



# San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



DEC 16 2013

Jason H Donchin  
Chevron USA, Inc.  
PO Box 1392  
Bakersfield, CA 93302

**Re: Preliminary Decision - Emission Reduction Credits**  
**Project Number: S-1120775**

Dear Mr. Donchin:

Enclosed for your review and comment is the District's analysis of Chevron USA, Inc.'s application for Green House Gas Emission Reduction Credits (ERCs) resulting from the shut down and removal of four Solar gas turbines (S-1131-970, '-973, '-1073, and '-974), at Kern River oil field. The quantity of ERCs proposed for banking is 70,813 metric tons per year.

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. Steve Davidson of Permit Services at (661) 392-5618.

Sincerely,

David Warner  
Director of Permit Services

DW:SDD/st

Enclosures

cc: Mike Tollstrup, CARB (w/ enclosure) via email  
cc: Gerardo C. Rios, EPA (w/ enclosure) via email

**Sayed Sadredin**  
Executive Director/Air Pollution Control Officer

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# EMISSION REDUCTION CREDIT BANKING APPLICATION REVIEW

**Facility Name:** Chevron USA, Inc.  
**Mailing Address:** PO Box 1392  
Bakersfield, CA 93302

**Contact Name:** Jason H. Donchin  
**Telephone:** (661) 654-7144

**Facility:** S-1131  
**Permit Numbers:** S-1131-970, '-973, '-974, and '-1079

**ERC Certificate Numbers:** S-4113-24 & S-4114-24  
**Project Number:** S-1120775

**Date Received:** March 14, 2012  
**Date Complete:** September 24, 2012

**Engineer:** Steve Davidson  
**Date:** October 29, 2013

**Lead Engineer:** Allan Phillips, Supervising AQE

## I. SUMMARY:

The primary business of this facility is crude oil and gas production. Chevron USA, Inc has permanently shut down, removed, and surrendered the Permit to Operate (PTO) for four Solar gas turbines (S-1131-970, '-973, '-974, and '-1079) in October 2010. The facility had submitted an application to bank the emission reduction credits (ERCs) for the actual emission reductions (AER) of the criteria pollutants on November 30, 2010 (ERC Project S-1105004).

Subsequently, the facility has submitted this application to bank the Greenhouse Gas (GHG) AER that also resulted from the shut down of the turbines. See the surrendered PTOs in Appendix A.

### Selection of Geographical Boundary for Determining Permanence of the GHG Emission Reduction

Rule 2301 contains several eligibility criteria for emission reduction credit banking, including that the emission reduction must be permanent. When determining the geographical boundary in which the emission reduction is determined to be permanent, the applicant may consider how the GHG ERC may likely be used.

Please note that while Rule 2301 allows facilities to receive ERCs for GHG emission reductions, the District does not have any requirements on the use of GHG ERCs. However, it is anticipated that the likely uses of such GHG ERCs would be their future retirement as GHG mitigation in the California Environmental Quality Act (CEQA) process.

Pursuant to CEQA, lead agencies must consider the environmental impact of GHG emissions from a project and may require that such GHG emissions be mitigated. In evaluating various mitigation techniques, including the retirement of GHG ERCs, the lead agency must determine if the proposed mitigation technique adequately mitigates the project's GHG emission increase.

When a lead agency determines if the retirement of a particular GHG ERC provides adequate GHG mitigation for a project, the lead agency may choose to consider the location where the GHG ERC was generated and the geographical boundary used to determine the permanence of the emission reduction. In making this determination, the lead agency may conclude that the retirement of a particular GHG ERC would provide adequate mitigation for projects within that same geographical boundary. Again, that determination will be made by the lead agency for any particular project.

For this application, the facility has selected California as the geographical boundary for which the emission reduction is permanent. Chevron has provided a graph showing the decline in California Oil Production from 1995 to 2012. Additionally, Chevron is an entity covered by California CAP and Trade (AB32), AB 32 requires California to return to 1990 levels of greenhouse gas emissions by 2020. Therefore, Chevron will have to mitigate a 15% reduction in greenhouse gas emissions compared to the 'business-as-usual' scenario in 2020. This information validates California as the geographical boundary selection for a permanent GHG emission reduction.

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

		----- ERC (lb) -----
ERC #		Metric Tons per Year
S-4113-24	CO <sub>2</sub> e	36,937 metric tons/year
S-4114-24	CO <sub>2</sub> e	33,851 metric tons/year

## II. APPLICABLE RULES:

Rule 2301 Emission Reduction Credit Banking (1/19/12)

## III. LOCATION OF REDUCTION:

The four Solar gas turbines are located in the Kern River Oilfield within Chevron's Kern County Heavy Oil Central stationary source.

ERC: S-4113-24

S-1131-970: A Fee lease #1, Section 25, Township 28S, Range 27E  
S-1131-973: A Fee lease #2, Section 25, Township 28S, Range 27E

ERC: S-4114-24

S-1131-974: C Fee lease #2, Section 30, Township 28S, Range 27E  
S-1131-1079: C Fee lease #1, Section 30, Township 28S, Range 27E

#### IV. METHOD OF GENERATING EMISSION REDUCTIONS:

The emission reductions are being generated by removing four natural gas fired Solar gas turbines.

Equipment Shut down:

PTO	Equipment
S-1131-970	COGENERATION UNIT #1 (NORTH UNIT) SOLAR CENTAUR TYPE H, 52.4 MMBTU/HR GAS FIRED TURBINE ENGINE, 3.725 MW, WITH WATER INJECTION AND STRUTHERS UNFIRED HEAT RECOVERY STEAM GENERATOR - LEASE FEE A
S-1131-973	COGENERATION UNIT #1 (WEST) SOLAR CENTAUR TYPE H, 52.4 MM BTU/HR GAS FIRED TURBINE ENGINE, 3.725 MW, WITH WATER INJECTION AND STRUTHERS UNFIRED HEAT RECOVERY STEAM GENERATOR - FEE A
S-1131-974	COGENERATION UNIT #2 (EAST): SOLAR CENTAUR TYPE H, 52.4 MMBTU/HR GAS FIRED TURBINE ENGINE, 3.725 MV, WITH WATER INJECTION AND STRUTHERS UNFIRED HEAT RECOVERY STEAM GENERATOR - LEASE FEE C
S-1131-1079	COGENERATION UNIT #1 (FEE C LEASE - WEST UNIT) SOLAR CENTAUR 50-T5901S, 48.7 MMBTU/HR GAS FIRED DOE CERAMIC GTE, 4.1 MW, WITH LUBE OIL MIST ELIMINATOR, UNFIRED HEAT RECOVERY STEAM GENERATOR, AND CONTINUOUS MONITORING SYSTEM

## V. CALCULATIONS:

### A. Assumptions and Emission Factors

#### **Assumptions**

The actual emissions will be calculated annually in the baseline period. The Historical Actual Emissions (HAE) will be calculated using actual fuel use data and accepted emissions factors.

The applicant provided monthly fuel use data for the subject engines from the second quarter 2008 through the first quarter 2010.

- Units of GHG AER is metric tons of CO<sub>2</sub>e per year, rounded to the nearest metric ton
- 1,000 kg = 1 metric ton
- 1 therm of Natural Gas = 100 scf
- The final CO<sub>2</sub>e emission factor from the combustion of natural gas includes GHG emissions of CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O, where the total emission factor includes the summation of each of the compounds multiplied by their Global Warming Potential (GWP)
- The emission factors are from the District's Spreadsheet: *ARB GHG Emission Factors*

#### **Emission Factors (EF)**

The CO<sub>2</sub>e equivalent emission factor is from the District's Spreadsheet "ARB – Greenhouse Gas Emissions factors and is listed below.

$$EF_{CO_2e} = 52.9199 \text{ KG/MMBtu}$$

$$EF_{CO_2e} = 52.9199 \text{ KG/MMBtu} \times (1 \text{ metric ton} / 1000 \text{ kg})$$

$$EF_{CO_2e} = 0.0529 \text{ metric tons/MMBtu}$$

### B. Baseline Period Determination

Pursuant to Rule 2301 section 4.5.4, the Baseline Period is the following:

*The consecutive 24 month period immediately prior to the date the emission reduction occurred, or another consecutive 24 month period in the 60 months prior to the date the emission reduction occurred.*

The original ERC Banking Project S-1131, 1105004 specified the baseline period. Since the District has already established this as the correct baseline period for the criteria pollutant emission reductions that have already been evaluated and issued, the same baseline period is used for this evaluation.

The Baseline Period is listed below:

Baseline Periods		
Lease	Permit Unit	Dates
A Fee lease (S25, T28S, R27E)	S-1131-970	September 2006 – August 2008
	S-1131-973	
C Fee lease (S30, T28S, R27E)	S-1131-974	July 2006 – June 2008
	S-1131-1079	

### **C. Baseline Data**

The baseline natural gas-use is taken from the annual fuel-use records that have been supplied by the applicant, as evaluated in the original ERC project, and is posted in the following table.

