532	15206	715.41
		2					64532	79009	14477	681.11
		3					79009	93981	14972	704.40
		4					93981	94260	~~279~~	13.13
	2004	1					9426	24843	15417	725.34
		2					24843	32527	7684	361.52
		3							0	0.00
		4							0	0.00
	Average	1								720.38
		2								521.32
		3								352.20
		4								6.56

* Engine S-48-10 has only one stack

Crimson Resource Management

Historic Actual Emissions (HAE)

Pollutant	Emissions in pounds per quarter				
	I	II	III	IV	Total
NOx	12,518	9,606	9,731	6,248	38,103
CO	32,633	25,320	23,501	19,848	101,303
VOC	33,186	31,328	30,146	19,701	114,360
PM10	2,509	2,005	1,968	1,259	7,741

New Engine-Generator Emissions (PE2)

Pollutant	Emissions in pounds per quarter				
	I	II	III	IV	Total
NOx	2,025	2,048	2,070	2,070	8,214
CO	7,891	7,978	8,066	8,066	32,001
VOC	3,523	3,562	3,601	3,601	14,286
PM10	562	568	575	575	2,280

Actual Emission Reductions (AER)

Pollutant	Emissions in pounds per quarter				
	I	II	III	IV	Total
NOx	10,492	7,558	7,661	4,178	29,889
CO	24,742	17,342	15,435	11,782	69,302
VOC	29,663	27,766	26,545	16,100	100,074
PM10	1,947	1,436	1,393	684	5,461

Emission Reduction Credits

Pollutant	Emissions in pounds per quarter				
	I	II	III	IV	Total
NOx	9,443	6,803	6,895	3,760	26,900
CO	22,268	15,608	13,892	10,604	62,371
VOC	26,697	24,990	23,891	14,490	90,067
PM10	1,752	1,293	1,254	616	4,915

APPENDIX B

Fuel Gas Analysis

Midway Laboratory Inc.
Petroleum-Industrial-Environmental
315 Main Street P.O. Box 1151
Taft California 93268

State Certificate #
Phone # (661) 765-
Fax # (661) 765-
E-Mail mid

NATURAL GAS ANALYSIS

ELAP Cert. 1396

Rev 2/12/03

Customer: Crimson Resources
Attention: Rick Hood

Log #: 7432-7
Date Received: 1/12/2004
Date Completed: 1/12/2004
Report Date: 1/13/2004

Sample Description: Meter # 17

Analytical Parameter: Natural Gas Analysis

Constituent	Mole %	Wt. %	Lv. %
Oxygen	0.661	1.263	0.568 *
Nitrogen	5.279	6.889	3.769 *
Carbon Dioxide	9.023	18.497	15.733 *
Methane	75.323	50.289	63.714 *
Ethane	5.584	7.793	10.402 *
Propane	2.681	5.466	3.659
Iso-Butane	0.283	0.766	0.462
N-Butane	0.558	1.510	0.878
Iso-Pentane	0.170	0.571	0.310
N-Pentane	0.279	0.937	0.504
Hexanes Plus	0.000	0.000	0.000
Hydrogen	0.000	0.000	0.000
Hydrogen Sulfide	0.000	0.000	0.000
Total	100.000	100.000	100.000

Hydrogen Sulfide, ppm: 0
Total Sulfur, as H2S ppm: Not Requested

Physical Data	dry	wet		
BTU cu.ft. ideal	971.55	954.64	GPM	1.162
BTU cu.ft. real	974.08	957.13	z factor	0.9974
BTU/lb. ideal	17173.91	16875.08	F. factor	8777
Sp. Gr. ideal	0.7412		Sp. Vol.	17.67
Sp. Gr. Real	0.7429			

CHONS	% by Wt.	References
% Carbon	61.019	ASTM D 3226-90
% Hydrogen	17.390	ASTM D 1945-96
% Oxygen	14.732	ASTM D 1946-94
% Nitrogen	6.659	ASTM D 3588-91
% Sulfur	0.000	GPA 2145-00
Total	100.000	

Notes: * Not added to GPM value.
All Calculations tabulated @ 60/60

Michael E. Mayfield
Laboratory Director
Midway Laboratory

Post-it Fax Note 7671 | Date 2/5/05 | # of pages 1
To Diane | From Patty
Co./Dept. | Co.
Phone # 416-432-5335 | Phone #
Fax # | Fax #

APPENDIX C

Settlement Agreement

SETTLEMENT AGREEMENT AND GENERAL RELEASE

This Settlement Agreement and General Release (the "Agreement") is made, entered into and executed this 6th day of April 2005 (the "Effective Date"), by and between **SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT**, its predecessors, successors, assigns, subsidiaries, parents, affiliates, agents, representatives, attorneys, insurers, officers, directors and employees (hereinafter referred to as "District"), and **CRIMSON RESOURCE MANAGEMENT CORPORATION**, a Colorado corporation, its predecessors, successors, assigns, subsidiaries, parents, affiliates, agents, representatives, attorneys, insurers, officers, directors and employees (hereinafter referred to as "Crimson").

