

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION**

February 26, 2009

**PERMIT TO INSTALL  
No. 372-08**



The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: <b>11/10/2008</b>	
DATE PERMIT TO INSTALL APPROVED: <b>2/26/2009</b>	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

**PERMIT TO INSTALL**

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**Common Abbreviations / Acronyms**

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	BTU	British Thermal Unit
BACT	Best Available Control Technology	°C	Degrees Celsius
CAA	Clean Air Act	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
COM	Continuous Opacity Monitoring	°F	Degrees Fahrenheit
EPA	Environmental Protection Agency	gr	Grains
EU	Emission Unit	Hg	Mercury
FG	Flexible Group	hr	Hour
GACS	Gallon of Applied Coating Solids	H <sub>2</sub> S	Hydrogen Sulfide
GC	General Condition	hp	Horsepower
HAP	Hazardous Air Pollutant	lb	Pound
HVLP	High Volume Low Pressure *	m	Meter
ID	Identification	mg	Milligram
LAER	Lowest Achievable Emission Rate	mm	Millimeter
MACT	Maximum Achievable Control Technology	MM	Million
MAERS	Michigan Air Emissions Reporting System	MW	Megawatts
MAP	Malfunction Abatement Plan	ng	Nanogram
MDEQ	Michigan Department of Environmental Quality	NO <sub>x</sub>	Oxides of Nitrogen
MSDS	Material Safety Data Sheet	PM	Particulate Matter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM10	PM less than 10 microns diameter
NSPS	New Source Performance Standards	PM2.5	PM less than 2.5 microns diameter
NSR	New Source Review	pph	Pounds per hour
PS	Performance Specification	ppm	Parts per million
PSD	Prevention of Significant Deterioration	ppmv	Parts per million by volume
PTE	Permanent Total Enclosure	ppmw	Parts per million by weight
PTI	Permit to Install	psia	Pounds per square inch absolute
RACT	Reasonably Available Control Technology	psig	Pounds per square inch gauge
ROP	Renewable Operating Permit	scf	Standard cubic feet
SC	Special Condition	sec	Seconds
SCR	Selective Catalytic Reduction	SO <sub>2</sub>	Sulfur Dioxide
SRN	State Registration Number	THC	Total Hydrocarbons
TAC	Toxic Air Contaminant	tpy	Tons per year
TEQ	Toxicity Equivalence Quotient	µg	Microgram
VE	Visible Emissions	VOC	Volatile Organic Compound
		yr	Year

\* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

### GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The AQD District Supervisor shall be notified, in writing, of a change in ownership or operational control of the stationary source or emission unit(s) authorized by this Permit to Install pursuant to R 336.1219. The notification shall include all of the information required by R 336.1219(1)(a) and (b). In addition, a new owner or operator must submit a written statement pursuant to R 336.1219(1)(c), agreeing to and accepting the terms and conditions of this Permit to Install, and shall notify the AQD District Supervisor of any change in the contact person for this Permit to Install. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law nor does it affect any liability for past violations under the Natural Resources and Environmental Protection Act, 1994 PA 451.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
  - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
  - b) A visible emission limit specified by an applicable federal new source performance standard.
  - c) A visible emission limit specified as a condition of this permit to install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

### SPECIAL CONDITIONS

#### EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EUTANK1	400 barrel oil tank		FGTANKS
EUTANK2	400 barrel oil tank		FGTANKS
EUTANK3	400 barrel oil tank		FGTANKS
EUHEATERTREATER	Heater treater		FGFACILITY
EUFLARE	flare to burn all gas at this facility		FGFACILITY

#### The following conditions apply to: EUFLARE

##### **I. EMISSION LIMITS**

NA

##### **II. MATERIAL LIMITS**

1. The mass flow rate of hydrogen sulfide going to EUFLARE shall not exceed 172.2 pounds per day. (R 336.1225, R 336.1901)

