

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

May 16, 2017

**PERMIT TO INSTALL
2-02B**

**ISSUED TO
Breitburn Operating, LP**

**LOCATED AT
T30N, R4W, Section 8
Hayes Township, Michigan**

**IN THE COUNTY OF
Otsego**

**STATE REGISTRATION NUMBER
N7065**

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:

May 11, 2017

DATE PERMIT TO INSTALL APPROVED:

May 16, 2017

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	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO _{2e}	Carbon Dioxide Equivalent
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
Department/ department	Michigan Department of Environmental Quality	°F	Degrees Fahrenheit
EU	Emission Unit	gr	Grains
FG	Flexible Group	HAP	Hazardous Air Pollutant
GACS	Gallons of Applied Coating Solids	Hg	Mercury
GC	General Condition	hr	Hour
GHGs	Greenhouse Gases	HP	Horsepower
HVLP	High Volume Low Pressure*	H ₂ S	Hydrogen Sulfide
ID	Identification	kW	Kilowatt
IRSL	Initial Risk Screening Level	lb	Pound
ITSL	Initial Threshold Screening Level	m	Meter
LAER	Lowest Achievable Emission Rate	mg	Milligram
MACT	Maximum Achievable Control Technology	mm	Millimeter
MAERS	Michigan Air Emissions Reporting System	MM	Million
MAP	Malfunction Abatement Plan	MW	Megawatts
MDEQ	Michigan Department of Environmental Quality	NMOC	Non-methane Organic Compounds
MSDS	Material Safety Data Sheet	NO _x	Oxides of Nitrogen
NA	Not Applicable	ng	Nanogram
NAAQS	National Ambient Air Quality Standards	PM	Particulate Matter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM10	Particulate Matter equal to or less than 10 microns in diameter
NSPS	New Source Performance Standards	PM2.5	Particulate Matter equal to or less than 2.5 microns in 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	Reasonable 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 ₂	Sulfur Dioxide
SNCR	Selective Non-Catalytic Reduction	TAC	Toxic Air Contaminant
SRN	State Registration Number	Temp	Temperature
TEQ	Toxicity Equivalence Quotient	THC	Total Hydrocarbons
USEPA/EPA	United States Environmental Protection Agency	tpy	Tons per year
VE	Visible Emissions	µg	Microgram
		µm	Micrometer or Micron
		VOC	Volatile Organic Compounds
		yr	Year

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 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 48909-7760, 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 terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(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.
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)	Flexible Group ID
EUDEHY	Glycol dehydration system processing gas from the Antrim formation.	NA
EUENGINE2	Natural gas fired reciprocating engine.	NA
EUMETHANOL	Methanol storage equipment totaling less than 5,000 gallons for all equipment.	NA
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.		

The following conditions apply to: EUENGINE2

DESCRIPTION: Natural gas fired reciprocating engine.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

NA

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate EUENGINE2 unless the malfunction abatement/preventative maintenance plan, or an alternate plan approved by the AQD District Supervisor, is implemented and maintained. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices. At a minimum Rule 911 requires the plan to include:
 - a. Identification of the equipment and control equipment and the supervisory personnel responsible for overseeing the inspection, maintenance, and repair.
 - b. Description of the items or conditions to be inspected and frequency of the inspections or repairs.
 - c. Description of equipment and add-on air pollution control device operating parameters that shall be monitored to detect a malfunction or failure, the normal operating range of the equipment and a description of the method of monitoring or surveillance procedures.
 - d. Identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - e. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If the malfunction abatement plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the malfunction abatement plan within 45 days after such an event occurs and submit the revised plan for approval to the AQD District Supervisor. Should the AQD determine the malfunction abatement/preventative maintenance plan to be inadequate, the District Supervisor may request modification of the plan to address those inadequacies. **(R 336.1205(3), R 336.1225, R 336.1910, R 336.1911)**

