



**JUL 22 2014**

Mr. Kenneth Bork  
Freeport McMoran Oil & Gas  
1200 Discovery Drive, Suite 100  
Bakersfield, CA 93309

**Re: Proposed Authority to Construct/Certificate of Conformity (Minor Mod)  
District Facility # S-1372  
Project # 1142978**

Dear Mr. Bork:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The project authorizes connection of an existing 10,000 bbl clarifier tank to an existing vapor control system serving Thermally Enhanced Oil Recovery (TEOR) operation S-1372-77.

After addressing all comments made during the 45-day EPA comment period, the District intends to issue the Authority to Construct with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

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

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**Northern Region**  
4800 Enterprise Way  
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Thank you for your cooperation in this matter.

Sincerely,

  
Arnaud Marjollet  
Director of Permit Services

Enclosures

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

## Authority to Construct Application Review

Fixed Roof Oil Field Production Tank 10,000 BBLs  
Uncontrolled Emissions Less than 6 tons/year  
Heavy Oil, Connected to Vapor Control,  
Not subject to NSPS

Facility Name: Freeport McMoran Oil & Gas

Date: July 17, 2014

Mailing Address: 1200 Discovery Drive, Suite 100  
Bakersfield, CA 93309

Engineer: Richard Edgehill  
Lead Engineer: Allan Phillips *ASURE AWE*

Contact Person: Kenneth Bork

Telephone: (661) 395-5458

JUL 18 2014

Application #(s): S-1372-77-22, '-255-3

Project #: 1142978

Deemed Complete: July 3, 2014

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### I. Proposal

Freeport McMoran Oil & Gas (FM O&G) is applying for an Authority to Construct for connection of an existing 10,000 bbl clarifier tank (S-1372-255) to Thermally Enhanced Oil Recovery (TEOR) vapor recovery system S-1372-77. Note that the current PTO lists a 13,569 bbl tank. Applicant has provided dimensions corresponding to a 10,000 bbl tank (7-9-14 email). The tank capacity is corrected in this project.

As the VOC content of the vapors processed by TEOR operation '-77 are limited to no more than 10% by wt by permit condition, vapors from tank '-255 will also be limited to 10% VOCs.

Per Section IV of District Policy SSP 2015, Procedures for Quantifying Fugitive VOC Emissions At Petroleum and SOCMI Facilities (9/15/05), VOC emissions are not assessed for piping and components handling fluid streams with a VOC content of 10% or less by weight (i.e. VOC as a percentage of the entire gas stream). Therefore fugitive emissions from '-77 and '-255 are not assessed.

Note that S-1372-77 is not undergoing a change in method of operation (nor NSR Modification) per FYI 111 Category 11 (which follows). Therefore, Rule 2201 is not applicable.

Rule 4102 Nuisance (12/17/92)  
Rule 4623 Storage of Organic Liquids (05/19/05)  
CH&SC 41700 Health Risk Assessment  
CH&SC 42301.6 School Notice  
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)  
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

### III. Project Location

The existing TEOR operation S-1372-77 and tank '-255 are located at the Bremer lease, SW Section 16, T31S, R22E, within FM O&G's heavy oil western stationary source.

The equipment is not located within 1,000 feet of the outer boundary of any K-12 school. Therefore, pursuant to CH&SC 42301.6, California Health and Safety Code (School Notice), public notification is not required.

### IV. Process Description

#### Bremer lease

Produced gas from the Bremer lease wells is disposed of in DOGGR-approved disposal wells or scrubbed using sulfa treat prior to being combusted in steam generators S-1372-17, S-1372-18, S-1372-19, or S-1372-20 or a standby flare. The standby flare can only be used to incinerate TEOR vapors when steam generator S-1372-17, S-1372-18, S-1372-19, or S-1372-20 are inoperable. The vapor system is monitored for leaks according to Rule 4401.

Tank '-255 receives oil prior to custody transfer.

Connection of tank '-255 to the '-77 VCS is being done to mitigate fugitive H<sub>2</sub>S emissions released from the tank's P/V vent. Controlled vapors are injected in DOGGR disposal wells as authorized by PTO S-1372-77-19 (Condition #35).

Pre- and post-project facility diagrams and a photograph of tank '-255 are found in **Attachment II**.

### V. Equipment Listing

#### Pre-Project Equipment Description:

S-1372-77-19: TEOR OPERATION WELL VENT VAPOR COLLECTION SYSTEM WITH 364 STEAM DRIVE WELLS, HEAT EXCHANGERS, GAS/LIQUID SEPARATORS, STORAGE

## VI. Emission Control Technology Evaluation

### S-1372-77 (project 1091188)

TEOR gas is routed to Steam Generator Site #29 (S-1372-17 through '-20) and to two DOGGR vapor injection wells. A 33.3 MMBtu/hr standby flare is used to combust the gas when one or more of steam generators S-1372-17 through '-20 are down. As the produced gas may contain high levels of H<sub>2</sub>S (greater than 27,000 ppmv as indicated by previous gas analyses) the TEOR gas will be scrubbed using an existing sulfa-treat system prior to incineration/treatment or flaring of the gas. Un-scrubbed TEOR gas not incinerated is routed to two DOGGR gas disposal wells. The efficiency of the sulfa treat scrubber is expected to be greater than 95%.

Note that the TEOR operation '-77 is required by Rule 4401 (permit condition #40 ) to be equipped with a "VOC collection and control system."

#### Rule 4401 Section 3.50

"VOC Collection and Control System: an APCO-approved system that is not open to the atmosphere and that is composed of hard-piping, ductwork connections and, if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to an APCO-approved control device that has a VOC destruction or removal efficiency of at least 99%, or that transports gases or vapors back to a process system."

Tank '-255 will be connected to the '-77 VCS and therefore will have a VOC control efficiency of 99%.