RECITALS:

WHEREAS, District issued numerous Notices of Violation to Crimson as referenced in Exhibit 1 of this Agreement attached hereto and incorporated herein;

WHEREAS, District alleges, as set forth in said Notices of Violation, that Crimson violated District rules at its oil production facilities located in Kern County, California. District seeks civil penalties as a result of said Notices of Violation pursuant to California Health and Safety Code sections 42402 to 42402.3;

WHEREAS, Crimson disputes the allegations made by District in the Notices of Violation and Crimson denies that it has violated District rules or is in any way liable for any such alleged violations;

WHEREAS, District acknowledges that Crimson has spent approximately Three Million dollars ($3,000,000.00) to purchase and install equipment that will allow Crimson to electrify its 1-C Gas Plant, located in Taft, California, which will reduce air emissions in the San Joaquin Valley when completed;

WHEREAS, it is estimated that the electrification project Crimson is undertaking will reduce potential NOx emissions in the San Joaquin Valley by an estimated 73,816 pounds per year;

WHEREAS, Crimson and District desire to settle, resolve and compromise any and all disputes between them.

NOW, THEREFORE, in consideration of the covenants, promises, and undertakings set forth herein, and for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Crimson and District agree as follows:

1. Payment.

A. Cash. Crimson shall pay District the total sum of Four Hundred Thousand Dollars ($400,000.00), payable as follows: Crimson will pay District Thirteen Thousand, Three Hundred Thirty Four dollars ($13,334.00) each

month for a period of thirty (30) months, or until the total amount of $400,000 is paid in full. The initial payment is due May 1, 2005. The parties agree that, pursuant to section 523(a)(7) of the Federal Bankruptcy Code, 11 U.S.C. § 523(a)(7), the above $400,000.00 fine is non-dischargeable should Crimson file for bankruptcy prior to paying the fine in full.

B. Emission Reduction Credits. In addition to the cash payments stated in section 1.A. above, Crimson shall also surrender to the District, upon the issuance of emission reduction credit ("ERC") certificates pursuant to District Rule 2301, one-half (1/2) of any ERCs for NOx generated and approved by the District as a result of the genset electrification project Crimson is currently undertaking at the 1-C Gas Plant. The total available ERCs for NOx are currently estimated at a value of approximately $800,000.

2. Schedule. Pursuant to this Agreement, Crimson shall implement the following schedule:

A. Start-Up.
The parties agree that start-up of the genset engines as described in and authorized by District permit numbers S-48-28-0, S-48-29-0, and S-48-30-0 occurred prior to the execution of this Agreement.

B. Testing. Crimson agrees to conduct source testing of the genset engines within sixty (60) days of start-up of the engines, unless Crimson is granted a variance from the 60-day deadline by the District's Hearing Board due to unforeseen difficulties beyond Crimson's reasonable control. In the case that Crimson is granted a variance, testing shall occur by the deadlines set forth in the variance.

C. Submission of Test Results. Crimson agrees to submit the results of the testing conducted pursuant to paragraph 2.B. above within sixty (60) days of the completion date of the testing for each genset engine, whether or not the test results demonstrate compliance with District rules.

D. Decommissioning Existing 1-C Gas Plant IC Engines. Crimson agrees to permanently disable the seven (7) IC engines (District ID numbers S-48-3, S-48-4, S-48-5, S-48-7, S-48-8, S-48-9 and S-48-10) that were in existence at the 1-C Gas Plant prior to the installation of the genset engines and have not been electrified to date by July 1, 2005. Crimson shall notify the District when it has complied with this requirement and the District shall verify Crimson's compliance with this requirement by conducting an inspection at Crimson's facility. "Permanently disable" as used in this paragraph shall mean to render the engines forever inoperable so that they may never be re-sold or re-used.

3. Request for Extension. It is understood that one or more of the actions identified in the schedule in paragraph 2 may not be achieved by the date provided in this Agreement for reasons beyond the reasonable control of Crimson, including but not limited to, reasons such as late delivery of necessary equipment by a vendor, the delivery of malfunctioning equipment, equipment malfunctions, or delays in approval by PG&E. For those actions governed solely by the terms of this Agreement, Crimson shall notify the District, through its counsel, whenever, due to circumstances beyond Crimson's control, it believes that it will be unable to complete an action by the deadline date and shall request an extension. District shall evaluate the circumstances surrounding the delay and shall make a determination in writing whether to grant the extension. District's approval of the extension shall not be unreasonably withheld. In the event that the delayed action is regulated pursuant to a District rule, Crimson shall consult with the District regarding the appropriate method for obtaining an extension and, if necessary, shall pursue an extension through the District variance process.

4. Non-Compliance with Schedule. In the event that Crimson does not comply with the schedule set forth in paragraph 2 and District does not authorize an extension of that date or an extension is not granted through District's variance process, Crimson shall be liable to District for an additional Five Hundred dollars ($500.00) per day following the date of District's denial of the extension or denial of the variance until the action has been completed. Payment of the $500.00 per day penalty does not preclude District from filing appropriate legal action to enforce the terms or schedules contained in this Agreement.