2. The permittee shall not operate any engine equipped with an add-on control device for more than 200 hours per engine per year without that control device consistent with the malfunction abatement/preventative maintenance plan (pursuant to SC III.1) or after an engine change-out occurs (pursuant to SC VI.2). The hours per year limit is based on a 12-month rolling time period as determined at the end of each calendar month. If the permittee changes-out this engine with an engine that achieves equivalent emission rates, or lower emission rates, without add-on control equipment (pursuant to SC VI.2), this condition does not apply for that engine. **(R 336.1205(3), R 336.1225, 40 CFR 52.21 (c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate any engine that contains an add-on control device unless that device is installed, maintained, and operated in a satisfactory manner, except as specified in SC III.2. Satisfactory operation includes performing the manufacturer's recommended maintenance on the control device and operating in conjunction with the malfunction abatement/preventative maintenance plan specified in SC III.1. If the permittee changes-out one or more of these engine(s) with engine(s) that achieve equivalent emission rates, or lower emission rates, without add-on control equipment (pursuant to SC VI.2), this condition does not apply for that engine(s). **(R 336.1205(3), R 336.1225, R 336.1910, 40 CFR 52.21 (c) & (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Verification of NO_x emission rates from EUENGINE2, by testing at owner's expense, in accordance with Department requirements, may be required upon request by the AQD District Supervisor. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(R 336.1205(3), R 336.2001, R 336.2003, R 336.2004)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall install, calibrate, maintain and operate, in a satisfactory manner, a device to monitor and record the natural gas usage from EUENGINE2 on a continuous basis. **(R 336.1205(3))**
2. The permittee shall maintain a log of all significant maintenance activities conducted and all repairs made to EUENGINE2 and any associated air pollution control device(s). This log shall be kept on file at a location approved by the District Supervisor for a period of at least five years and made available to the Department upon request. If EUENGINE2 is replaced with an equivalent emitting, or less emitting engine, the permittee shall notify the AQD District Supervisor of such change-out and submit acceptable emissions data to show that the alternate engine is equivalent emitting or less emitting. **(R 336.1205(3), R 336.1225, R 336.1911, 40 CFR 52.21 (c) & (d))**
3. The permittee shall keep, in a satisfactory manner, for any engine equipped with an add-on control device, monthly and 12-month rolling time period records of the hours that engine is operated without the control device. All records shall be kept on file at a location approved by the District Supervisor for a period of at least five years and made available to the Department upon request. **(R 336.1205(3), R 336.1225, 40 CFR 52.21 (c) & (d))**
4. The permittee shall keep, in a satisfactory manner, monthly fuel use records for EUENGINE2, as required by SC VI.1. All records shall be kept on file at a location approved by the District Supervisor for a period of at least five years and made available to the Department upon request. **(R 336.1205(3), 40 CFR 52.21 (c) & (d))**

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
1. SVENGINE2	16	45	R 336.1225, 40 CFR 52.21 (c) & (d)

IX. OTHER REQUIREMENTS

NA

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGFACILITY	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.	NA

The following conditions apply Source-Wide to: FGFACILITY

POLLUTION CONTROL EQUIPMENT:

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. NO _x	39 tpy	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	SC VI.2 and Appendix A	R 336.1205(3), 40 CFR 52.21 (c) and (d)

II. MATERIAL LIMITS

1. The permittee shall only burn sweet natural gas in FGFACILITY. **(R 336.1205(3))**

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Verification of H₂S and/or sulfur content of the natural gas burned in FGFACILITY may be required upon request by the AQD District Supervisor. This condition is necessary to ensure compliance with SC II.1. **(R 336.1205(3))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. All required calculations shall be completed in a format acceptable to the AQD District Supervisor and made available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. **(R 336.1205(3), R 336.1225, 40 CFR 52.21 (c) & (d))**
2. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period NO_x emission calculation records for FGFACILITY, as required by SC I.1 and Appendix A. All records shall be kept on file at a location approved by the District Supervisor for a period of at least five years and made available to the Department upon request. **(R 336.1205(3), 40 CFR 52.21 (c) & (d))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

APPENDIX A
Procedures for Calculating Facility NO_x Emissions

Compliance with the NO_x emission limits will be demonstrated by keeping track of all fuel usage for all equipment using such fuel at this facility and multiplying that fuel usage by an equipment specific emission factor. The emission factors are typically expressed as a mass weight of pollutant per unit of fuel.

The permittee shall only use NO_x emission factors from equipment vendor guarantees or from source specific testing (stack testing) for EUENGINE2. For all other fuel burning equipment the permittee shall use emission factors contained in the most recent AP-42 (Compilation of Air Pollutant Emission Factors) or the most recent FIRE (Factor Information Retrieval) database if vendor or stack data is not available. If other emission source values are used, the permittee shall obtain the approval of the district supervisor before using the emission factors to calculate emissions.

The permittee shall document the source and date of origin of the emission factors used in the calculations.