Baseline Fuel Usage	
Permit	Annual Fuel Use (Therms)
S-1131-970	342,792
S-1131-973	355,435
S-1131-974	398,601
S-1131-1079	241,308

### **D. Historical Actual Emissions (HAE)**

The HAE from the fuel use is determined by multiplying the annual fuel-use by the emission factor presented above.

Example Equation

**Permit S-1131-970 (Annual):**

$$\text{CO}_2\text{e} = [(\text{CO}_2\text{e EF}) \times (\text{Heat Input})]$$

$$\text{CO}_2\text{e} = [(0.0529 \text{ Metric Tons/MMbtu}) \times (342,792 \text{ MMBtu/year}) = 18,134 \text{ Metric Tons/year}]$$

Annual Emissions: Lease A Fee lease, Permit Units S-1131-970 & '-973			
Permit Unit	EF <sub>CO<sub>2e</sub></sub> (Metric Tons/MMBtu)	Energy Input (MMBtu/yr)	CO <sub>2e</sub> (Metric Tons/yr)
S-1131-970	0.0529	342,792	18,134
S-1131-973	0.0529	355,435	18,803
Total			36,937

Annual Emissions: Lease C Fee lease, Permit Units S-1131-974 & '-1079			
Permit Unit	EF <sub>CO<sub>2e</sub></sub> (Metric Tons/MMBtu)	Energy Input (MMBtu/yr)	CO <sub>2e</sub> (Metric Tons/yr)
S-1131-974	0.0529	398,601	21,086
S-1131-1079	0.0529	241,308	12,765
Total			33,851

#### **E. Post Project Potential to Emit (PE2)**

As discussed above, the subject equipment has been permanently shut down and the PTOs were surrendered. No other equipment has taken the place of the turbines as a source of steam in the Kern River oilfield. Therefore the PE2 is 0.

#### **F. Emission Reductions Eligible for Banking**

The emission reductions eligible for banking are the difference between the historical actual emissions and the potential to emit after the project.

ERCs eligible for banking = HAE – PE2

ERC Certificate S-4113-24: Lease A Fee lease, Permit Units S-1131-970 & '-973		
HAE (metric ton/year)	PE2 (metric ton/year)	CO <sub>2e</sub> eligible for banking (metric ton/year)
36,937	0	36,937

ERC Certificate S-4114-24: Lease C Fee lease, Permit Units S-1131-974 & '-1079		
HAE (metric ton/year)	PE2 (metric ton/year)	CO <sub>2e</sub> eligible for banking (metric ton/year)
33,851	0	33,851

## **VI. COMPLIANCE:**

Per District Rule Section 4.5, the following criteria must be met in order to deem such reductions eligible for banking:

- 4.5.1** The greenhouse gas emission reduction must have actually occurred on or after January 1, 2005, except as allowed in specific CARB approved GHG emission reduction project protocols.

The emission reductions occurred when the PTO was surrendered on March 8, 2011. As the emission reduction occurred after 1/1/05, this criteria has been satisfied.

- 4.5.2** The greenhouse gas emission reductions must have occurred within the San Joaquin Valley Unified Air Pollution Control District.

The emissions occurred at Kern River Oilfield within Chevron's Kern County Heavy Oil Central stationary source. Since this location is within the District, this criteria has been satisfied.

- 4.5.3** The greenhouse gas emission reductions are real, surplus, permanent, quantifiable, and enforceable, except as provided in Section 4.5.5.

### **Real:**

The GHG emission reductions were generated by the shutdown of four Solar gas turbines (S-1131-970, '-973, '-1073, and '-974). The real emissions were calculated from actual historic fuel-use data and recognized emission factors. The Solar gas turbines have been removed from service. Therefore, the emission reductions are real.

### **Surplus:**

The facility is subject to the CARB cap and trade regulation; however, the reductions occurred prior January 1, 2012; therefore, the emission reductions satisfy the surplus requirement in Section 4.5.3.1.

The facility is subject to the CARB cap and trade regulation; however, the reductions occurred prior to the baseline period of cap and trade. Therefore, the emission reductions satisfy the surplus requirement in Section 4.5.3.2.

The emission reductions are not the result of an action taken by the permittee to comply with any requirement. The emission reductions are surplus and additional of all requirements. Therefore, the emission reductions satisfy the surplus requirement in section 4.5.3.4.



The Certificates will be identified according to Section 6.15.3 below.

**Permanent:**

The gas turbines have been shut down, removed, and the PTOs have been surrendered.

When determining the geographical boundary in which the emission reduction is determined to be permanent, the applicant may consider how the GHG ERC may likely be used.

Please note that while Rule 2301 allows facilities to receive ERCs for GHG emission reductions, the District does not have any requirements on the use of GHG ERCs. However, it is anticipated that the likely uses of such GHG ERCs would be their future retirement as GHG mitigation in the CEQA process.

Pursuant to CEQA, lead agencies must consider the environmental impact of GHG emissions from a project and may require that such GHG emissions be mitigated. In evaluating various mitigation techniques, including the retirement of GHG ERCs, the lead agency must determine if the proposed mitigation technique adequately mitigates the project's GHG emission increase.

When a lead agency determines if the retirement of a particular GHG ERC provides adequate GHG mitigation for a project, the lead agency may choose to consider the location where the GHG ERC was generated and the geographical boundary used to determine the permanence of the emission reduction. Then in making this determination, the lead agency may conclude that the retirement of a particular GHG ERC would provide adequate mitigation for projects within that same geographical boundary. Again, that determination will be made by the lead agency for a particular project.

Chevron has selected California as the geographical boundary for which the emission reduction is permanent. Chevron has provided information verifying that the total oil production in the state of California has been in decline since 1985 (see graph in Appendix C). Additionally, Chevron is subject to the California Cap-and-Trade regulation which requires Chevron to reduce or mitigate a permanent reduction in GHG emissions. The combination of the decline in oil production in California and the reductions required by California's Cap-and-Trade regulation verify that the reductions are permanent within California. The geographical boundary for the ERCs will be the State of California and the ERC will include the following identifier:

"Shutdown of the gas turbines are verified as permanent within the State of California"

**Quantifiable:**

The actual emissions were calculated from historic fuel-use records and accepted emission factors. Therefore, the emission reductions are quantifiable and have been quantified.

**Enforceable:**

The gas turbines have been shut down and the PTO has been surrendered to the District. Operation of the equipment without a valid permit would subject the permittee to enforcement action. Therefore, the emission reductions are enforceable.

- 4.5.4** Greenhouse gas emission reductions are calculated as the difference between the historic annual average greenhouse gas emissions (as CO<sub>2</sub>E) calculated using the consecutive 24 month period immediately prior to the date the emission reduction occurred, or another consecutive 24 month period in the 60 months prior to the date the emission reduction occurred if determined by the APCO as being more representative of normal operations, and the potential greenhouse gas emissions (as CO<sub>2</sub>E) after the project is complete, except as provided in section 4.5.5.

The GHG emission reductions were calculated according to the baseline period identified above. Since this is a permanent shutdown of the steam turbines, with none of the load being shifted to other units in California, there is no post-project potential to emit GHG.

- 4.5.5** Greenhouse gas emission reductions proposed to be quantified using CARB approved emission reduction project protocols shall be calculated in accordance with the applicable protocol.

Since the GHG emission reductions are not subject to an applicable CARB-approved emission reduction project protocol, this section is not applicable.

- 4.5.6** Emission reduction credits shall be made enforceable through permit conditions. If the District, pursuant to state laws, is prohibited from permitting the emission unit, the source creating the greenhouse gas emission reduction shall execute a legal binding contract with the District which ensures that the emission reductions will be generated in accordance with the provisions of this rule, and shall continue for the reasonably

The steam turbines held a legal District operating permit. That permit has been surrendered to the District. Since the operation of the steam turbines would require a new Authority to Construct, as discussed above the emission reduction is enforceable.

**Section 5** identifies ERC Certificate application procedures.

**Section 5.5.2** requires, for emission reductions occurring prior to 1/19/12, applications for ERCs must be submitted by 7/19/12.

The original greenhouse gas ERC application was submitted on 11/30/10 as part of project S1105004, therefore the application is timely.

**Section 6.15** specifies the registration requirements for GHG ERCs.

**Section 6.15.13** requires, the emission reductions are surplus and additional of all requirements pursuant to Section 4.5.3.4. Therefore the ERC certificate shall include the following notation:

"This emission reduction is surplus and additional to all applicable regulatory requirements."

Compliance with Rule 2301 has been demonstrated and no adjustments are required under this Rule.