5. Release. As a material inducement to Crimson to enter into this Agreement, District hereby irrevocably and unconditionally releases, acquits and forever discharges Crimson and each of Crimson's predecessors, successors, assigns, and heirs, and as to each of the aforementioned, their agents, managing agents, directors, officers, shareholders, servants, employees, representatives and attorneys, and all persons acting by, through, under or in concert with any of them (collectively "Crimson Releasees"), from any and all charges, complaints, claims of action, suits, rights, demands, costs, losses, debts and expenses (including attorneys' fees and costs actually incurred) of any nature whatsoever, whether known or unknown, direct or indirect, suspected or unsuspected, fixed or contingent, which District now has, owns or holds, or claims to have, own or hold, or which District at any time heretofore had, owned or held, or claimed to have, own or hold, against each and all of Crimson Releasees which arises out of or related in any way to the Notices of Violation described in Exhibit 1 hereto.

6. Authority of Signatories. Crimson and District, individually, represent and warrant that no other person or entity has, or has had, any interest in the claims, demands, obligations and causes of action referred to in this Agreement; that it has sole right and exclusive authority to execute this Agreement and receive the sums specified in it; and that it has not sold, assigned, transferred, conveyed or

otherwise disposed of any of the claims, demands, obligations or causes of action referred to in this Agreement.

7. Press Release. In the event District issues a press release regarding the terms of this Agreement, District shall provide Crimson with a copy of said press release at least five (5) days prior to it being issued.

8. No Admission of Liability. Crimson and District, individually, acknowledge and agree that the payment and acceptance of the sums described in Paragraph 1 and the execution and performance of this Agreement are the result of a compromise of disputed claims. Neither the payment of money by Crimson nor this Agreement shall be deemed to be an admission of liability concerning any of the claims and/or Notices of Violation referenced in this Agreement, and no past or present wrongdoing or liability upon the part of any of those herein released shall be implied by any of the agreements herein. This Agreement shall not constitute any admission of violation as to any District rule, nor shall it be inferred to be such an admission in any administrative or judicial proceeding.

9. Waiver. Crimson and District, individually, expressly waive and assume the risk of any and all claims for damages which exist as to the claims and/or Notices of Violation which are the subject of this Agreement, but which it does not know of or suspect to exist, whether through ignorance, oversight, error, negligence or otherwise, and which, if known, might materially affect its decision to enter into this Agreement and, further assumes the risk that it may suffer damages in the future which it does not now anticipate or suspect may occur and **therefore waive all rights under Section 1542 of the Civil Code of California** which reads as follows:

"A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE WHICH, IF KNOWN BY HIM, MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR."

10. Construction. In entering into this Agreement, each party, individually, represents that it has relied upon the legal advice of its attorneys who are attorneys of its own choice; it further represents that the terms of this Agreement have been completely read by it, or fully understood and voluntarily accepted by both its attorneys and itself, it and its counsel has reviewed and revised, or had the opportunity to revise this Agreement, and accordingly the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party is not applicable and therefore shall not be employed in the interpretation of this Agreement or any amendment of it.

against the drafting party is not applicable and therefore shall not be employed in the interpretation of this Agreement or any amendment of it.

11. Entire Agreement. This Agreement contains the entire understanding of Crimson and District with regard to the matters set forth herein and may only be amended by writing executed by both Crimson and District.

12. California Law. This Agreement has been entered into in the State of California and shall be construed and interpreted in accordance with the laws of said state.

13. Venue. The parties agree that venue for any action arising out of this agreement shall be only in Kern County, California.

14. Counterparts. This Agreement may be executed in counterparts, and each of those counterparts shall be deemed an original for all purposes.

WHEREFORE, the authorized representatives of the parties hereto have executed this Agreement on the date first above written.

CRIMSON RESOURCE MANAGEMENT CORPORATION

By: _____
Gary Buntmann
Vice President
Date: 3/30/05

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

By: _____
David L. Crow
Executive Director / APCO
Date: 4/6/05

Approved as to legal form:

By: _____
Mark N. Semenoff
Attorney for Crimson
Date: 3/30/05

Approved as to legal form:

By: _____
Philip M. Jay
Attorney for District
Date: 4-5-05

DNVR1:60294546.02

APPENDIX D

Fuel Usage Data

1C Gas Plant Fired Equipment Daily Rounds Report

Date: 1-2-03

Day Operator Signature: MOM

Night Operator Signature: Sullivan

Compressors

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	#7	#8	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today / Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter	
Clark # 1																				0	21376	0	24				1
Clark #2																				0	7446	0	0				2
Clark #5	389	7	213	200	205		490	530	560	520	590	50			171	154	—	—	46	224	17225	18	0	278	912312	2[illegible]97	5
Clark #6																				33	27156	30	23				6
Clark #12	385	5	[illegible]	200	221	215	580	610	600	600	550	590	510	500	157	172	—	—	45	350	65232 / 64852	11	0	[illegible]55	124542	[illegible]	12
Clark #14																											14
Clark #15																											15
Clark #16	421	7	220	210	205		726	760	750	480	460	730			146	152			40	299	49625 / 49326	46	0	1.1	826677	431402	16
XVG K-2	384		160	155	210	210	Elect Assist On?		Are One Shot Lubricators Full?	✓					73	63			54	64		24	0	219		69[illegible]	K-2
XVG K-3							Elect Assist On?		Are One Shot Lubricators Full?											0		0	0				K-3