## VII. General Calculations

### A. Assumptions

- Facility will operate 24 hours per day, 7 days per week, and 52 weeks per year.
  - Tank '-255 emits only volatile organic compounds (VOCs).
  - Pre-project throughput of '-255 for PE1 is 10,000 bbl/day.
  - Pre-project TVP of '-255 is 0.024 psia (application)
  - VOC content will not exceed 10% by wt. The VOC content of vapors from the Bremer lease not expected to exceed 10% by wt (see 2 gas analyses with VOCs at 5.2% by wt and 6.6% by wt in **Attachment III**).
  - S-1372-77 is not being modified and therefore calculations are not required. PE is restated for inclusion in the PAS emissions profiles.
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- S-1372-77 flare (project 971305)
  - Maximum design rating of flare = 2 MMscf/day

S-1372-77

<b>Total Post-Project Potential to Emit (PE2)</b>		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO <sub>x</sub>	54.4	19,856
SO <sub>x</sub>	221.8	80,957
PM <sub>10</sub>	20.8	7592
CO	296.0	108,040
VOC	50.4	18,396

<b>Permit Unit</b>	<b>VOC - Daily PE2 (lb/day)</b>	<b>VOC - Annual PE2 (lb/Year)</b>
S-1372-255	0	0

The emissions profiles are included in **Attachment V**.

### 3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

Facility-wide VOC emissions exceed both the offset threshold for VOC's (20,000 lb VOC/ yr) and the Major Source threshold for VOC's (20,000 lb VOC/ yr). No other pollutants are emitted by this project; therefore, SSPE1 calculations for these pollutants are not necessary.

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

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

Facility-wide VOC emissions exceed both the offset threshold for VOC's (20,000 lb VOC/ yr) and the Major Source threshold for VOC's (20,000 lb VOC/ yr). No other pollutants are emitted by this project; therefore, SSPE2 calculations for these pollutants are not necessary.

## 6. Baseline Emissions (BE)

### a. Annual BE

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

BE = Pre-project Potential to Emit for:

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

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.23

#### S-1372-255

Since tank S-1372-255 has a PV vent, it is considered a Clean Emissions Unit.

Therefore, the BE is equal to the pre-project potential to emit (PE1) for S-255.

## 7. SB 288 Major Modification

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

Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, the increases in fugitive emissions are not included in the SB 288 Major Modification calculation.

## 8. Federal Major Modification

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

Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, the increases in fugitive emissions are not

**II. Significance of Project Emission Increase Determination**

**a. Potential to Emit of attainment/unclassified pollutant for New or Modified Emission Units vs PSD Significant Emission Increase Thresholds**

As a screening tool, the potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if total potential to emit from all new and modified units is below this threshold, no further analysis will be needed.

<b>PSD Significant Emission Increase Determination: Potential to Emit (tons/year)</b>						
	NO2	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	0	0	0	0	0	17,023
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	N	N	N	N	N	N

\* 800 MMBtu/day x 116.7 lb-CO2e/MMBtu = 93,360 lb-CO2e/day

93,360 lb-CO2e/day x 365 days/yr ÷ 2,000 lb/ton

= 17,038 tons-CO2e/year (neglecting CH<sub>4</sub> and other GHGs from flare and tank vapor)

As demonstrated above, because the project has a total potential to emit from all new and modified emission units below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and no further discussion is required.

**10. Quarterly Net Emissions Change (QNEC)**

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

QNEC = PE2 - BE, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.

PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.

**d. SB 288/Federal Major Modification**

As discussed in Section VII.C.7 and VII.C.8 above, this project is not a SB 288 or Federal Major Modification for VOC emissions. Therefore BACT is not triggered for SB 288 or Federal Major Modification purposes.

**B. Offsets**

**1. Offset Applicability**

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Applicability			
Pollutant	SSPE2 (lb/yr)	Offset Threshold Levels (lb/yr)	Offsets Calculations Required?
VOC	>20,000	20,000	Yes

**2. Quantity of Offsets Required**

As seen above, the SSPE2 is greater than the offset thresholds for VOC; therefore offset calculations will be required for this project.

The quantity of offsets in pounds per year for VOC is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets required (lb/year) =  $(\sum[PE2 - BE] + ICCE) \times DOR$ , for all new or modified emissions units in the project,

Where,

PE2 = Post Project Potential to Emit, (lb/year)

BE = Baseline Emissions, (lb/year)

ICCE = Increase in Cargo Carrier Emissions, (lb/year)

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = Pre-project Potential to Emit for:

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

**b. PE > 100 lb/day**

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. As seen in Section VII.C.2 above, this project does not include a new emissions unit, therefore public noticing for PE > 100 lb/day purposes is not required.

**c) Offset Threshold**

The following table compares the pre-project SSPE1 with the post-project SSPE2 in order to determine if any offset thresholds have been surpassed.

Offset Threshold				
Pollutant	SSPE1 (lb/yr)	SSPE2 (lb/yr)	Offset Levels (lb/yr)	Public Notice Required?
VOC	>20,000	>20,000	20,000	No

Since the SSPE2 does not surpass the offset threshold levels, public noticing is not triggered for this project.

**d) SSIPE > 20,000 lb/yr**

The SSIPE (NEC) is calculated and shown as follows:

$$\text{SSIPE} = \text{SSPE2} - \text{SSPE1}$$

Stationary Source Increase in Permitted Emissions (SSIPE)			
Pollutant	SSPE2 (lb/yr)	SSPE1 (lb/yr)	SSIPE (lb/yr)
VOC	>20,000	>20,000	0

As shown in the above table, the SSIPE for this project does not exceed the 20,000 lb/yr public notice threshold.

Therefore, public noticing is not required for SSIPE purposes.

**2. Public Notice Action**

As discussed above, public noticing is not required for this project

### **Rule 2410 Prevention of Significant Deterioration**

As demonstrated above this project will not result in a significant increase in emissions; therefore, Rule 2410 does not apply.

### **Rule 2520 Federally Mandated Operating Permits**

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit.

In accordance with Rule 2520, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
  - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
  - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

As discussed above, the facility has applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment/minor modification application. The Title V Compliance Certification Form is included in **Attachment VI**.

### **Rule 4401 Steam-Enhanced Crude Oil Production Wells**

The purpose of this rule is to limit the VOC emissions from steam-enhanced crude oil production well vents. TEOR operation S-1372-77 is currently in compliance with the vapor control, fugitive emissions monitoring, and administrative requirements of the rule.

Continued compliance is expected.

### **Rule 4623, Storage of Organic Liquids**

This rule applies to any tank with a capacity of 1,100 gallons or greater in which any organic liquid is placed, held, or stored. Tank '-255 will be equipped with a vapor control system with an expected vapor control efficiency of 99%. A stringent I&M program with monitoring, identification, repair, and recordkeeping of fugitive component leaks is required by permit condition.