## **VII. RECOMMENDATION:**

After public notice, comments and review, issue ERCs to Chevron USA in the amounts shown below:

ERC S-4113-24, Lease A Fee lease, Permit Units S-1131-970 & '-973:

GHG ERCs		
ERC Certificate	Pollutant	Amount
S-4113-24	CO <sub>2</sub> e	36,937 metric tons/year

ERC S-3604, Lease C Fee lease, Permit Units S-1131-974 & '-1079:

GHG ERCs		
ERC Certificate	Pollutant	Amount
S-4114-24	CO <sub>2</sub> e	33,851 metric tons/year

**Appendix A**

**Permits S-1131-970, '-973, '-974 , and '-1079**

## San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1131-970-9

EXPIRATION DATE: 02/28/2006

SECTION: 25 TOWNSHIP: 28S RANGE: 27E

### EQUIPMENT DESCRIPTION:

COGENERATION UNIT #1 (NORTH UNIT) SOLAR CENTAUR TYPE H, 52.4 MMBTU/HR GAS FIRED TURBINE ENGINE, 3.725 MW, WITH WATER INJECTION AND STRUTHERS UNFIRED HEAT RECOVERY STEAM GENERATOR  
- LEASE FEE A

### PERMIT UNIT REQUIREMENTS

1. Units shall be fired exclusively on PUC-regulated or FERC-regulated natural gas which has a sulfur content less than or equal to 0.017% by weight. [40 CFR 60.333(a) & (b); 60.332(a); Kern County Rule 407] Federally Enforceable Through Title V Permit
2. Operator shall not discharge into the atmosphere combustion contaminants (PM) exceeding in concentration at the point of discharge, 0.1 gr/dscf. [District Rule 4201; Kern County Rule 404] Federally Enforceable Through Title V Permit
3. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081; Kern County Rule 108.1] Federally Enforceable Through Title V Permit
4. If the turbine is not fired on PUC-regulated or FERC-regulated natural gas then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3031, D 4084 or D 3246. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
5. If the turbine is not fired on PUC-regulated or FERC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [40 CFR 60.334(b)(2)] Federally Enforceable Through Title V Permit
6. HHV and LHV of the fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [40 CFR 60.335(b) and District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
7. Nitrogen oxides (NOx) concentrations shall be determined using EPA Method 7E or 20, and oxygen (O2) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit
8. The operator shall provide source test information annually regarding the exhaust gas NOx concentration corrected to 15% O2 (dry), [40 CFR 60.332(a), (b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
9. If the turbine is fired on PUC-regulated or FERC-regulated natural gas, then maintain on file copies of natural gas bills or other relevant records. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis, the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(a), (b) and District Rule 4703, 6.2.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE.

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

Facility Name: CHEVRON USA INC  
Location: HEAVY OIL CENTRAL, KERN COUNTY, CA  
S-1131-970-91 Exp 12 2003 (1) 4444 - MARAGONG

11. Permittee shall install, operate and maintain in calibration a predictive emissions monitoring system which continuously measures and records the water-to-fuel ratio and which correlates the water-to-fuel ratio with the NOx concentration in the exhaust by using the method described in 40 CFR 60.335(c). [40 CFR 60.334] Federally Enforceable Through Title V Permit
12. Permittee shall submit to the APCO the information correlating the control system operating parameters to the associated measured NOx output. [District Rule 4703, 6.2.3] Federally Enforceable Through Title V Permit
13. Permittee shall install, operate and maintain in calibration a system which continuously measures and records elapsed time of turbine operation. [40 CFR 60.334 and District Rule 4703, 6.2.1] Federally Enforceable Through Title V Permit
14. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)] Federally Enforceable Through Title V Permit
15. Permittee shall submit an excess NSPS emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form to the APCO semiannually, except when more frequent reporting is specifically required by an applicable subpart. All reports shall be postmarked by the 30th day of each calendar half (or quarter, as appropriate). [40 CFR 60.7(c)] Federally Enforceable Through Title V Permit
16. Except during periods of startup/shutdown, any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with the NOx emissions limit required by NSPS shall be reported to the APCO. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, turbine gas load and nitrogen content of the fuel during the period of excess emissions. [40 CFR 60.334(c)] Federally Enforceable Through Title V Permit
17. Gas turbine engine shall be equipped with continuously recording fuel gas flowrate monitor. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Gas turbine engine shall be equipped with water injection system for NOx control. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Gas turbine engine water injection rate shall be maintained such that water to fuel ratio is no less than that amount determined necessary to ensure emission limits compliance. [District NSR Rule] Federally Enforceable Through Title V Permit
20. Gas turbine engine shall be equipped with continuously recording water injection rate monitor accurate to within +/- 5%. [District NSR Rule] Federally Enforceable Through Title V Permit
21. Startup and shutdown of gas turbine engine, as defined in 40 CFR Subpart A 60.2, shall not exceed a time period of two hours and two hours, respectively, per occurrence. [District Rule 4703] Federally Enforceable Through Title V Permit
22. Except during periods of startup/shutdown, if water injection system is inoperative, gas turbine engine shall be shut down. [40 CFR 60.8(c), District NSR Rule] Federally Enforceable Through Title V Permit
23. Waste heat recovery steam generator exhaust shall be equipped with permanent provisions to allow collection of gas sample consistent with EPA test methods. [District Rule 1081] Federally Enforceable Through Title V Permit
24. All steam produced by this source operation shall be used only in existing TEOR operation(s) served by existing vapor control system(s). [District NSR Rule] Federally Enforceable Through Title V Permit
25. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
26. Emissions increases from new wells in zone steamed by this equipment shall be controlled and mitigated as required by District NSR Rule and District Rule 4401 (amended 1/15/98). [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

Facility Name: CHEVRON USA INC  
Location: HEAVY OIL CENTRAL, KERN COUNTY, CA  
S-1131-970-8 Rev 12 2003 11:44AM - MARGOCP

27. Source testing shall be conducted for at least three levels of operating range of water to fuel ratio to demonstrate previously established ratio correlation with NOx emissions remains valid. [District NSR Rule and District Rule 1081] Federally Enforceable Through Title V Permit
28. Compliance with nitrogen oxide, and CO emission limits shall be demonstrated by District-witnessed sample collection by independent testing laboratory within 60 days of permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit
29. Source test results and fuel test data shall be submitted within 60 days after sample collection with water to fuel injection ratio, on mass basis, determined at time of stack gas sampling. [District Rule 1081] Federally Enforceable Through Title V Permit
30. Permittee shall keep accurate daily records of turbine water to fuel injection ratio and such records shall be made readily available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
31. Gas turbine engine shall be equipped with continuously recording oxides of nitrogen and oxygen monitors. NOx monitoring system requirement may be substituted or replaced upon documentation that H2O/fuel ratio correlates well with NOx emission rate. [District NSR Rule] Federally Enforceable Through Title V Permit
32. Permittee shall submit compliance testing plan to the District within 60 days prior to permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit
33. Except during periods of startup/shutdown, emission rates for this unit shall not exceed any of the following: PM-10: 0.015 lb/MMBTU, SOx (as SO2): 0.0031 lb/MMBTU, NOx (as NO2): 0.129 lb/MMBTU or VOC: 0.010 lb/MMBTU. [District NSR Rule and 4703] Federally Enforceable Through Title V Permit
34. Except during periods of thermal stabilization or reduced load, CO emissions rate shall not exceed 65.0 ppmv @ 15% O2. [District NSR Rule] Federally Enforceable Through Title V Permit
35. Except during periods of thermal stabilization or reduced loads, NOx emission rate shall not exceed 35 ppmv at 15% O2 on a 3 hour rolling average basis. [District Rule 4703, 5.1.2 and 7.2.1]
36. Emission rates for this unit shall not exceed any of the following: PM-10: 18.9 lb/day, SOx (as SO2): 3.9 lb/day, NOx (as NO2): 162.2 lb/day, VOC: 12.6 lb/day, or CO: 183.6 lb/day [District NSR Rule and 4703] Federally Enforceable Through Title V Permit
37. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: SJVUAPCD Rule 4703, 6.2.2; 40 CFR 60.332(a) and (b); 60.333(a) and (b); 60.334 (a), (b), and (c)(1); 60.335(a), (b), (c), and (c). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
38. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: Kern County Rule 407; 40 CFR 60.332(o), (d); 60.334(b), and (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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

## San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1131-973-9

EXPIRATION DATE: 02/28/2006

SECTION: NE6 TOWNSHIP: 29S RANGE: 28E

### EQUIPMENT DESCRIPTION:

COGENERATION UNIT #1 (WEST) SOLAR CENTAUR TYPE H, 52.4 MM BTU/HR GAS FIRED TURBINE ENGINE, 3.726 MW, WITH WATER INJECTION AND STRUTHERS UNFIRED HEAT RECOVERY STEAM GENERATOR - LEASE FEE B