R.O. System

Inlet Filter D. P.		Pass Press. 1 st.	Pass Press. 2 nd.	Flow Rate 2 nd.	Flow Rate 1 st.	Flow Rate Final	Pump Press
							105

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Hrs. On	Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A	0	[illegible]			

Emergency Flare

Equipment	Up	Down
F-1		
F-2		

Pump Seals

Pump	OK	Leaks	Pump	OK	Leaks
P-5A	✓				
P-5B	✓				
P-6A	✓				
P-6B	✓				
P-7A	✓				
P-7B	✓				
P-8A	✓				
P-8B	✓				

Stand By Electric Generators

[illegible]ment	Eng RPM		Oil Temp	Oil Press.	Fuel Level	Fuel Tank Level	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
KW									[illegible]	24			
									[illegible]	24			

Hot Oil Skid

Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
24	0			54

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01	[illegible]	
Hot oil Skid	3.598		

54

1C Gas Plant Fired Equipment Daily Rounds Report

Day Operator Signature Sullivan Night Operator Signature Mott Date: 3-30-03

Compressors

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	#7	#8	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today / Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter
(M) Clark # 1																					22778 / 22773	1	13	8778	4026	7269
(V) Clark #2																					7456 / 7454	23	13	9,990	82601	391086
(X) Clark #5	316		260	262	255		560	520	520	520	460	420									37634 / 37541	20	4	444	742065	230047
(8) Clark #6																					29554 / 29553	1	23	2667	656078	216460
(A) #12	307						520	560	560	460	480	420	550	1440							13076 / 12929	22	2	1307	448649	263064
Clark #14																								6554		285587
Clark #15																										
(D) Clark #16	329						680	560	640	580	320	560									64532 / 64427	20	4	2415	815865	435135
XVG K-2	335						Elect Assist On?		Are One Shot Lubricators Full?													20	4	4573		
XVG K-3							Elect Assist On?		Are One Shot Lubricators Full?													0	24			

R.O. System

Inlet Filter D. P.		Pass Press. 1 st.	Pass Press. 2 nd.	Flow Rate 2 nd.	Flow Rate 1 st.	Flow Rate Final	Pump Press

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Hrs. On	Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A	0	24			

Emergency Flare

Equipment	Up	Down
F-1	300	
F-2	135	

Pump Seals

Pump	OK	Leaks
P-5A	✓	
P-5B	✓	
P-6A	✓	
P-6B	✓	
P-7A	✓	
P-7B	✓	
P-8A	✓	
P-8B	✓	

Stand By Electric Generators

Equipment	Eng RPM		Oil Temp	Oil Press.	Fuel Level	Fuel Tank Level	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
100 KW									0	24			
50 KW									0	24			

Hot Oil Skid

Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
22	2			

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01	9.6	2.0
Hot oil Skid	3.598	6.2	3.6

Comments:

1C Gas Plant Fired Equipment Daily Rounds Report

Day Operator Signature Bob Price

Night Operator Signature ED NITRO

Date: 6-30-03

Compressors

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	#7	#8	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today / Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter	
Clark #1	310		230	260	280		600	500	540	600	580	610			140	140	140	180	35		27778 / 2738	24	0	0423	4026	7269	1
Clark #2																					7932 / 7932						2
Clark #5	300		240	260	280		620	600	610	580	600	580			140	143	140	185	35		50251 / 50276	24	0	5723	793931	230054	5
Clark #6																					29827 / 29827						6
Clark #12																					2681 / 2681						12
Clark #14			210	220												98			45			24	0	715		10?6	14
Clark #15																											15
Clark #16	320		280	240	260		600	600	580	590	610	600			140	142			35		79009 / 78773	24	0	8209	553783	167471	16
XVG K-2	330		140	140	150	160	Elect Assist On? NO		Are One Shot Lubricators Full? ✓						135	140			30			24	0	—		38362	K-2
XVG K-3	335		140	105	150	140	Elect Assist On? YES		Are One Shot Lubricators Full? ✓						125	140			45			21	0	5706		24259	K-3

R. O. System

Inlet Filter D. P.		Pass Press. 1 st.	Pass Press. 2 nd.	Flow Rate 2 nd.	Flow Rate 1 st.	Flow Rate Final	Pump Press

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Hrs. On	Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A	0	24			

Emergency Flare

Equipment	Up	Down
F-1	191	
F-2	182	

Pump Seals

Pump	OK	Leaks
P-5A	✓	
P-5B	–	
P-6A	"	
P-6B	"	
P-7A	0	
P-7B	0	
P-8A	✓	
P-8B	✓	

Stand By Electric Generators

Equipment	Eng RPM		Oil Temp	Oil Press.	Fuel Level	Fuel Tank Level	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
500 KW									0	24			
150 KW									0	24			

Hot Oil Skid

Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
24	0			

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01	7.4	5.4
Hot oil Skid	3.598		

Comments:

1C Gas Plant Fired Equipment Daily Rounds Report

Day Operator Signature: [signature] Night Operator Signature: [signature] Date: 9-30-03

Compressors

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	#7	#8	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today / Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter	
Clark #1	294	✓																			32865 / 32716	24	0	6145	4026	7268	1
Clark #2																					9772 / 9772	0	24	9228	096121	569955	2
Clark #5	297	✓	240	235	245																61028 / 60846	24	0	6599	470847	230059	5
Clark #6																					34729 / 34729	0	24	2658	656078	370390	6
#12	320	✓																			48142 / 47859	24	0	6199	055485	3.3007	12
Clark #14																						0	24	7436		39549	14
Clark #15																						0	24	9727		31650	15
Clark #16	315																				93981 / 93801	24	0	3633	789640	167590	16
XVG K-2	339						Elect Assist On? ✓				Are One Shot Lubricators Full? ✓											24	0	5042		49973	K-2
XVG K-3							Elect Assist On?				Are One Shot Lubricators Full?											0	24	5940		01985	K-3

R.O. System

Inlet Filter D. P.		Pass Press. 1 st.	Pass Press. 2 nd.	Flow Rate 2 nd.	Flow Rate 1 st.	Flow Rate Final	Pump Press

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Hrs. On	Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A	0	24			

Emergency Flare

Equipment	Up	Down
F-1	166	
F-2	173	

Pump Seals

Pump	OK	Leaks
P-5A	✓	
P-5B	✓	
P-6A	✓	
P-6B	✓	
P-7A	✓	
P-7B	✓	
P-8A	✓	
P-8B	✓	

Stand By Electric Generators

Equipment	Eng RPM	Oil Temp	Oil Press.	Fuel Level	Fuel Tank Level	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
0 KW								0	24			
0 KW								0	24			

Hot Oil Skid

Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
24	0			

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01	9.4	2.5
Hot oil Skid	3.598	6.5	3.0

Comments:

1C Gas Plant Fired Equipment Daily Rounds Report

Day Operator Signature Cal Price

Night Operator Signature ED & TED

Date: 12-3-03

Compressors

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	#7	#8	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter	
Clark #1	310	YES	220	240	260										120	130			46			24	8	—	4020	7269	1
Clark #2																					10486						2
Clark #5																											5
Clark #6	305	YES	230	245	240											130	100	120	55			24	8	—	6[illegible]	[illegible]132	6
#12	313	YES	240	270	260	250									130	140	40	90	52								12
Clark #14																											14
Clark #15																60			55					9920		[illegible]200	15
Clark #16	310	YES	240	250	280										120	120					9426		8	5[illegible]	[illegible]	[illegible]	16
XVG K-2	358		120	120	140	150	Elect Assist On? YES		Are One Shot Lubricators Full? ✓						120	130			45			24	8	—		5571	K-2
XVG K-3							Elect Assist On?		Are One Shot Lubricators Full?																		K-3

R. O. System

Inlet Filter D. P.		Pass Press. 1 st.	Pass Press. 2 nd.	Flow Rate 2 nd.	Flow Rate 1 st.	Flow Rate Final	Pump Press

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Hrs. On	Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A					

Emergency Flare

Equipment	Up	Down
F-1		
F-2		

Pump Seals

Pump	OK	Leaks
P-5A		
P-5B		
P-6A		
P-6B		
P-7A		
P-7B		
P-8A		
P-8B		

Stand By Electric Generators

Equipment	Eng RPM		Oil Temp	Oil Press.	Fuel Level	Fuel Tank Level	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
500 KW													
150 KW													

Hot Oil Skid

Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01	9.7	2.3
Hot oil Skid	3.598		

Comments:

1C Gas Plant Fired Equipment Daily Rounds Report

Date: 3-29-04

Day Operator Signature Bob Price

Night Operator Signature Barry Sullivan

Compressors

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	#7	#8	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today / Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter	
Clark # 1																					55846 / 55267	24	0				1
Clark #2																					12045 / 11881	0	24				2
Clark #5																					72554 / 71855	24	0				5
Clark #6																					53138 / 53002	0	24				6
( )#12																					89090 / 88026	24	0				12
Clark #14																						24	0				14
Clark #15																						0	24				15
Clark #16																					24943 / 23979	24	0				16
XVG K-2							Elect Assist On?		Are One Shot Lubricators Full?													0	24				K-2
XVG K-3							Elect Assist On?	✓	Are One Shot Lubricators Full?			L										24	0				K-3

R. O. System

Inlet Filter D. P.		Pass Press. 1 st.	Pass Press. 2 nd.	Flow Rate 2 nd.	Flow Rate 1 st.	Flow Rate Final	Pump Press

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Hrs. On	Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A	0	24			

Emergency Flare

Equipment	Up	Down
F-1	196	
F-2	170	

Pump Seals

Pump	OK	Leaks
P-5A	✓	
P-5B	✓	
P-6A	✓	
P-6B	✓	
P-7A	✓	
P-7B	✓	
P-8A	✓	
P-8B	✓	

Stand By Electric Generators

Equipment	Eng RPM		Oil Temp	Oil Press.	Fuel Level	Fuel Tank Level	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
500 KW													
150 KW													

Hot Oil Skid

Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
24	0			

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01	9.6	2.4
Hot oil Skid	3.598	6.4	3.2

Comments: Top fuel reading taken 4-2-04 @ 9:00 am.