##### **III. PROCESS/OPERATIONAL RESTRICTIONS**

NA

##### **IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall operate a continuously burning pilot flame at EUFLARE. In the event that the pilot flame is extinguished, fluid flow into the facility shall cease automatically and immediately. Furthermore, the well feeding FGFACILITY shall shut down before the pressure reaches a company-determined safety set-point. The permittee shall not resume fluid flow into FGFACILITY unless the pilot flame is re-ignited and maintained. Pilot fuel shall be only sweet gas. Sweet gas is defined as any gas containing no more than 1 grain of hydrogen sulfide or more than 10 grains of total sulfur per 100 standard cubic feet. (R 336.1224, R 336.1225, R 336.1403, R 336.1901, R 336.1910)

##### **V. TESTING/SAMPLING**

NA

##### **VI. MONITORING/RECORDKEEPING**

1. The permittee shall monitor and record both of the following at the frequency indicated:
  - a) Volumetric flow rate of sour gas going to EUFLARE – daily.
  - b) Concentration of hydrogen sulfide in the sour gas going to EUFLARE – quarterly.

Both of the following are acceptable means of determining the concentration of hydrogen sulfide in the sour gas:

- I. Colorimetric detector tube
- II. laboratory gas analysis

**(R 336.1225, R 336.1901)**

2. The permittee shall perform the following calculation each calendar month:

- calculate the mass flow rate of H<sub>2</sub>S going to EUFLARE each day using all of the following:
  - I. The most recently determined concentration of hydrogen sulfide in the sour gas.
  - II. The individual daily volume of the sour gas.
  - III. The following equation:

$$(\text{ft}^3 \text{ sour gas/day})(\text{ft}^3 \text{ H}_2\text{S}/100\text{ft}^3 \text{ sour gas})(\# \text{mol H}_2\text{S}/385\text{ft}^3 \text{ H}_2\text{S})(34\# \text{ H}_2\text{S}/\# \text{mol H}_2\text{S}) = \#/\text{day H}_2\text{S}$$

The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. The permittee shall keep these records on file at a location approved by the AQD District Supervisor and make them available to the Department upon request.  
**(R 336.1225, R 336.1901)**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/ Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
SVFLARE	7	40	R 336.1225, R 336.1901, 40CFR 52.21(c) & (d)

**IX. OTHER REQUIREMENTS**

NA

**The following conditions apply to: EUHEATERTREATER**

**I. EMISSION LIMITS**

NA

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

NA

**IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate EUHEATERTREATER unless the burner is fueled by sweet gas. Sweet gas is defined as any gas containing no more than 1 grain of hydrogen sulfide or more than 10 grains of total sulfur per 100 standard cubic feet. **(R 336.1225, R 336.1901)**

**V. TESTING/SAMPLING**

NA

**VI. MONITORING/RECORDKEEPING**

NA

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

NA

**IX. OTHER REQUIREMENTS**

NA

**FLEXIBLE GROUP SUMMARY TABLE**

<b>Flexible Group ID</b>	<b>Flexible Group Description</b>	<b>Associated Emission Unit IDs</b>
FGFACILITY	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.	EUTANK1, EUTANK2, EUTANK3, EUHEATERTREATER, EUFLARE

**The following conditions apply Source-Wide to: FGFACILITY**

**I. EMISSION LIMITS**

NA

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall not use FGFACILITY to process wells other than the House 2-18 well that was specified in the permit application, without prior notification to and approval by the AQD. **(R 336.1403, R 336.1901)**

**IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate FGFACILITY unless all emergency relief valves, all storage tanks, and all dehydrators are vented to a flare, an incinerator or a vapor recovery system. **(R 336.1224, R 336.1225, R 336.1403, R 336.1901, R 336.1910)**
2. The permittee shall not load out the brine, oil, and condensate storage tanks unless a vapor return system is installed, maintained and operated in a satisfactory manner. **(R 336.1224, R 336.1225, R 336.1403(5)(c), R 336.1901)**

**V. TESTING/SAMPLING**

NA

**VI. MONITORING/RECORDKEEPING**

NA

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

NA

**IX. OTHER REQUIREMENTS**

NA