### PERMIT UNIT REQUIREMENTS

1. Units shall be fired exclusively on PUC-regulated or FERC-regulated natural gas which has a sulfur content less than or equal to 0.017% by weight. [40 CFR 60.333(a) & (b); 60.332(a); Kern County Rule 407] Federally Enforceable Through Title V Permit
2. Operator shall not discharge into the atmosphere combustion contaminants (PM) exceeding in concentration at the point of discharge, 0.1 gr/dscf. [District Rule 4201; Kern County Rule 404] Federally Enforceable Through Title V Permit
3. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081; Kern County Rule 108.1] Federally Enforceable Through Title V Permit
4. If the turbine is not fired on PUC-regulated or FERC-regulated natural gas then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3031, D 4084 or D 3246. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
5. If the turbine is not fired on PUC-regulated or FERC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [40 CFR 60.334(b)(2)] Federally Enforceable Through Title V Permit
6. HHV and LHV of the fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [40 CFR 60.335(b) and District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
7. Nitrogen oxides (NOx) concentrations shall be determined using EPA Method 7E or 20, and oxygen (O2) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4]
8. The operator shall provide source test information annually regarding the exhaust gas NOx concentration corrected to 15% O2 (dry). [40 CFR 60.332(a), (b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
9. If the turbine is fired on PUC-regulated or FERC-regulated natural gas, then maintain on file copies of natural gas bills or other relevant records. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis, the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(a), (b) and District Rule 4703, 6.2.4] Federally Enforceable Through Title V Permit
11. Permittee shall install, operate and maintain in calibration a predictive emissions monitoring system which continuously measures and records the water-to-fuel ratio and which correlates the water-to-fuel ratio with the NOx concentration in the exhaust by using the method described in 40 CFR 60.335(c). [40 CFR 60.334] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

Facility Name: CHEVRON USA INC  
Location: HEAVY OIL CENTRAL, KERN COUNTY, CA  
S-1131-973-9 Rev 15 2003 10 16AM - MARADONP



12. Permittee shall submit to the APCO the information correlating the control system operating parameters to the associated measured NOx output. [District Rule 4703, 6.2.3] Federally Enforceable Through Title V Permit
13. Permittee shall install, operate and maintain in calibration a system which continuously measures and records elapsed time of turbine operation. [40 CFR 60.334 and District Rule 4703, 6.2.1] Federally Enforceable Through Title V Permit
14. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)]
15. Permittee shall submit an excess NSPS emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form to the APCO semiannually, except when more frequent reporting is specifically required by an applicable subpart. All reports shall be postmarked by the 30th day of each calendar half (or quarter, as appropriate). [40 CFR 60.7(c)] Federally Enforceable Through Title V Permit
16. Except during periods of startup/shutdown, any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with the NOx emissions limit required by NSPS shall be reported to the APCO. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, turbine gas load and nitrogen content of the fuel during the period of excess emissions. [40 CFR 60.334(c)] Federally Enforceable Through Title V Permit
17. Gas turbine engine shall be equipped with continuously recording fuel gas flowrate monitor. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Gas turbine engine shall be equipped with water injection system for NOx control. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Gas turbine engine water injection rate shall be maintained such that water to fuel ratio is no less than that amount determined necessary to ensure emission limits compliance. [District NSR Rule] Federally Enforceable Through Title V Permit
20. Gas turbine engine shall be equipped with continuously recording water injection rate monitor accurate to within +/- 5%. [District NSR Rule] Federally Enforceable Through Title V Permit
21. Startup and shutdown of gas turbine engine, as defined in 40 CFR Subpart A 60.2, shall not exceed a time period of two hours and two hours, respectively, per occurrence. [District Rule 4703] Federally Enforceable Through Title V Permit
22. Except during periods of startup/shutdown, if water injection system is inoperative, gas turbine engine shall be shut down. [40 CFR 60.8(c), District NSR Rule] Federally Enforceable Through Title V Permit
23. Waste heat recovery steam generator exhaust shall be equipped with permanent provisions to allow collection of gas sample consistent with EPA test methods. [District Rule 1081] Federally Enforceable Through Title V Permit
24. All steam produced by this source operation shall be used only in existing TEOR operation(s) served by existing vapor control system(s). [District NSR Rule] Federally Enforceable Through Title V Permit
25. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
26. Emissions increases from new wells in zone steamed by this equipment shall be controlled and mitigated as required by District NSR Rule and District Rule 4401 (amended 1/15/98). [District NSR Rule] Federally Enforceable Through Title V Permit
27. Source testing shall be conducted for at least three levels of operating range of water to fuel ratio to demonstrate previously established ratio correlation with NOx emissions remains valid. [District NSR Rule and District Rule 1081] Federally Enforceable Through Title V Permit
28. Compliance with nitrogen oxide, and CO emission limits shall be demonstrated by District-witnessed sample collection by independent testing laboratory within 60 days of permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

29. Source test results and fuel test data shall be submitted within 60 days after sample collection with water to fuel injection ratio, on mass basis, determined at time of stack gas sampling. [District Rule 1081] Federally Enforceable Through Title V Permit
30. Permittee shall keep accurate daily records of turbine water to fuel injection ratio and such records shall be made readily available for District inspection upon request. [District NSR Rule]
31. Gas turbine engine shall be equipped with continuously recording oxides of nitrogen and oxygen monitors. NOx monitoring system requirement may be substituted or replaced upon documentation that H<sub>2</sub>O/fuel ratio correlates well with NOx emission rate. [District NSR Rule] Federally Enforceable Through Title V Permit
32. Permittee shall submit compliance testing plan to the District within 60 days prior to permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit
33. Except during periods of startup/shutdown, emission rates for this unit shall not exceed any of the following: PM-10: 0.015 lb/MMBTU, SO<sub>x</sub> (as SO<sub>2</sub>): 0.0031 lb/MMBTU, NO<sub>x</sub> (as NO<sub>2</sub>): 0.129 lb/MMBTU or VOC: 0.010 lb/MMBTU. [District NSR Rule and 4703] Federally Enforceable Through Title V Permit
34. Except during periods of thermal stabilization or reduced load, CO emissions rate shall not exceed 65.0 ppmv @ 15% O<sub>2</sub>. [District NSR Rule] Federally Enforceable Through Title V Permit
35. Except during periods of thermal stabilization or reduced loads, NO<sub>x</sub> emission rate shall not exceed 35 ppmv at 15% O<sub>2</sub> on a 3-hour rolling average basis. [District Rule 4703, 5.1.2 and 7.2.1]
36. Emission rates for this unit shall not exceed any of the following: PM-10: 18.9 lb/day, SO<sub>x</sub> (as SO<sub>2</sub>): 3.9 lb/day, NO<sub>x</sub> (as NO<sub>2</sub>): 162.2 lb/day, VOC: 12.6 lb/day, or CO: 183.6 lb/day [District NSR Rule and 4703] Federally Enforceable Through Title V Permit
37. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: SJVUAPCD Rule 4703, 6.2.2; 40 CFR 60.332(a) and (b); 60.333(a) and (b); 60.334 (a), (b), and (c)(1); 60.335(a), (b), (c), and (e). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
38. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: Kern County Rule 407; 40 CFR 60.332(c), (d); 60.334(b), and (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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

## San Joaquin Valley Air Pollution Control District

PERMIT UNIT: 8-1131-974-8

EXPIRATION DATE: 02/28/2008

SECTION: NE30 TOWNSHIP: 28S RANGE: 28E

### EQUIPMENT DESCRIPTION:

COGENERATION UNIT #2 (EAST): SOLAR CENTAUR TYPE H, 52.4 MMBTU/HR GAS FIRED TURBINE ENGINE, 3.725 MV, WITH WATER INJECTION AND STRUTHERS UNFIRED HEAT RECOVERY STEAM GENERATOR - LEASE FEE C

### PERMIT UNIT REQUIREMENTS

1. Units shall be fired exclusively on PUC-regulated or FERC-regulated natural gas which has a sulfur content less than or equal to 0.017% by weight. [40 CFR 60.333(a) & (b); 60.332(a); Kern County Rule 407] Federally Enforceable Through Title V Permit
2. Operator shall not discharge into the atmosphere combustion contaminants (PM) exceeding in concentration at the point of discharge, 0.1 gr/dscf. [District Rule 4201; Kern County Rule 404] Federally Enforceable Through Title V Permit
3. Operator shall not exceed a NOx emission rate of 35 ppmvd @ 15% O2, excluding thermal stabilization and reduced load periods. [40 CFR 60.332(a)(1) & 60.332(a)(2) and District Rule 4703, 5.1.2] Federally Enforceable Through Title V Permit
4. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081; Kern County Rule 108.1] Federally Enforceable Through Title V Permit
5. If the turbine is not fired on PUC-regulated or FERC-regulated natural gas then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3031, D 4084 or D 3246. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
6. If the turbine is not fired on PUC-regulated or FERC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [40 CFR 60.334(b)(2)] Federally Enforceable Through Title V Permit
7. HHV and LHV of the fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [40 CFR 60.335(b) and District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
8. Nitrogen oxides (NOx) concentrations shall be determined using EPA Method 7E or 20, and oxygen (O2) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit
9. The operator shall provide source test information annually regarding the exhaust gas NOx concentration corrected to 15% O2 (dry). [40 CFR 60.332(a), (b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
10. If the turbine is fired on PUC-regulated or FERC-regulated natural gas, then maintain on file copies of natural gas bills or other relevant records. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
11. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis, the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(a), (b) and District Rule 4703, 6.2.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