1C Gas Plant Fired Equipment Daily Rounds Report

Day Operator Signature SULLIVAN Night Operator Signature Nitro Date: 6-30-04

Compressors

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	#7	#8	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter	
Clark # 1	297	✓																			67974 67738	24	0	0/0	4026	7769	
Clark #2	293	✓																			18060 17926	24	0	270 [illegible]	239167	115631	
Clark #5																					75325 75325	0	24	8303	385245	230061	
Clark #6	297	✓																			63643 63499	24	0	5385	654788	118317	
Clark #12	—	—																			—	—	—	—	—	—	
Clark #14																						24	0	260		593462	
Clark #15																						24	0	0227		046220	
Clark #16																					32527 32517	0	24	1621	541321	165222	
XVG K-2							Elect Assist On?		Are One Shot Lubricators Full?													0	24	1510		41391	K-
XVG K-3	331						Elect Assist On?	✓	Are One Shot Lubricators Full?	✓												24	0	6256		19787	K-

R. O. System

Inlet Filter D. P.		Pass Press. 1 st.	2 nd.	Flow Rate 2 nd.	1 st.	Final	Pump Press

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Hrs. On	Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A	0	24			

Emergency Flare

Equipment	Up	Down
F-1	222	
F-2	152	

Pump Seals

Pump	OK	Leaks
P-5A	✓	
P-5B	✓	
P-6A	✓	
P-6B	✓	
P-7A	✓	
P-7B	✓	
P-8A	✓	
P-8B	✓	

Stand By Electric Generators

quipment	Eng RPM		Oil Temp	Oil Press.	Fuel Level	Fuel Tank Level	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
500 KW									0	24			
150 KW									0	24			

Hot Oil Skid

Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
24	0			

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01	9.6	2.0
Hot oil Skid	3.598	6.6	3.3

Comments:

1C Gas Plant Fired Equipment Daily Rounds Report

Day Operator Signature Price "THE GAS MASTER" Night Operator Signature Nitro "THE MASTER" Date: 9-26-04

Compressors

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	#7	#8	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter	
Clark # 1	294	10	210	271	150										125	135			38		79768 79463						1
Clark #3																											3
Clark #5	302	10	220	229	235										125	136	—		37		81634 31307						5
Clark #6																					70467 70467						6
Clark #12																					—	6	24				12
Clark #14			240	224												87			49					7034		46619	14
Clark #15			255	265												89			77					0871		31000	15
Clark #16																					32527 32527						16
XVG K-2							Elect Assist On?		Are One Shot Lubricators Full?																		K-2
XVG K-3	335		140	141	190	193	Elect Assist On?	✓	Are One Shot Lubricators Full?	✓					130	134			43					6429		00966	K-3

R. O. System

Inlet Filter D. P.		Pass Press. 1 st.	Pass Press. 2 nd.	Flow Rate 2 nd.	Flow Rate 1 st.	Flow Rate Final	Pump Press

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Hrs. On	Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A					

Emergency Flare

Equipment	Up	Down
F-1		
F-2		

Pump Seals

Pump	OK	Leaks
P-5A		
P-5B		
P-6A		
P-6B		
P-7A		
P-7B		
P-8A		
P-8B		

Stand By Electric Generators

Equipment	Eng RPM		Oil Temp	Oil Press.	Fuel Level	Fuel Tank Level	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
500 KW													
150 KW													

Hot Oil Skid

Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read	Fuel Used

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01	9.7	7.2
Hot oil Skid	3.598	6.5	4.7

Comments:

1C Gas Plant Fired Equipment Daily Rounds Report

Date: 12-31-04

Day Operator Signature Price

Morning Tower Operator Signature Nito

Equip.	Eng RPM	R.O. Rate	Compressor Discharge Temperatures #1	#2	#3	#4	Power Cylinder Temperatures #1	#2	#3	#4	#5	#6	Wtr Temp In	Wtr Temp Out	Oil Temp In	Oil Temp Out	Oil Press	Fuel Used	Fuel Today / Yesterday	Hrs On	Hrs Off	Crank Case Meter	Power Cyl. Meter	Comp. Cyl. Meter	
Clark # 1																			80069 / 80019						1
Clark #3			195	260	215									—			46			24	e	1311	88739	043198	3
Clark #5																			83068 / 83028						5
Clark #6																			71489 / 71439						6
Clark #12			200	205	230	250								—						24	e	5903			12
Clark #14																				24	e	3349		29483	14
Clark #15																									15
Clark #16																									16
XVG K-2							Elect Assist On?		Are One Shot Lubricators Full?																K-2
XVG K-3	336		120	120	45	110	Elect Assist On?	YES	Are One Shot Lubricators Full?	✓			85	100			52			24	e	6509		15743	K-3

R. O. System

Inlet Filter D. P.	Total D. S.	Pass Press. 1 st.	Pass Press. 2 nd.	Flow Rate 2 nd.	Flow Rate 1 st.	Flow Rate Final	Pump Press