#### **CH&SC 42301.6 California Health & Safety Code (School Notice)**

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

### **California Environmental Quality Act (CEQA)**

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission unit(s) is exempt from Best Available Control Technology (BACT) requirements. Furthermore, the District has determined that potential emission increases would have a less than significant health impact on sensitive receptors.

ATTACHMENT I  
PTOs S-1372-77-19 and '255-2

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** S-1372-77-19

**EXPIRATION DATE:** 05/31/2016

**SECTION:** 16 **TOWNSHIP:** 31S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

TEOR OPERATION WELL VENT VAPOR COLLECTION SYSTEM WITH 364 STEAM DRIVE WELLS, HEAT EXCHANGERS, GAS/LIQUID SEPARATORS, STORAGE VESSELS, SULFUR REMOVAL SYSTEM, COMPRESSORS, VAPOR PIPING TO STEAM GENERATORS, 33.3 MMBTU/HR STANDBY FLARE, AND PIPING FROM THE E&M LEASE TEOR VAPOR CONTROL SYSTEM S-1372-74 (BREMER LEASE)

## PERMIT UNIT REQUIREMENTS

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1. Standby flare shall be equipped with automatically lit pilot and waste gas shutoff upon flame failure. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Standby flare shall only be used to incinerate TEOR vapors when steam generator S-1372-17, S-1372-18, S-1372-19, or S-1372-20 are inoperable. [District NSR Rule] Federally Enforceable Through Title V Permit
3. Emission rates from flare shall not exceed the following: PM10: 0.026 lb/MMBtu, NO<sub>x</sub> (as NO<sub>2</sub>): 0.068 lb/MMBtu, VOC: 0.063 lb/MMBtu, SO<sub>x</sub> (as SO<sub>2</sub>): 221.8 lb/day, and CO: 0.37 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Sulfur oxide (SO<sub>x</sub> as SO<sub>2</sub>) emissions shall not exceed 80,957 lb/yr from the flare. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Maximum amount of gas combusted in the flare shall not exceed 800 MMBtu/day. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Sulfur content of the combusted gas shall be determined using ASTM test methods D-1072, D-3246, D-6228, or double GC for H<sub>2</sub>S and Mercaptans. H<sub>2</sub>S concentration (ppmv) of the gas shall be determined using ASTM test methods D-1072 or D-4084, using Draeger tube, or by gas supplier test data consistent with the natural gas fuel sulfur content test method listed in this permit. [District Rules 1081, 7.2 and 2201] Federally Enforceable Through Title V Permit
7. Higher heating value of gas combusted in the flare shall be monitored at least quarterly. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
8. Measured heating value and quantity of gas flared shall be used to determine compliance with daily heat input limit. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The sulfur content of the combusted gas shall be determined using ASTM test methods D-1072, D-3246, D-6228, or double GC for H<sub>2</sub>S and Mercaptans. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The flare shall be operated according to the manufacturer's specifications, a copy of which shall be maintained on site. [District Rules 2520, 9.4.2 and 4311] Federally Enforceable Through Title V Permit
11. The flare in this permit shall be inspected every two weeks while in operation for visible emissions. If visible emissions are observed, corrective action shall be taken. If visible emissions continue, an EPA method 9 test shall be conducted within 72 hours. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. Flare shall comply with all of the applicable requirements of Rule 4311. [District Rule 4311] 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.

23. Effective on and after July 1, 2012, and annually thereafter, the operator of a flare subject to flare monitoring requirements pursuant to Rule 4311, Sections 5.10, 6.6, 6.7, 6.8, 6.9, and 6.10, as appropriate, shall submit an annual report to the APCO within 30 days following the end of each 12 month period. The report shall include the following: 1) The total volumetric flow of vent gas in standard cubic feet for each day, 2) Hydrogen sulfide content, methane content, and hydrocarbon content of vent gas composition pursuant to Section 6.6, 3) If vent gas composition is monitored by a continuous analyzer or analyzers pursuant to Section 5.11, average total hydrocarbon content by volume, average methane content by volume, and depending upon the analytical method used pursuant to Section 6.3.4, total reduced sulfur content by volume or hydrogen sulfide content by volume of vent gas flared for each hour of the month, 4) If the flow monitor used pursuant to Section 5.10 measures molecular weight, the average molecular weight for each hour of each month, 5) For any pilot and purge gas used, the type of gas used, the volumetric flow for each day and for each month, and the means used to determine flow, 6) Flare monitoring system downtime periods, including dates and times, 7) For each day and for each month provide calculated sulfur dioxide emissions, and 8) A flow verification report for each flare subject to this rule. The flow verification report shall include flow verification testing pursuant to Section 6.3.5. [District Rule 4311, 6.2.3] Federally Enforceable Through Title V Permit
24. Total hydrocarbon content and methane content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, EPA Method 18, or EPA Method 25A or 25B. Hydrogen sulfide content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, ASTM Method D 4084-94, or ASTM Method D 4810-88. [District Rule 4311, 6.3.4] Federally Enforceable Through Title V Permit
25. Upon request, the operator of flares that are subject to Section 5.6 shall make available to the APCO the compliance determination records that demonstrate compliance with the provisions of 40 CFR 60.18, (c)(3) through (c)(5). [District Rule 4311, 6.4.1] Federally Enforceable Through Title V Permit
26. Operator shall monitor vent gas composition using one of the five methods pursuant to Section 6.6.1 through Section 6.6.5, as appropriate. [District Rule 4311, 6.6] Federally Enforceable Through Title V Permit
27. Operator shall monitor the volumetric flows of purge and pilot gases with flow measuring devices or other parameters as specified on the Permit to Operate so that volumetric flows of pilot and purge gas may be calculated based on pilot design and the parameters monitored. [District Rule 4311, 6.7] Federally Enforceable Through Title V Permit
28. All of the general monitoring provisions of Section 6.9, as applicable, shall be met. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
29. Operator shall install and maintain equipment that records a real-time digital image of the flare and flame at a frame rate of no less than one frame per minute. The recorded image of the flare shall be of sufficient size, contrast, and resolution to be readily apparent in the overall image or frame. The image shall include an embedded date and time stamp. The equipment shall archive the images for each 24-hour period. In lieu of video monitoring the operator may use an alternative monitoring method that provides data to verify date, time, vent gas flow, and duration of flaring events. [District Rule 4311, 6.10] Federally Enforceable Through Title V Permit
30. VOC content of the collected TEOR vapors shall not exceed 10% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
31. The following test method shall be used for TEOR gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rule 2520] Federally Enforceable Through Title V Permit
32. Operation shall include sulfur removal system, to be used when necessary to meet sulfur compounds limits of TEOR steam generators S-1372-17, S-1372-18, S-1372-19, S-1372-20, and flare (S-1372-77). [District NSR Rule] Federally Enforceable Through Title V Permit
33. When purchasing steam from Midway Sunset Cogeneration, an equivalent number of permittee's Bremer Lease generators shall be shutdown unless otherwise approved by the District. [District NSR Rule] Federally Enforceable Through Title V Permit
34. If vapor combustion sources are inoperative, well vent vapors shall not be vented to the atmosphere. [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.