Facility Name: CHEVRON USA INC  
Location: HEAVY OIL CENTRAL, KERN COUNTY, CA  
8-1131-974-8, 2nd 1225 8-12-07

12. Permittee shall install, operate and maintain in calibration a predictive emissions monitoring system which continuously measures and records the water-to-fuel ratio and which correlates the water-to-fuel ratio with the NO<sub>x</sub> concentration in the exhaust by using the method described in 40 CFR 60.335(c). [40 CFR 60.334] Federally Enforceable Through Title V Permit
13. Permittee shall submit to the APCO the information correlating the control system operating parameters to the associated measured NO<sub>x</sub> output. [District Rule 4703, 6.2.3] Federally Enforceable Through Title V Permit
14. Permittee shall install, operate and maintain in calibration a system which continuously measures and records elapsed time of turbine operation. [40 CFR 60.334 and District Rule 4703, 6.2.1] Federally Enforceable Through Title V Permit
15. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)] Federally Enforceable Through Title V Permit
16. Permittee shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form to the APCO semiannually, except when more frequent reporting is specifically required by an applicable subpart. All reports shall be postmarked by the 30th day of each calendar half (or quarter, as appropriate). [40 CFR 60.7(c)] Federally Enforceable Through Title V Permit
17. Except during periods of startup/shutdown, any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance shall be reported to the APCO. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, turbine gas load and nitrogen content of the fuel during the period of excess emissions. [40 CFR 60.334(e)] Federally Enforceable Through Title V Permit
18. Gas turbine engine shall be equipped with continuously recording fuel gas flowrate monitor. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Gas turbine engine shall be equipped with water injection system for NO<sub>x</sub> control. [District NSR Rule] Federally Enforceable Through Title V Permit
20. Gas turbine engine water injection rate shall be maintained such that water to fuel ratio is no less than that amount determined necessary to ensure emission limits compliance. [District NSR Rule] Federally Enforceable Through Title V Permit
21. Gas turbine engine shall be equipped with continuously recording water injection rate monitor accurate to within +/- 5%. [District NSR Rule] Federally Enforceable Through Title V Permit
22. Startup and shutdown of gas turbine engine, as defined in 40 CFR Subpart A 60.2, shall not exceed a time period of two hours and two hours, respectively, per occurrence. [District Rule 4703] Federally Enforceable Through Title V Permit
23. Except during periods of startup/shutdown, if water injection system is inoperative, gas turbine engine shall be shut down. [40 CFR 60.8(c), District NSR Rule] Federally Enforceable Through Title V Permit
24. Waste heat recovery steam generator exhaust shall be equipped with permanent provisions to allow collection of gas sample consistent with EPA test methods. [District Rule 1081] Federally Enforceable Through Title V Permit
25. All steam produced by this source operation shall be used only in existing TEOR operation(s) served by existing vapor control system(s). [District NSR Rule] Federally Enforceable Through Title V Permit
26. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
27. Emissions increases from new wells in zone steamed by this equipment shall be controlled and mitigated as required by District NSR Rule and District Rule 4401 (amended 1/15/98). [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

Facility Name: CHEVRON USA INC  
Location: HEAVY OIL CENTRAL, KERN COUNTY, CA  
S-1131-974-8 Am 9/2000 9:28PM - BUSH

28. Source testing shall be conducted for at least three levels of operating range of water to fuel ratio to demonstrate previously established ratio correlation with NOx emissions remains valid. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
29. Compliance with nitrogen oxide, and CO emission limits shall be demonstrated by District-witnessed sample collection by independent testing laboratory annually within 60 days of permit anniversary date. [District Rules 1081 and 4703] Federally Enforceable Through Title V Permit
30. Source test results and fuel test data shall be submitted within 60 days after sample collection with water to fuel injection ratio, on mass basis, determined at time of stack gas sampling. [District Rule 1081] Federally Enforceable Through Title V Permit
31. Permittee shall keep accurate daily records of turbine water to fuel injection ratio and such records shall be made readily available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
32. Gas turbine engine shall be equipped with continuously recording oxides of nitrogen and oxygen monitors. NOx monitoring system requirement may be substituted or replaced upon documentation that H2O/fuel ratio correlates well with NOx emission rate. [District NSR Rule] Federally Enforceable Through Title V Permit
33. Permittee shall submit compliance testing plan to the District within 60 days prior to permit anniversary date. [District Rule 1081] Federally Enforceable Through Title V Permit
34. Except during periods of startup/shutdown, emission rates for this unit shall not exceed any of the following: PM-10: 0.015 lb/MMBTU, SOx (as SO2): 0.0031 lb/MMBTU, NOx (as NO2): 35 ppmv @ 15% O2, VOC: 0.010 lb/MMBTU, or CO: 57.0 ppmv @ 15% O2. [District NSR Rule and 4703] Federally Enforceable Through Title V Permit
35. Emission rates for this unit shall not exceed any of the following: PM-10: 18.9 lb/day, SOx (as SO2): 3.9 lb/day, NOx (as NO2): 163.4 lb/day, VOC: 12.6 lb/day, or CO: 162.2 lb/day [District NSR Rule and 4703] Federally Enforceable Through Title V Permit
36. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: SJVUAPCD Rule 4703, 6.2.2; 40 CFR 60.332(a) and (b); 60.333(a) and (b); 60.334 (a), (b), and (c)(1); 60.335(a), (b), (c), and (e). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
37. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: Kern County Rule 407; 40 CFR 60.332(c), (d); 60.334(b), and (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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

## San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1131-1079-8

EXPIRATION DATE: 02/28/2006

SECTION: NE8 TOWNSHIP: 28S RANGE: 28E

### EQUIPMENT DESCRIPTION:

COGENERATION UNIT #1 (FEE C LEASE - WEST UNIT) SOLAR CENTAUR 50-T5901S, 48.7 MMBTU/HR GAS FIRED DOE CERAMIC GTB, 4.1 MW, WITH LUBE OIL MIST ELIMINATOR, UNFIRED HEAT RECOVERY STEAM GENERATOR, AND CONTINUOUS MONITORING SYSTEM.

### PERMIT UNIT REQUIREMENTS

1. Gas turbine shall be fired exclusively with PUC or FERC regulated natural gas or natural gas documented to be of comparable quality. [District Rule 2201] Federally Enforceable Through Title V Permit
2. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
3. Gas turbine engine shall be equipped with continuously recording fuel gas flowrate monitor. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Heat recovery steam generator exhaust stack shall be equipped with permanent provisions to allow collection of gas sample consistent with EPA test methods. [District Rule 1081] Federally Enforceable Through Title V Permit
5. Emission rates shall not exceed any of the following: PM-10: 0.015 lb/MMBTU, SOx (as SO2): 0.003 lb/MMBTU, NOx (as NO2): 25 ppmv @ 15% O2, VOC: 0.016 lb/MMBTU, or CO: 33 ppmv @ 15% O2. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emissions shall not exceed either of the following NSPS Subpart GG limits (1 hour standard): NOx (as NO2): 171 ppmvd @ 15% O2, or SOx (as SO2): 150 ppmvd @ 15% O2. [District Rule 4001] Federally Enforceable Through Title V Permit
7. Permittee shall satisfy all applicable requirements of District Rule 4001, New Source Performance Standards - Subpart GG and notification and reporting requirements. [District Rule 4001] Federally Enforceable Through Title V Permit
8. Compliance source testing for NOx, CO and demonstrated percent efficiency shall be conducted within 60 days of initial startup, and not less than once every 12 months for each mode of operation (standard operation and each experimental mode of operation). [District Rule 4703] Federally Enforceable Through Title V Permit
9. Compliance source testing shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
10. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District 1081] Federally Enforceable Through Title V Permit
11. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
12. Compliance with SOx emission limits shall be demonstrated by fuel gas sulfur content analysis at the time of NOx testing. Sulfur testing is not required for PUC or FERC regulated natural gas. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

Facility Name: CHEVRON USA, INC.  
Location: HEAVY OIL CENTRAL, KERN COUNTY, CA  
9-1131-1079-8; Sup 1 2002 10 13AM - 140923

13. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or EPA Method 20, CO (ppmv) - EPA Method 10 or 10B, stack gas oxygen - EPA Methods 3, 3A or 20, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081 and 4703] Federally Enforceable Through Title V Permit
14. Permittee shall maintain onsite for a period of at least five years accurate daily records of Predictive Emissions Monitoring System (PEMS) gas turbine engine exhaust NOx concentrations and such records shall be made readily available for District inspection upon request. [District NSR Rule and 2520, 9.4.2] Federally Enforceable Through Title V Permit
15. Permittee's written request for approval of experimental components and operating conditions shall include at minimum the following information: components to be installed and conditions for operation, expected duration of operation, and description of, and justification for, expected emissions and maximum heat input rate. [District NSR Rule and 4703] Federally Enforceable Through Title V Permit
16. Permittee's request for approval of experimental components and operating conditions shall be submitted to the District at least 30 days prior to the initial planned installation date. The permittee shall also notify the District at least 15 days prior to the initial actual installation of the experimental components or start of operating conditions. [District NSR Rule and 4703] Federally Enforceable Through Title V Permit
17. Permittee shall notify the District, in writing, of turbine operating mode (standard or experimental) no later than 48 hours after changing mode of operation. [District NSR Rule and 4703] Federally Enforceable Through Title V Permit
18. Operator shall not discharge into the atmosphere combustion contaminants (PM) exceeding in concentration at the point of discharge, 0.1 gr/dscf. [District Rule 4201; Kern County Rule 404] Federally Enforceable Through Title V Permit
19. Operator shall not exceed a NOx emission rate of: A. (If Rating <10 MW) 42 ppmvd @ 15% O2, excluding the thermal stabilization periods or reduced load periods. [40 CFR 60.332(a)(1) & 60.332(a)(2); District Rule 4703, 5.1.1] Federally Enforceable Through Title V Permit
20. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [Kern County Rule 108.1; District Rule 1081] Federally Enforceable Through Title V Permit
21. The HHV and LHV of the fuel shall be determined using ASTM D3588, ASTM 1826, OR ASTM 1945. [40 CFR 60.332(a),(b)] Federally Enforceable Through Title V Permit
22. The operator shall provide source test information annually regarding the exhaust gas NOx concentration corrected to 15% O2 (dry). [40 CFR 60.332(a),(b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
23. The operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703, 5.1.1. [40 CFR 60.332(a),(b) and 4703, 5.1.1] Federally Enforceable Through Title V Permit
24. Operations during periods of startup and shutdown shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. Operation during periods of malfunction shall not constitute representative conditions for the purpose of determining compliance with emission limits based on 40 CFR 60.8 [40 CFR 60.8(o)] Federally Enforceable Through Title V Permit
25. If the turbine is fired on PUC or FERC-regulated natural gas or natural gas documented to be of comparable quality, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
26. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the actual local start-up and stop times, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(a),(b) and 4703, 6.2.4] Federally Enforceable Through Title V Permit
27. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

28. Permittee shall maintain onsite for a period of at least five years accurate records of daily fuel consumption, daily fuel sulfur content, and daily fuel nitrogen content and shall make such records readily available for District inspection upon request. Daily monitoring of fuel sulfur and nitrogen contents is not required for PUC or FERC regulated natural gas. [District Rules 4001 and 2201] Federally Enforceable Through Title V Permit

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

Facility Name: CHEVRON USA INC  
Location: HEAVY OIL CENTRAL, KERN COUNTY, CA  
S-1131-1079-6 ; Sup # 2003 12-15-04 - HAZOP



**Appendix B**  
**Fuel Use Records**

Kern River Fee Cogen Operational Data

	A Fee #1 S-1131-970			A Fee #2 S-1131-973			C Fee #2 S-1131-974			C Fee #1 S-1131-1079		
		HHV (btu/s cf)			HHV (btu/s cf)			HHV (btu/scf)			HHV (btu/sc f)	
Month	Mscf		MMBtu	Mscf		MMBtu	Mscf		MMBtu	Mscf		MMBtu

Kern River Fee Cogen Operational Data

Month	A Fee #1 S-1131-970			A Fee #2 S-1131-973			C Fee #2 S-1131-974			C Fee #1 S-1131-1079		
	Mscf	HHV	MMBtu	Mscf	HHV	MMBtu	Mscf	HHV	MMBtu	Mscf	HHV	MMBtu
Oct-05	3,137	1,042	3,269	3,077	1,042	3,206	32,271	1,051	33,917	32,433	1,051	34,087
Nov-05	0	1050	0	0	1050	0	16,934	1,053	17,832	26,210	1,053	27,599
Dec-05	0	1062	0	0	1062	0	33,820	1,053	35,612	0	1,053	0
Jan-06	3,410	1,047	3,570	4,498	1,047	4,709	0	1,053	0	0	1,053	0
Feb-06	30,205	1,054	31,836	31,322	1,054	33,013	29,224	1,054	30,802	29,293	1,054	30,875
Mar-06	28,721	1,050	30,157	30,302	1,050	31,817	29,528	1,050	31,004	29,860	1,050	31,353
Apr-06	26,070	1,046	27,269	27,291	1,046	28,546	27,045	1,046	28,289	26,771	1,046	28,002
May-06	26,070	1,045	27,243	34,170	1,045	35,708	33,281	1,045	34,779	31,263	1,045	32,670
Jun-06	31,873	1,047	33,371	32,527	1,047	34,056	32,520	1,047	34,048	32,068	1,047	33,575
Jul-06	30,728	1,052	32,326	31,705	1,052	33,354	32,607	1,052	34,303	31,633	1,052	33,278
Aug-06	32,875	1,053	34,617	33,988	1,053	35,789	33,072	1,053	34,825	32,977	1,053	34,725
Sep-06	31,313	1,052	32,941	32,365	1,052	34,048	32,041	1,052	33,707	31,708	1,052	33,357
Oct-06	32,877	1,051	34,554	33,730	1,051	35,450	32,271	1,051	33,917	32,433	1,051	34,087
Nov-06	18,053	1,053	19,010	25,820	1,053	27,188	16,934	1,053	17,832	26,210	1,053	27,599
Dec-06	21,216	1,053	22,340	11,682	1,053	12,301	33,820	1,053	35,612	0	1,053	0
Jan-07	30,302	1,051	31,847	7,100	1,051	7,462	29,326	1,051	30,822	0	1,053	0
Feb-07	29,731	1,054	31,336	30,916	1,054	32,585	30,345	1,054	31,984	1,865	1,051	1,960
Mar-07	31,080	1,040	32,323	32,740	1,040	34,050	33,266	1,040	34,597	26,356	1,040	27,410
Apr-07	28,359	1,045	29,635	33,124	1,045	34,615	31,864	1,045	33,298	34,116	1,045	35,651
May-07	33,077	1,045	34,565	34,298	1,045	35,841	33,588	1,045	35,099	35,184	1,045	36,767
Jun-07	25,250	1,043	26,336	30,918	1,043	32,247	31,125	1,043	32,463	31,279	1,043	32,624
Jul-07	30,825	1,045	32,212	34,251	1,045	35,792	33,766	1,045	35,285	32,875	1,045	34,354
Aug-07	32,795	1,049	34,402	33,938	1,049	35,601	33,926	1,049	35,588	33,543	1,049	35,187
Sep-07	31,519	1,046	32,969	32,809	1,046	34,318	32,253	1,046	33,737	30,566	1,046	31,972
Oct-07	32,994	1,048	34,578	34,395	1,048	36,046	34,315	1,048	35,962	17,108	1,048	17,929
Nov-07	31,831	1,051	33,454	33,269	1,051	34,966	33,407	1,051	35,111	92	1,051	97
Dec-07	7,682	1,053	8,089	25,576	1,053	26,932	30,506	1,053	32,123	568	1,053	598
Jan-08	29,802	1,051	31,322	32,372	1,051	34,023	30,573	1,051	32,132	1,871	1,051	1,966
Feb-08	29,972	1,044	31,291	29,368	1,044	30,660	31,119	1,044	32,488	87	1,044	91
Mar-08	32,445	1,040	33,743	33,618	1,040	34,963	33,424	1,040	34,761	6,664	1,040	6,931

Apr-08	31,911	1,048	33,443	32,899	1,048	34,478	31,861	1,048	33,390	20,844	1,048	21,845
May-08	32,618	1,042	33,988	34,408	1,042	35,853	32,740	1,042	34,115	586	1,042	611
Jun-08	31,321	1,048	32,824	33,394	1,048	34,997	24,507	1,048	25,683	0	1,048	0
Jul-08	17,555	1,047	18,380	15,712	1,047	16,450	0	1,048	0	0	1,047	0
Aug-08	0	1,047	0	0	1,037	0	0	1,048	0	0	1,047	0
Sep-08	0	1,044	0	0	1,044	0	0	1,044	0	0	1,044	0
Oct-08	0	1,036	0	0	1,036	0	0	1,036	0	0	1,036	0
Nov-08	0	1,037	0	0	1,037	0	0	1,037	0	0	1,037	0
Dec-08	0	1,047	0	0	1,047	0	0	1,047	0	0	1,051	0
Jan-09	0	1,040	0	0	1,040	0	0	1,040	0	0	1040	0
Feb-09	17,396	1,042	18,127	16,581	1,042	17,277	0	1,042	0	0	1042	0
Mar-09	3,760	1,034	3,888	1,183	1,034	1,223	0	1,034	0	0	1034	0
Apr-09	0	1,036	0	0	1,036	0	0	1,036	0	0	1036	0
May-09	0	1,037	0	0	1,037	0	11,482	1,037	11,907	0	1037	0
Jun-09	0	958	0	13,773	958	13,195	4,298	1,035	4,448	0	1035	0
Jul-09	41,859	919	38,468	41,524	919	38,161	27,239	938	25,550	0	938	0
Aug-09	20,939	976	20,436	29,768	976	29,054	30,088	966	29,065	0	966	0
Sep-09	32,338	1,038	33,567	31,859	1,038	33,070	21,676	1,038	22,500	0	1038	0
Oct-09	34,762	1,036	36,013	33,796	1,036	35,013	29,594	1,036	30,659	0	1036	0
Nov-09	32,876	1,031	33,895	32,022	1,031	33,015	30,255	1,031	31,193	0	1031	0
Dec-09	30,667	1,030	31,587	29,039	1,030	29,910	25,168	1,030	25,923	0	1030	0
Jan-10	33,733	1,031	34,779	32,687	1,031	33,700	21,470	1,031	22,136	0	1031	0
Feb-10	30,908	1,031	31,866	30,458	1,031	31,402	29,239	1,031	30,145	0	1031	0
Mar-10	32,885	1,036	34,069	33,072	1,036	34,263	33,221	1,036	34,417	0	1036	0
Apr-10	31,570	1,032	32,580	28,852	1,032	29,775	31,099	1,032	32,094	0	1032	0
May-10	33,975	1,033	35,096	32,746	1,033	33,827	33,695	1,033	34,807	0	1033	0
Jun-10	19,874	1,037	20,609	19,659	1,037	20,386	20,018	1,037	20,759	0	1037	0
Jul-10	0	1,037	0	0	1,037	0	0	1,037	0	0	1,037	0
Aug-10	0	1,035	0	0	1,037	0	0	1,037	0	0	1,037	0
Sep-10	0	1,036	0	0	1,037	0	0	1,037	0	0	1,037	0
Oct-10	0	1,036	0	0	1,037	0	0	1,037	0	0	1,037	0

60-Mo

Avg MMBtu =

1,039

1,039

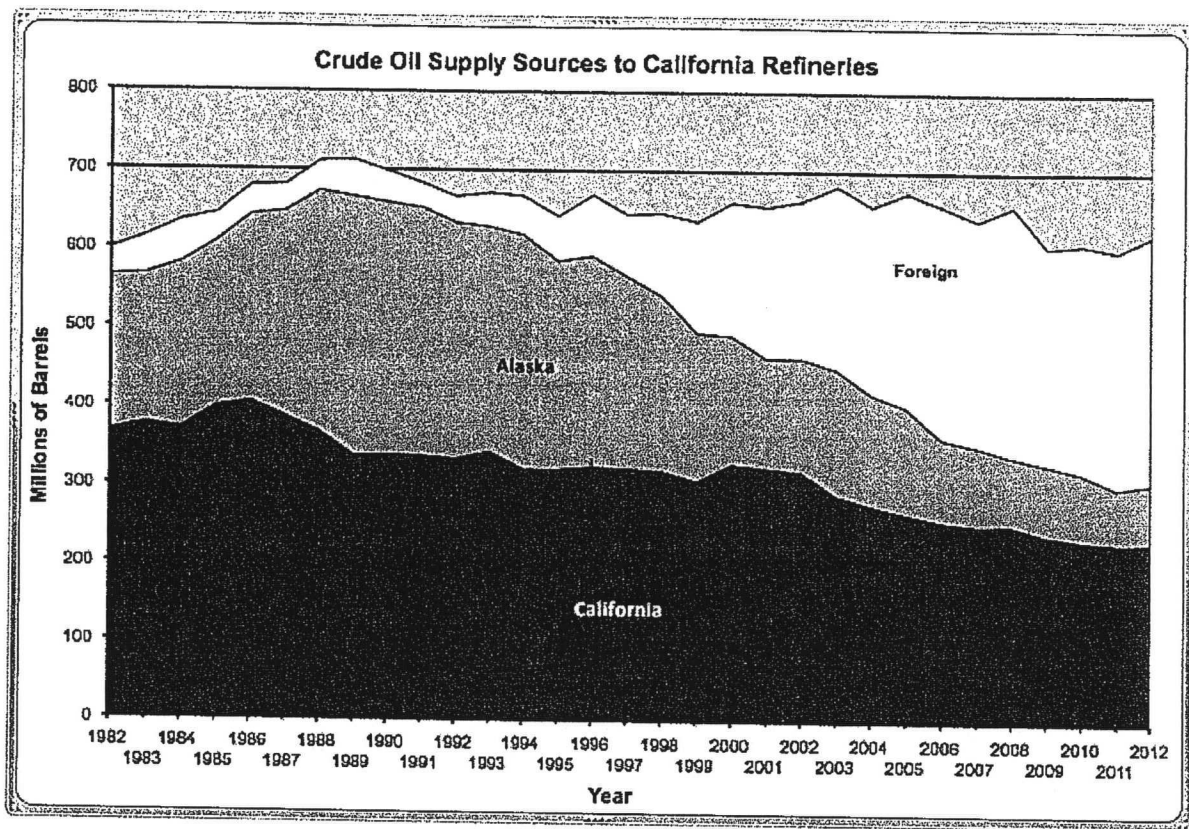
1,040

1,041

From previous month

## Appendix C

### Oil Production Graph



[http://energyalmanac.ca.gov/petroleum/statistics/crude oil receipts.html](http://energyalmanac.ca.gov/petroleum/statistics/crude%20oil%20receipts.html)

## **Appendix D**

### **Baseline Period Determination**

Fee A	S-1131-970 MMBtu	S-1131-973 MMBtu	Total MMBtu	24 month block averages *	36 month block averages *	48 month block averages *	80 month *
1999	443,172	457,105	900,277				
2000-2005	2,302,782	2,381,462	4,684,224				
Oct -05 *	3,268	3,208	8,475	* shown separately as these months are part of the preceding 5 year period, but fuel use included in 2000-2005 total			
Nov -05 *	-	-	-				
Dec -05 *	-	-	-				
Jan-08	3,570	4,709	8,280				
Feb-08	31,838	33,013	64,849				
Mar-06	30,157	31,817	61,974				
Apr-06	27,268	28,546	55,816				
May-08	27,243	35,708	62,951				
Jun-08	33,371	34,066	67,427				
Jul-06	32,326	33,364	65,680				
Aug-06	34,617	35,789	70,407				
Sep-08	32,941	34,048	66,989				
Oct-06	34,654	35,450	70,004				
Nov-08	19,010	27,188	46,198				
Dec-06	22,340	12,301	34,642				
Jan-07	31,847	7,482	39,310				
Feb-07	31,336	32,585	63,922				
Mar-07	32,323	34,050	66,373				
Apr-07	29,635	34,615	64,250				
May-07	34,585	35,841	70,407				
Jun-07	28,338	32,247	58,583				
Jul-07	32,212	35,792	68,004				
Aug-07	34,402	35,601	70,003				
Sep-07	32,989	34,318	67,287	59,207			
Oct-07	34,578	36,046	70,624	59,726			
Nov-07	33,454	34,968	68,420	60,104			
Dec-07	8,089	26,832	35,021	59,059			
Jan-08	31,322	34,023	65,345	61,437			
Feb-08	31,291	30,860	61,951	81,316			
Mar-08	33,743	34,863	68,706	61,597			
Apr-08	33,443	34,478	67,921	82,101			
May-08	33,988	35,853	69,841	62,388			
Jun-08	32,824	34,997	67,821	62,404			
Jul-08	18,380	16,450	34,831	61,110			
Aug-08	-	-	-	58,185			
Sep-08	-	-	-	55,394	58,177		
Oct-08	-	-	-	62,477	54,525		
Nov-08	-	-	-	50,552	62,967		
Dec-08	-	-	-	49,109	51,495		
Jan-09	-	-	-	47,471	51,265		

This preceding 24 month period has an average monthly fuel use closest to the historic monthly fuel use.

Therefore, the 24 month period Sep 2006 - Aug 2008 most closely represent normal source operation. As such, the baseline period is Sep 2006 - Aug 2008.

\* block averages are for periods (24, 48, 60 month) preceding the date indicated. Block averages are for periods that begin no earlier than Oct 2005, i.e. 5 years before the date the shutdown occurred.

Fee A	S-1131-970 MMBtu	S-1131-973 MMBtu	Total MMBtu	24 month block averages *	36 month block averages *	48 month block averages *	60 month *
Feb-09	18,127	17,277	35,404	46,283	50,447		
Mar-09	3,888	1,223	5,111	43,730	48,868		
Apr-09	-	-	-	41,053	47,318		
May-09	-	-	-	38,120	45,569		
Jun-09	-	13,195	13,195	36,228	44,062		
Jul-09	38,468	38,161	76,629	36,588	44,367		
Aug-09	20,436	29,054	49,490	35,733	43,786		
Sep-09	33,567	33,070	66,636	35,706	43,776	46,673	
Oct-09	36,013	35,013	71,026	35,723	43,804	47,203	
Nov-09	33,895	33,015	66,910	35,660	44,379	47,622	
Dec-09	31,587	29,910	61,497	36,763	45,125	47,911	
Jan-10	34,779	33,700	68,479	36,894	45,936	49,165	
Feb-10	31,866	31,402	63,268	36,949	45,918	49,132	
Mar-10	34,069	34,263	68,331	36,933	45,972	49,265	
Apr-10	32,580	29,775	62,356	36,701	45,919	49,401	
May-10	35,096	33,827	68,923	36,663	45,878	49,525	
Jun-10	20,609	20,386	40,996	35,545	45,390	48,975	
Jul-10	-	-	-	34,094	43,501	47,606	
Aug-10	-	-	-	34,094	41,556	46,140	
Sep-10	-	-	-	34,094	39,687	44,744	
Oct-10	-	-	-	34,094	37,725	43,286	46,070

Average monthly fuel use  
over 142 months of data provided  
Normal source operation (NSO) 58,145

\* block averages are for periods (24, 46, 48, 60 month) preceding the date indicated. Block averages are for periods that begin no earlier than Oct 2005, i.e. 5 years before the date the shutdown occurred.



Fee C	S-1131-874 MMBtu	S-1131-1079 MMBtu	Total Lease MMBtu	24 month block averages *	38 month block averages *	48 month block averages *	80 month *
Jan - Dec 1999	477,982	480,187	938,129				
2000-2005	2,340,058	2,308,193	4,648,251				
Oct -05 *	33,917	34,087	68,004	* shown separately as these months are part of the preceding 5 year period, but fuel use included in 2000-2005 total			
Nov - 05 *	17,832	27,599	45,431				
Dec - 05 *	35,612	-	35,612				
Jan-06	-	-	-				
Feb-06	30,802	30,875	61,677				
Mar-06	31,004	31,353	62,357				
Apr-06	28,289	28,002	56,292				
May-06	34,779	32,670	67,448				
Jun-06	34,048	33,575	67,624				
Jul-06	34,303	33,278	67,580				
Aug-06	34,825	34,725	69,550				
Sep-06	33,707	33,357	67,064				
Oct-06	33,917	34,087	68,004				
Nov-06	17,832	27,599	45,431				
Dec-06	35,612	0	35,612				
Jan-07	30,822	0	30,822				
Feb-07	31,984	1,960	33,944				
Mar-07	34,597	27,410	62,007				
Apr-07	33,298	35,651	68,949				
May-07	35,099	36,767	71,867				
Jun-07	32,483	32,824	65,307				
Jul-07	35,285	34,354	69,639				
Aug-07	35,588	35,187	70,775				
Sep-07	33,737	31,972	65,709	58,520			
Oct-07	35,982	17,929	53,911	65,932			
Nov-07	35,111	97	35,207	55,508			
Dec-07	32,123	598	32,721	55,386			
Jan-08	32,132	1,968	34,099	60,807			
Feb-08	32,488	91	32,579	55,594			
Mar-08	34,781	6,931	41,712	54,733			
Apr-08	33,390	21,845	55,235	54,689			
May-08	34,115	611	34,726	53,326			
Jun-08	25,683	0	25,683	51,578			
Jul-08	0	0	0	48,782			
Aug-08	0	0	0	45,884			
Sep-08	0	0	0	43,070	47,287		
Oct-08	0	0	0	40,236	45,398		
Nov-08	0	0	0	38,344	44,136		
Dec-08	0	0	0	36,860	43,146		
Jan-09	0	0	0	35,575	43,146		

This period has an average monthly fuel use closest to the historic monthly fuel use.

Therefore, the 24 months period Sep 2006 Aug 2008 most closely represent normal source operation. As such, the baseline period is Sep 2006 - Aug 2008.

\* block averages are for periods (24, 46, 48, 60 month) preceding the date indicated. Block averages are for periods that begin no earlier than Oct 2005, i.e. 5 years before the date the shutdown occurred.

Fee C	S-1131-974 MMBtu	S-1131-1079 MMBtu	Total Lease MMBtu	24 month block averages *	36 month block averages *	48 month block averages *	60 month *
Feb-09	0	0	0	34,161	41,433		
Mar-09	0	0	0	31,577	39,701		
Apr-09	0	0	0	28,705	38,137		
May-09	11,907	0	11,907	26,206	36,595		
Jun-09	4,448	0	4,448	23,680	34,840		
Jul-09	25,550	0	25,550	21,843	33,672		
Aug-09	29,065	0	29,065	20,105	32,548		
Sep-09	22,500	0	22,500	18,304	31,310	37,412	
Oct-09	30,659	0	30,659	17,336	30,272	36,634	
Nov-09	31,193	0	31,193	17,169	29,877	36,338	
Dec-09	25,923	0	25,923	16,886	29,608	36,136	
Jan-10	22,136	0	22,136	16,387	29,366	36,597	
Feb-10	30,145	0	30,145	16,286	29,261	35,940	
Mar-10	34,417	0	34,417	15,983	28,495	35,358	
Apr-10	32,094	0	32,094	15,019	27,471	34,854	
May-10	34,807	0	34,807	15,022	26,441	34,174	
Jun-10	20,759	0	20,759	14,817	25,210	33,197	
Jul-10	0	0	0	14,817	23,276	31,769	
Aug-10	0	0	0	14,817	21,310	30,341	
Sep-10			0	14,817	19,484	28,943	
Oct-10			0	14,817	17,987	27,527	33,165

Average monthly fuel use  
over 142 months of data provided  
Normal source operation (NSO)

52,783

\* block averages are for periods (24, 46, 48, 60 month) preceding the date indicated. Block averages are for periods that begin no earlier than Oct 2005, i.e. 5 years before the date the shutdown occurred.

**Appendix E**  
**Draft ERCs**

San Joaquin Valley  
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

**Emission Reduction Credit Certificate**

**S-4113-24**

**ISSUED TO:** CHEVRON USA INC  
**ISSUED DATE:** <DRAFT>  
**LOCATION OF REDUCTION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA  
**SECTION:** 25 **TOWNSHIP:** 28S **RANGE:** 27E

**For CO2E Reduction In The Amount Of:**

**36937 metric tons / year**

☐ Conditions Attached

**Method Of Reduction**

- ☐ Shutdown of Entire Stationary Source  
☒ Shutdown of Emissions Units  
☐ Other

**Shut down of two (S-1131-970 & '973) Solar gas turbines verified as permanent within the State of California**

**Emission Reduction Qualification Criteria**

This emission reduction is surplus and additional to all applicable greenhouse emission reduction regulatory requirements.

Sayed Sadredin, Executive Director / APCO

David Warner, Director of Permit Services

San Joaquin Valley  
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

**Emission Reduction Credit Certificate**

**S-4114-24**

**ISSUED TO:** CHEVRON USA INC  
**ISSUED DATE:** <DRAFT>  
**LOCATION OF REDUCTION:** HEAVY OIL CENTRAL  
KERN COUNTY, CA  
**SECTION:** 25 **TOWNSHIP:** 28S **RANGE:** 27E

**For CO2E Reduction In The Amount Of:**

**33851 metric tons / year**

☐ Conditions Attached

**Method Of Reduction**

- ☐ Shutdown of Entire Stationary Source  
☒ Shutdown of Emissions Units  
☐ Other

**Shut down of two (S-1131-974 & '1073) Solar gas turbines verified as permanent within the State of California**

**Emission Reduction Qualification Criteria**

This emission reduction is surplus and additional to all applicable greenhouse emission reduction regulatory requirements.

Sayed Sadredin, Executive Director / APCO

David Warner, Director of Permit Services