Water Meter Reading	
Today	
Yesterday	
Total	

Auxillary Air Compressor

Equipment	Equipment Hrs. On	Equipment Hrs. Off	Fuel Prev. Read	Fuel Today Read	Fuel Used
4-1A	e	24			

Emergency Flare

Equipment	Up	Down
F-1	200	
F-2	140	

Pump Seals

Pump	OK	Leaks
P-5A	✓	
P-5B	✓	
P-6A	✓	
P-6B	✓	
P-7A	✓	
P-7B	✓	
P-8A	✓	
P-8B	✓	

Stand By Electric Generators

Equipment	Eng RPM	Oil Level	Oil Temp	Oil Press.	Fuel Level Day Tank	Fuel Level Storg. Tank	Bat. Volt.	Wtr. Temp.	Hours On	Hours Off	Fuel Prev. Read	Fuel Today Read
500 KW									e	24		
150 KW									e	24		

Hot Oil Skid

Hours On	Hours Off	Fuel Used
24	e	

Fuel Chart Readings

Equipment	Coef.	Static	Diff.
K2 / K3	3.01		
Hot oil Skid	3.598		

Comments:

APPENDIX E

Source Test Results

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
IC Engine 7D 1 - North Stack

Project 129-3370D
October 24, 2003
Permit No. S-48-3-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
NOx	58	142	47	
	58	144	48	
	75	181	60	
Mean	64	156	52	75 ppm @ 15% O_2
CO	145	356	117	
	142	353	116	
	141	341	112	
Mean	143	350	115	2000 ppm @ 15% O_2
VOC	382.0	936.6	308.7	
	383.2	952.7	314.1	
C_3 - C_8+ as C_1	371.8	899.4	296.4	
Mean	379.0	929.6	306.4	750 ppm @ 15% O_2

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
IC Engine 7D 1 - South Stack

Project 129-3370D
October 24, 2003
Permit No. S-48-3-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
NOx	79	214	71	
	81	220	72	
	77	212	70	
Mean	**79**	**215**	**71**	**75 ppm @ 15% O_2**
CO	156	423	139	
	164	445	147	
	171	471	155	
Mean	**164**	**446**	**147**	**2000 ppm @ 15% O_2**
VOC	1917.3	5199.9	1713.9	
	1976.3	5359.9	1766.7	
C_3 - C_6+ as C_1	1743.8	4802.1	1582.9	
Mean	**1879.1**	**5120.6**	**1687.8**	**750 ppm @ 15% O_2**

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
I C Engine 2 - North Stack

Project 129-3370A
August 29, 2003
Permit No. S-48-4-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
NOx	34	85	28	
	36	91	30	
	38	93	31	
Mean	**36**	**90**	**30**	**75 ppm @ 15% O_2**
CO	153	380	125	
	155	391	129	
	151	370	122	
Mean	**153**	**380**	**125**	**2000 ppm @ 15% O_2**
VOC	1772.1	4405.7	1452.1	
C_3 - C_6+ as C_1	1846.2	4654.4	1534.1	
	1906.6	4675.1	1541.0	
Mean	**1841.6**	**4578.4**	**1509.1**	**750 ppm @ 15% O_2**

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
IC Engine 2 - South Stack

Project 129-3370A
August 29, 2003
Permit No. S-48-4-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
NOx	36	79	26	
	38	84	28	
	36	81	27	
Mean	**37**	**81**	**27**	**75 ppm @ 15% O_2**
CO	160	349	115	
	159	351	116	
	154	345	114	
Mean	**158**	**348**	**115**	**2000 ppm @ 15% O_2**
VOC	968.2	2113.5	696.7	
	890.9	1968.8	648.9	
C_3 - C_6+ as C_1	898.3	2009.9	662.4	
Mean	**919.1**	**2030.7**	**669.3**	**750 ppm @ 15% O_2**

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
IC Engine 1 - North Stack

Project 129-3370A
August 27, 2003
Permit No. S-48-5-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
	61	144	47	
NOx	63	154	51	
	60	145	48	
Mean	**61**	**148**	**49**	75 ppm @ 15% O_2
	140	330	109	
CO	135	331	109	
	135	327	108	
Mean	**137**	**329**	**109**	2000 ppm @ 15% O_2
	364.7	859.0	283.1	
VOC	342.4	839.6	276.7	
C_3 - C_6+ as C_1	295.3	714.2	235.5	
Mean	**334.1**	**804.3**	**265.1**	750 ppm @ 15% O_2

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
IC Engine 1 - South Stack

Project 129-3370A
August 28, 2003
Permit No. S-48-5-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
NOx	37	88	29	
	36	86	28	
	30	75	25	
Mean	**34**	**83**	**27**	**75 ppm @ 15% O_2**
CO	294	702	231	
	248	592	195	
	256	636	210	
Mean	**266**	**643**	**212**	**2000 ppm @ 15% O_2**
VOC	1172.8	2799.1	922.6	
	1267.8	3025.8	997.3	
C_3 - C_6+ as C_1	1298.9	3229.2	1064.4	
Mean	**1246.5**	**3018.0**	**994.8**	**750 ppm @ 15% O_2**