47. An operator shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of Rule 4401. [District Rule 4401, 5.4.2] Federally Enforceable Through Title V Permit
48. In addition to the inspections required by Section 5.4.1 of Rule 4401, an operator shall inspect for leaks all accessible operating pumps, compressors, and PRDs in service as follows: An operator shall audio-visually (by hearing and by sight) inspect for leaks all accessible operating pumps, compressors, and PRDs in service at least once each calendar week. Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of Rule 4401. [District Rule 4401, 5.4.3] Federally Enforceable Through Title V Permit
49. In addition to the inspections required by Sections 5.4.1, 5.4.2 and 5.4.3 of Rule 4401, operator shall perform the following: initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release, re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection, inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service. Except for PRDs subject to the requirements of Section 5.4.4.1 of Rule 4401, an operator shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced. [District Rule 4401, 5.4.4] Federally Enforceable Through Title V Permit
50. An operator shall inspect all unsafe-to-monitor components during each turnaround. [District Rule 4401, 5.4.7] Federally Enforceable Through Title V Permit
51. District inspection in no way fulfills any of the mandatory inspection requirements that are placed upon operators and cannot be used or counted as an inspection required of an operator. [District Rule 4401, 5.4.8] Federally Enforceable Through Title V Permit
52. An operator shall affix a readily visible weatherproof tag to a leaking component upon detection of the leak and shall include the following information on the tag: date and time of leak detection, date and time of leak measurement, for a gaseous leak, the leak concentration in ppmv, for a liquid leak, whether it is a major liquid leak or a minor liquid leak, whether the component is an essential component, an unsafe-to monitor component, or a critical component. [District Rule 4401, 5.5.1] Federally Enforceable Through Title V Permit
53. An operator shall keep the tag affixed to the component until an operator has met all of the following conditions: repaired or replaced the leaking component, re-inspected the component using the test method in Section 6.3.3, and the component is found to be in compliance with the requirements of this rule. [District Rule 4401 5.5.2] Federally Enforceable Through Title V Permit
54. An operator shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak. [District Rule 4401, 5.5.3] Federally Enforceable Through Title V Permit
55. Except for leaking critical components or leaking essential components subject to the requirements of Section 5.5.7 of Rule 4401, if an operator has minimized a leak but the leak still exceeds the applicable leak limits as defined in Section 3.0 of Rule 4401, an operator shall comply with at least one of the following requirements as soon as practicable but not later than the time period specified in Table 3 of Rule 4401: Repair or replace the leaking component; or vent the leaking component to a VOC collection and control system as defined in Section 3.0 of Rule 4401, or remove the leaking component from operation. [District Rule 4401, 5.5.4] Federally Enforceable Through Title V Permit
56. The repair period in calendar days shall not exceed 14 days for minor gas leaks, 5 days for major gas leaks less than or equal to 50,000 ppmv, 2 days for gas leak greater than 50,000 ppmv, 3 days for minor liquid leaks, 2 days for major liquid leaks. [District Rule 4401, 5.5.4] Federally Enforceable Through Title V Permit
57. The leak rate measured after leak minimization has been performed shall be the leak rate used to determine the applicable repair period specified in Table 3 of Rule 4401. [District Rule 4401, 5.5.5] 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.

71. An operator shall comply with the following requirements for each gauge tank, as defined in Section 3.17 of Rule 4401: Conduct periodic TVP testing of each gauge tank at least once every 24 months during summer (July - September), and whenever there is a change in the source or type of produced fluid in the gauge tank. The TVP testing shall be conducted at the actual storage temperature of the produced fluid in the gauge tank using the applicable TVP test method specified in Section 6.4 of Rule 4623 (Storage of Organic Liquids). The operator shall submit the TVP testing results to the APCO as specified in Section 6.1.9 of Rule 4401. [District Rule 4401, 6.2.3] Federally Enforceable Through Title V Permit
72. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rule 4401, 6.3.1] Federally Enforceable Through Title V Permit
73. VOC content shall be analyzed by using the latest revision of ASTM Method E168, E169, or E260 as applicable. Analysis of halogenated exempt compounds shall be performed by using ARB Method 432. [District Rule 4401, 6.3.2] Federally Enforceable Through Title V Permit
74. Leak inspection, other than audio-visual, and measurements of gaseous leak concentrations shall be conducted according to EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in EPA Method 21 or the manufacturer's instruction, as appropriate, not more than 30 days prior to its use. The operator shall record the calibration date of the instrument. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one (1) centimeter or less from the surface of the component interface. [District Rule 4401, 6.3.3] Federally Enforceable Through Title V Permit
75. The VOC content by weight percent (wt.%) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 or the latest revision of ASTM Method E168, E169 or E260 for liquids. [District Rule 4401, 6.3.4] Federally Enforceable Through Title V Permit
76. Operator shall maintain an inspection log in which an operator records, at a minimum, all of the following information for each inspection performed: The total number of components inspected, total number and percentage of leaking components found by component type, location, type, and name or description of each leaking component and description of any unit where the leaking component is found, date of leak detection and the method of leak detection. For gaseous leaks, the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak. the date of repair, replacement, or removal from operation of leaking components, identify and location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, methods used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, the date of re-inspection and the leak concentration in ppmv after the component is repaired or is replaced, the inspector's name, business mailing address, and business telephone number, date and signature of the facility operator responsible for the inspection and repair program certifying the accuracy of the information recorded in the log. [District Rule 4401, 6.4] Federally Enforceable Through Title V Permit
77. Permittee shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures, as necessary. [District Rule 4401, 6.5] Federally Enforceable Through Title V Permit
78. In accordance with the approved Operator Management Plan (OMP), permittee shall meet all applicable operating, leak standards, inspection and re-inspection, leak repair, record keeping, and notification requirements of Rule 4401. [District Rule 4401, 6.6] 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.

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** S-1372-255-2

**EXPIRATION DATE:** 05/31/2016

**SECTION:** 16 **TOWNSHIP:** 30S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

13,569 BBL FIXED ROOF CRUDE OIL STORAGE TANK (#LBWT-2)

## PERMIT UNIT REQUIREMENTS

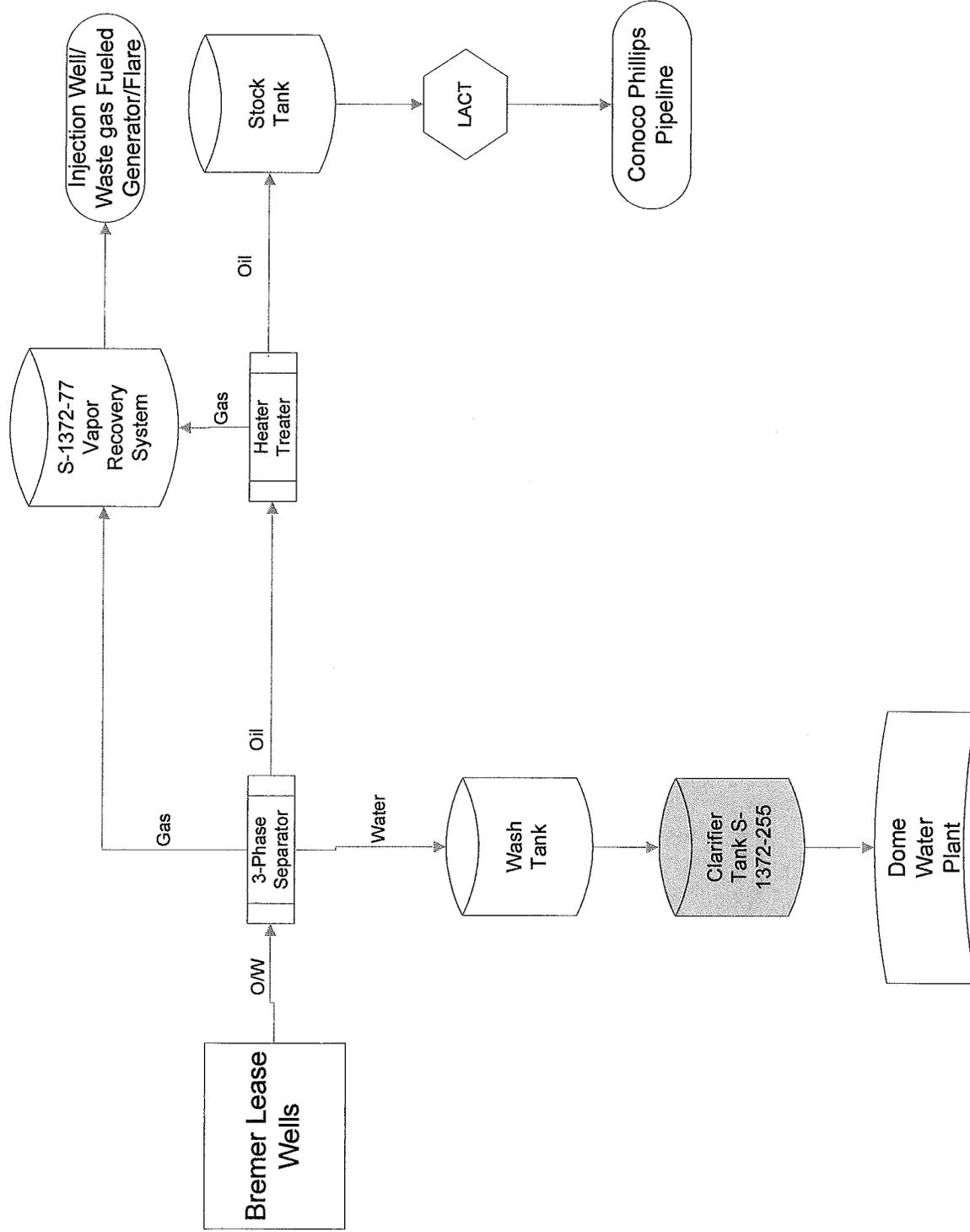
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1. True vapor pressure of any organic liquid introduced to the tank shall not exceed 0.5 psia at liquid temperature. [District Rule 4623, 5.1] Federally Enforceable Through Title V Permit
2. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in leak-free condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623, 5.2] Federally Enforceable Through Title V Permit
3. The operator shall conduct a TVP testing of each uncontrolled fixed roof tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in each tank. In lieu of testing each uncontrolled fixed roof tank, an operator may conduct a TVP testing of a representative tank provided the requirements of Sections 6.2.1.1.1 through 6.2.1.1.5 are met. The operator shall also comply with Section 6.2.1.2. The operator shall submit the records of TVP and/or API gravity testing to the APCO as specified in Section 6.3.6. [District Rule 4623, 6.2.2] Federally Enforceable Through Title V Permit
4. The operator shall submit the records of TVP and API gravity testing conducted in accordance with the requirements of Section 6.2 to the APCO within 45 days after the date of testing. The record shall include the tank identification number, PTO number, type of stored organic liquid, TVP and API gravity of the stored organic liquid, test methods used, and a copy of the test results. [District Rule 4623, 6.3.6] Federally Enforceable Through Title V Permit
5. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623, 6.4.4] Federally Enforceable Through Title V Permit
6. The operator shall keep an accurate record of each organic liquid stored in each tank, including its storage temperature, TVP, and API gravity. Such records shall be retained for at least five years and made available to the District upon request. [District Rule 4623, 6.3.1] Federally Enforceable Through Title V Permit

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

**ATTACHMENT II**  
**Pre- and Post-Project Facility Diagrams**

# Pre-Project Process Flow Diagram



#### IV. DESCRIPTION OF PROCESS

**a. General Description of Process:**

Heavy crude oil (11.6 API gravity; TVP < 0.5) is produced at the FM O&G's Bremer Lease. This is a TEOR operation utilizing injected steam to mobilize oil.

The tank is permitted as S-1372-255 and is not required to have tank vapor recovery. However, long residency time of the internal fluids allows soluble H<sub>2</sub>S breaks out of solution. As a safety precaution, FM O&G needs to connect with TEOR vapor recovery system S-1372-77 to capture H<sub>2</sub>S vapors. Controlled emissions will be injected downhole in DOGGR-permitted injection well(s) under existing PTO S-1372-77 Condition #35.

**b. General Equipment Description:**

13,200 bbl. crude oil storage tank (S-1372-255) with PV vent set to within 10% of maximum allowable pressure and TVP < 0.5 psia. (Attachment 3)

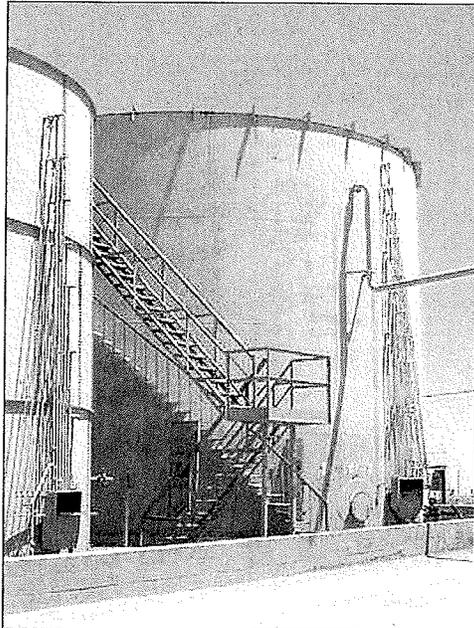
**c. Operating Schedule:**

24 hours/day, 7 days/year

**d. Average Production:**

Current Production Rate

53,000 bbls/day oil and water



Photograph of Tank S-1372-255

#### V. EXPECTED EMISSIONS

No emissions are expected since the connection of vapor recovery system S-1372-77 will control emissions by at least 99% control efficiency.

ATTACHMENT III  
Gas Analyses



## ATTACHMENT IV Tank Emissions Calculations

<b>Tank Input Data</b>	
permit number (S-xxxx-xx-xx)	-255
facility tank I.D.	Clarifier
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.024
liquid bulk storage temperature, Tb (°F)	175
is this a constant-level tank? {yes, no}	no
will flashing losses occur in this tank (only if first-line tank)? {yes, no}	no
breather vent pressure setting range (psi)	0.06
diameter of tank (feet)	47
capacity of tank (bbl)	10,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	32
average liquid height (feet)	16
are the roof and shell the same color? {yes,no}	yes
For roof:	
color {1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White}	1
condition {1: Good, 2: Poor}	1
-----This row only used if shell is different color from roof-----	
-----This row only used if shell is different color from roof-----	

<b>Liquid Input Data</b>	A	B
maximum daily fluid throughput (bbl)		10,000
maximum annual fluid throughput (bbl)	3,650,000	3,650,000
-----This row only used if flashing losses occur in this tank-----		
-----This row only used if flashing losses occur in this tank-----	22	22
molecular weight, Mw (lb/lb-mol)		100

<b>Calculated Values</b>	A	B
daily maximum ambient temperature, T <sub>ax</sub> (°F)		77.65
daily minimum ambient temperature, T <sub>an</sub> (°F)		53.15
daily total solar insolation factor, I (Btu/ft <sup>2</sup> -day)		1648.9
atmospheric pressure, P <sub>a</sub> (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (T <sub>lx</sub> ), P <sub>vx</sub> (psia)	137.2	2.7084
water vapor pressure at daily minimum liquid surface temperature (T <sub>ln</sub> ), P <sub>vn</sub> (psia)	126.5	2.0379
water vapor pressure at average liquid surface temperature (T <sub>la</sub> ), P <sub>va</sub> (psia)	131.9	2.3491
roof outage, H <sub>ro</sub> (feet)		0.4896
vapor space volume, V <sub>v</sub> (cubic feet)		28608.51
paint factor, alpha		0.39
vapor density, W <sub>v</sub> (lb/cubic foot)		0.0004
daily vapor temperature range, delta T <sub>v</sub> (degrees Rankine)		35.65
vapor space expansion factor, K <sub>e</sub>		0.1106

<b>Results</b>	lb/year	lb/day
Standing Storage Loss	436	1.20
Working Loss	8,760	24.00
Flashing Loss	N/A	N/A
<b>Total Uncontrolled Tank VOC Emissions</b>	<b>9,196</b>	<b>25.2</b>

ATTACHMENT V  
Emissions Profile

Permit #: S-1372-77-22	<b>Last Updated</b>
Facility: FREEPORT-MC MORAN OIL & GAS	07/05/2014 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	19856.0	80957.0	7592.0	108040.0	18396.0
Daily Emis. Limit (lb/Day)	54.4	221.8	20.8	296.0	50.4
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

ATTACHMENT VI  
Title V Compliance Certification Form



## San Joaquin Valley Unified Air Pollution Control District



### TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

**I. TYPE OF PERMIT ACTION (Check appropriate box)**

- SIGNIFICANT PERMIT MODIFICATION                       ADMINISTRATIVE  
 MINOR PERMIT MODIFICATION                                       AMENDMENT

COMPANY NAME: Freeport-McMoRan Oil & Gas	FACILITY ID: S - 1372
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name: Freeport-McMoRan Oil & Gas	
3. Agent to the Owner: Kenneth R. Bork	

**II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):**

- <sup>KB</sup> Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- <sup>KB</sup> Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- <sup>KB</sup> Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- <sup>KB</sup> Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

*Kenneth R. Bork*

July 2, 2014

Signature of Responsible Official

Date

Kenneth R. Bork

Name of Responsible Official (please print)

Sr. Environmental Advisor

Title of Responsible Official (please print)

ATTACHMENT VII  
Draft ATCs

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

**PERMIT NO:** S-1372-77-22

**LEGAL OWNER OR OPERATOR:** FREEPORT-MC MORAN OIL & GAS  
**MAILING ADDRESS:** 1200 DISCOVERY DR - STE 500  
BAKERSFIELD, CA 93309

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** 16 **TOWNSHIP:** 31S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF TEOR OPERATION WELL VENT VAPOR COLLECTION SYSTEM WITH 364 STEAM DRIVE WELLS, HEAT EXCHANGERS, GAS/LIQUID SEPARATORS, STORAGE VESSELS, SULFUR REMOVAL SYSTEM, COMPRESSORS, VAPOR PIPING TO STEAM GENERATORS, 33.3 MMBTU/HR STANDBY FLARE, AND PIPING FROM THE E&M LEASE TEOR VAPOR CONTROL SYSTEM S-1372-74 (BREMER LEASE): CONNECT TANK '-255 TO THE VAPOR CONTROL SYSTEM

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Standby flare shall be equipped with automatically lit pilot and waste gas shutoff upon flame failure. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Standby flare shall only be used to incinerate TEOR vapors when steam generator S-1372-17, S-1372-18, S-1372-19, or S-1372-20 are inoperable. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from flare shall not exceed the following: PM10: 0.026 lb/MMBtu, NOx (as NO2): 0.068 lb/MMBtu, VOC: 0.063 lb/MMBtu, SOx (as SO2): 221.8 lb/day, and CO: 0.37 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

Arnaud Marjollet, Director of Permit Services

S-1372-77-22 : Jul 9 2014 1:47PM - EDGEHILL : Joint Inspection NDT Required

22. The following records shall be maintained, retained on-site for a minimum of five years, and made available to the APCO, ARB, and EPA upon request: 1) A copy of the compliance determination conducted pursuant to Section 6.4.1, 2) For flares used during an emergency, record of the duration of flare operation, amount of gas burned, and the nature of the emergency situation, 3) A copy of the approved flare minimization plan pursuant to Section 6.5, 4) On and after July 1, 2012, where applicable, a copy of annual reports submitted to the APCO pursuant to Section 6.2, and 5) Where applicable, monitoring data collected pursuant to Sections 5.10. [District Rule 4311, 6.1] Federally Enforceable Through Title V Permit
23. The operator of a flare subject to flare minimization plans pursuant to Section 5.8 of Rule 4311 shall notify the APCO of an unplanned flaring event within 24 hours after the start of the next business day or within 24 hours of their discovery, whichever ever occurs first. The notification shall include the flare source identification, the start date and time, and the end date and time. [District Rule 4311, 6.2.1] Federally Enforceable Through Title V Permit
24. Effective on and after July 1, 2012, and annually thereafter, the operator of a flare subject to flare minimization plans pursuant to Section 5.8 shall submit an annual report to the APCO that summarizes all Reportable Flaring Events as defined in Section 3.0 that occurred during the previous 12 month period. The report shall be submitted within 30 days following the end of the twelve month period of the previous year. The report shall include, but is not limited to all of the following: 1) The results of an investigation to determine the primary cause and contributing factors of the flaring event; 2) Any prevention measures considered or implemented to prevent recurrence together with a justification for rejecting any measures that were considered but not implemented; 3) If appropriate, an explanation of why the flaring was an emergency and necessary to prevent accident, hazard or release of vent gas to the atmosphere, or where, due to a regulatory mandate to vent a flare, it cannot be recovered, treated and used as a fuel gas at the facility; and 4) The date, time, and duration of the flaring event. [District Rule 4311, 6.2.2] Federally Enforceable Through Title V Permit
25. Effective on and after July 1, 2012, and annually thereafter, the operator of a flare subject to flare monitoring requirements pursuant to Rule 4311, Sections 5.10, 6.6, 6.7, 6.8, 6.9, and 6.10, as appropriate, shall submit an annual report to the APCO within 30 days following the end of each 12 month period. The report shall include the following: 1) The total volumetric flow of vent gas in standard cubic feet for each day, 2) Hydrogen sulfide content, methane content, and hydrocarbon content of vent gas composition pursuant to Section 6.6, 3) If vent gas composition is monitored by a continuous analyzer or analyzers pursuant to Section 5.11, average total hydrocarbon content by volume, average methane content by volume, and depending upon the analytical method used pursuant to Section 6.3.4, total reduced sulfur content by volume or hydrogen sulfide content by volume of vent gas flared for each hour of the month, 4) If the flow monitor used pursuant to Section 5.10 measures molecular weight, the average molecular weight for each hour of each month, 5) For any pilot and purge gas used, the type of gas used, the volumetric flow for each day and for each month, and the means used to determine flow, 6) Flare monitoring system downtime periods, including dates and times, 7) For each day and for each month provide calculated sulfur dioxide emissions, and 8) A flow verification report for each flare subject to this rule. The flow verification report shall include flow verification testing pursuant to Section 6.3.5. [District Rule 4311, 6.2.3] Federally Enforceable Through Title V Permit
26. Total hydrocarbon content and methane content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, EPA Method 18, or EPA Method 25A or 25B. Hydrogen sulfide content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, ASTM Method D 4084-94, or ASTM Method D 4810-88. [District Rule 4311, 6.3.4] Federally Enforceable Through Title V Permit
27. Upon request, the operator of flares that are subject to Section 5.6 shall make available to the APCO the compliance determination records that demonstrate compliance with the provisions of 40 CFR 60.18, (c)(3) through (c)(5). [District Rule 4311, 6.4.1] Federally Enforceable Through Title V Permit
28. Operator shall monitor vent gas composition using one of the five methods pursuant to Section 6.6.1 through Section 6.6.5, as appropriate. [District Rule 4311, 6.6] Federally Enforceable Through Title V Permit
29. Operator shall monitor the volumetric flows of purge and pilot gases with flow measuring devices or other parameters as specified on the Permit to Operate so that volumetric flows of pilot and purge gas may be calculated based on pilot design and the parameters monitored. [District Rule 4311, 6.7] Federally Enforceable Through Title V Permit
30. All of the general monitoring provisions of Section 6.9, as applicable, shall be met. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit

DRAFT  
CONDITIONS CONTINUE ON NEXT PAGE

44. An operator shall be in violation of this rule if any District inspection demonstrates or if any operator inspection conducted pursuant to Section 5.4 of Rule 4401 demonstrates the existence of any combination of components with minor liquid leaks, minor gas leaks, or a gas leaks greater than 10,000 ppmv up to 50,000 ppmv that totals more than number of leaks allowed by Table 2 of Rule 4401. [District Rule 4401, 5.2.2] Federally Enforceable Through Title V Permit
45. An operator shall not use any component with a leak as defined in Section 3.0 of Rule 4401, or that is found to be in violation of the provisions of Section 5.2.2 of Rule 4401. However, components that were found leaking may be used provided such leaking components have been identified with a tag for repair, are repaired, or awaiting re-inspection after being repaired within the applicable time frame specified in Section 5.5 of Rule 4401. [District Rule 4401, 5.3.1] Federally Enforceable Through Title V Permit
46. Each hatch shall be closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401, 5.3.2] Federally Enforceable Through Title V Permit
47. An operator shall comply with the requirements of Section 6.7 of Rule 4401 if there is any change in the description of major components or critical components. [District Rule 4401, 5.3.3] Federally Enforceable Through Title V Permit
48. Except for pipes and unsafe-to-monitor components, an operator shall inspect all other components pursuant to the requirements of Section 6.3.3 of Rule 4401 at least once every year. [District Rule 4401, 5.4.1] Federally Enforceable Through Title V Permit
49. An operator shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of Rule 4401. [District Rule 4401, 5.4.2] Federally Enforceable Through Title V Permit
50. In addition to the inspections required by Section 5.4.1 of Rule 4401, an operator shall inspect for leaks all accessible operating pumps, compressors, and PRDs in service as follows: An operator shall audio-visually (by hearing and by sight) inspect for leaks all accessible operating pumps, compressors, and PRDs in service at least once each calendar week. Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of Rule 4401. [District Rule 4401, 5.4.3] Federally Enforceable Through Title V Permit
51. In addition to the inspections required by Sections 5.4.1, 5.4.2 and 5.4.3 of Rule 4401, operator shall perform the following: initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release, re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection, inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service. Except for PRDs subject to the requirements of Section 5.4.4.1 of Rule 4401, an operator shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced. [District Rule 4401, 5.4.4] Federally Enforceable Through Title V Permit
52. An operator shall inspect all unsafe-to-monitor components during each turnaround. [District Rule 4401, 5.4.7] Federally Enforceable Through Title V Permit
53. District inspection in no way fulfills any of the mandatory inspection requirements that are placed upon operators and cannot be used or counted as an inspection required of an operator. [District Rule 4401, 5.4.8] Federally Enforceable Through Title V Permit
54. An operator shall affix a readily visible weatherproof tag to a leaking component upon detection of the leak and shall include the following information on the tag: date and time of leak detection, date and time of leak measurement, for a gaseous leak, the leak concentration in ppmv, for a liquid leak whether it is a major liquid leak or a minor liquid leak, whether the component is an essential component, an unsafe-to-monitor component, or a critical component. [District Rule 4401, 5.5.1] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

70. An operator that discovers that a PRD has released shall record the date that the release was discovered, and the identity and location of the PRD that released. An operator shall submit such information recorded during the calendar year to the APCO no later than 60 days after the end of the calendar year. [District Rule 4401, 6.1.10] Federally Enforceable Through Title V Permit
71. An operator shall source test annually all vapor collection and control systems used to control emissions from steam-enhanced crude oil production well vents to determine the control efficiency of the device(s) used for destruction or removal of VOC. Compliance testing shall be performed annually by source testers certified by ARB. Testing shall be performed during June, July, August, or September of each year if the system's control efficiency is dependent upon ambient air temperature. A process system as defined in Section 3.30 of Rule 4401 is not subject to compliance source testing requirements. [District Rule 4401, 6.2.1] Federally Enforceable Through Title V Permit
72. If approved by EPA, ARB, and the APCO, an operator need not comply with the annual testing requirement of Section 6.2.1 if all uncondensed VOC emissions collected by a vapor collection are controlled by an internal combustion engine subject to Rule 4702, a combustion device subject to Rule 4320, 4307 or 4308, a flare subject to Rule 4311. [District Rule 4401, 6.2.2] Federally Enforceable Through Title V Permit
73. An operator shall comply with the following requirements for each gauge tank, as defined in Section 3.17 of Rule 4401: Conduct periodic TVP testing of each gauge tank at least once every 24 months during summer (July - September), and whenever there is a change in the source or type of produced fluid in the gauge tank. The TVP testing shall be conducted at the actual storage temperature of the produced fluid in the gauge tank using the applicable TVP test method specified in Section 6.4 of Rule 4623 (Storage of Organic Liquids). The operator shall submit the TVP testing results to the APCO as specified in Section 6.1.9 of Rule 4401. [District Rule 4401, 6.2.3] Federally Enforceable Through Title V Permit
74. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rule 4401, 6.3.1] Federally Enforceable Through Title V Permit
75. VOC content shall be analyzed by using the latest revision of ASTM Method E168, E169, or E260 as applicable. Analysis of halogenated exempt compounds shall be performed by using ARB Method 432. [District Rule 4401, 6.3.2] Federally Enforceable Through Title V Permit
76. Leak inspection, other than audio-visual, and measurements of gaseous leak concentrations shall be conducted according to EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in EPA Method 21 or the manufacturer's instruction, as appropriate, not more than 30 days prior to its use. The operator shall record the calibration date of the instrument. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one (1) centimeter or less from the surface of the component interface. [District Rule 4401, 6.3.3] Federally Enforceable Through Title V Permit
77. The VOC content by weight percent (wt.%) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 or the latest revision of ASTM Method E168, E169 or E260 for liquids. [District Rule 4401, 6.3.4] Federally Enforceable Through Title V Permit

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90. Permittee shall keep accurate records of daily heat input to standby flare in MMBtu/day. [District Rule 2201] Federally Enforceable Through Title V Permit

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-1372-255-3

**LEGAL OWNER OR OPERATOR:** FREEPORT-MC MORAN OIL & GAS  
**MAILING ADDRESS:** 1200 DISCOVERY DR - STE 500  
BAKERSFIELD, CA 93309

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** 16 **TOWNSHIP:** 30S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 13,569 BBL FIXED ROOF CRUDE OIL STORAGE TANK (#LBWT-2): CONNECT TANK TO S-1372-77 VAPOR CONTROL SYSTEM, CORRECT TANK CAPACITY TO 10,000 BBL

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
4. A leak-free condition is defined as a condition without a gas or liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
5. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

**Arnaud Marjollet, Director of Permit Services**

S-1372-255-3 : Jul 23 2014 10:10AM - EDGEHILL : Joint Inspection NOT Required

19. Permittee shall maintain a written record of VOC content of tank vapor. [District NSR Rule] Federally Enforceable Through Title V Permit
20. {3246} All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

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