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
IC Engine 5 - North Stack

Project 129-3370A
August 27, 2003
Permit No. S-48-7-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
	109	250	82	
NOx	116	263	87	
	116	273	90	
Mean	**114**	**262**	**86**	**75 ppm @ 15% O_2**
	321	737	243	
CO	345	782	258	
	336	791	261	
Mean	**334**	**770**	**254**	**2000 ppm @ 15% O_2**
	332.9	764.0	251.8	
VOC	333.4	755.4	249.0	
C_3 - C_6+ as C_1	306.6	722.2	238.1	
Mean	**324.3**	**747.2**	**246.3**	**750 ppm @ 15% O_2**

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
IC Engine 5 - South Stack

Project 129-3370A
August 27, 2003
Permit No. S-48-7-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
NOx	94	267	88	
	92	266	88	
	100	280	92	
Mean	**95**	**271**	**89**	**75 ppm @ 15% O_2**
CO	343	975	321	
	365	1054	347	
	356	996	328	
Mean	**355**	**1008**	**332**	**2000 ppm @ 15% O_2**
VOC	1824.5	5183.9	1708.7	
	1934.7	5585.7	1841.1	
C_3 - C_6+ as C_1	1936.6	5416.5	1785.3	
Mean	**1898.6**	**5395.4**	**1778.4**	**750 ppm @ 15% O_2**

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Aera
IC Engine 6 - North Stack

Project 129-3370B
October 2, 2003
Permit No. S-48-8-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
	82.5	183.9	60.6	
NOx	94.4	205.1	67.6	
	86.6	190.2	62.7	
Mean	**87.8**	**193.1**	**63.6**	**75 ppm @ 15% O_2**
	432	963	317	
CO	450	978	322	
	459	1008	332	
Mean	**447**	**983**	**324**	**2000 ppm @ 15% O_2**
	1014.8	2262.0	745.6	
VOC	1034.4	2247.1	740.6	
C_3 - C_6+ as C_1	851.1	1869.3	616.1	
Mean	**966.8**	**2126.1**	**700.8**	**750 ppm @ 15% O_2**

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Aera
IC Engine 6 - South Stack

Project 129-3370B
October 2, 2003
Permit No. S-48-8-3

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
NOx	66.5	197.1	65.0	
	62.8	187.7	61.9	
	68.2	204.1	67.3	
Mean	**65.8**	**196.3**	**64.7**	**75 ppm @ 15% O_2**
CO	239	708	233	
	224	669	221	
	242	724	239	
Mean	**235**	**700**	**231**	**2000 ppm @ 15% O_2**
VOC	1721.2	5100.9	1681.3	
C_3 - C_6+ as C_1	1796.9	5369.7	1770.0	
	1911.4	5721.5	1885.8	
Mean	**1809.8**	**5397.4**	**1779.0**	**750 ppm @ 15% O_2**

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
IC Engine 12 North Stack

Project 129-3370E
November 26, 2003
Permit No. S-48-9-4

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
	191.6	453.7	149.5	
NOx	178.5	410.2	135.2	
	165.3	377.9	124.6	
Mean	**178.5**	**413.9**	**136.4**	**75 ppm @ 15% O_2**
	237	561	185	
CO	212	487	161	
	217	496	164	
Mean	**222**	**515**	**170**	**2000 ppm @ 15% O_2**
	291.7	690.7	227.7	
VOC	342.4	786.8	259.3	
C_3 - C_6+ as C_1	268.7	614.2	202.5	
Mean	**300.9**	**697.2**	**229.8**	**750 ppm @ 15% O_2**
Comments:				

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Area
IC Engine 12 South Stack

Project 129-3370E
November 26, 2003
Permit No. S-48-9-4

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
	83.9	232.1	76.5	
NOx	87.6	240.1	79.1	
	87.1	242.5	79.9	
Mean	**86.2**	**238.2**	**78.5**	**75 ppm @ 15% O_2**
	224	620	204	
CO	218	598	197	
	217	604	199	
Mean	**220**	**607**	**200**	**2000 ppm @ 15% O_2**
	454.9	1258.5	414.8	
VOC	469.0	1285.7	423.8	
C_3 - C_6+ as C_1	473.3	1317.6	434.4	
Mean	**465.7**	**1287.3**	**424.3**	**750 ppm @ 15% O_2**

Comments:

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Crimson Resource Management
Taft Aera
IC Engine 16

Project 129-3370B
October 2, 2003
Permit No. S-48-10-4

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	Permit Limits
NOx	145.9	362.7	119.6	
	128.2	310.1	102.2	
	127.4	304.5	100.4	
Mean	**133.8**	**325.8**	**107.4**	**75 ppm @ 15% O_2**
CO	549	1365	450	
	526	1272	419	
	548	1310	432	
Mean	**541**	**1316**	**434**	**2000 ppm @ 15% O_2**
VOC	393.8	979.1	322.8	
	403.2	975.4	321.5	
C_3 - C_6+ as C_1	418.2	999.5	329.4	
Mean	**405.1**	**984.7**	**324.6**	**750 ppm @ 15% O_2**

Comments: