November 4, 2021

Patrick Montalban
MOGO Gathering, LLC
PO Box 200
Cutbank, MT 59427
Patrick@mogo-inc.com

Dear Mr. Montalban:

Montana Air Quality Permit #2739-08 is deemed final as of November 4, 2021, by the Department of Environmental Quality (Department). This permit is for a natural gas compressor station. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

Julie A. Merkel
Permitting Services Section Supervisor
Air Quality Bureau
(406) 444-3626

Troy Burrows
Air Quality Scientist
Air Quality Bureau
(406) 444-1452

JM:rv
Enclosure

MONTANA AIR QUALITY PERMIT

Issued To: MOGO Gathering, LLC
P.O. Box 200
Cut Bank, Montana 59427

MAQP #2739-08
Administrative Amendment (AA)
Request Received: 10/8/2021
Department's Decision on AA: 10/19/2021
Permit Final: 11/4/2021
AFS: #073-0003

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to MOGO Gathering, LLC (MOGO), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq*., as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

MOGO owns and operates a natural gas compressor station and associated equipment located in the Northeast (NE) ¼ of the NE¼ of Section 2, Township 29 North, Range 4 West, in Pondera County, Montana. The facility is known as the Shelby Williams Field, Station 041-1.

B. Current Permit Action

The Department of Environmental Quality (Department) received notification on October 8, 2021, from Mountain View Gathering, Inc. (MVGI), indicating a transfer of assets and assignment of ownership of the facility to MOGO. The current permit action reflects this ownership transfer and updates the permit language and rule references used by the Department.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. Emissions from the 360 brake-horsepower (bhp) White Superior Compressor Engine (Compressor Unit #01) shall not exceed the following pound per hour (lb/hr) limits (ARM 17.8.752):

Oxides of Nitrogen (NO_X[1]):	8.73 lb/hr
Carbon Monoxide (CO):	1.59 lb/hr
Volatile Organic Compounds (VOC):	3.96 lb/hr

2. The maximum rated design capacity of Compressor Unit #02 shall not exceed 95 bhp (ARM 17.8.749).

3. Compressor Unit #02 shall be a natural gas-fired rich-burn four-stroke engine fitted with a Non Selective Catalytic Reduction (NSCR) unit and Air-to-Fuel Ratio (AFR) controller. Emissions from Unit #02 shall not exceed the lb/hr emission limits as calculated using the following equation and the pollutant specific gram per brake horsepower-hour (g/bhp-hr) emission factors (ARM 17.8.752):

[1] NO_X reported as NO_2.

Emission Limit Equation:

lb/hr = emission factor (g/bhp-hr) * maximum rated design capacity of engine (hp) * 0.002205 lb/g

Emission Factors:

NO_x:	1.0 g/bhp-hr
CO:	1.0 g/bhp-hr
VOC:	1.0 g/bhp-hr

4. MOGO shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

5. MOGO shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

6. MOGO shall treat all unpaved portions of the haul roads, access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.5 (ARM 17.8.749).

7. MOGO shall operate all equipment as designed to provide the maximum control of air pollutants (ARM 17.8.752).

8. MOGO shall comply with all applicable standards and limitations, reporting, recordkeeping and notification requirements contained in 40 Code of Federal Regulation (CFR) 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, and 40 CFR 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (ARM 17.8.340; ARM 18.7.342; 40 CFR 63, Subpart ZZZZ; and 40 CFR 60, Subpart JJJJ).

B. Testing Requirements

1. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

2. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. MOGO shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

   Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate

operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. MOGO shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit,*** change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).

3. All records compiled in accordance with this permit must be maintained by MOGO as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

SECTION III: General Conditions

A. Inspection – MOGO shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (continuous emissions monitoring system (CEMS)/continuous emissions rate monitoring system (CERMS)) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if MOGO fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving MOGO of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*. (ARM 17.8.756).

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq*., MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.

F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.

G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by MOGO may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).

Montana Air Quality Permit (MAQP) Analysis
MOGO Gathering, LLC
MAQP #2739-08

I. Introduction/Process Description

MOGO Gathering, Inc. (MOGO) owns and operates a natural gas compressor station and associated equipment located in the Northeast (NE) ¼ of the NE ¼ of Section 2, Township 29 North, Range 4 West, in Pondera County, Montana. The facility is known as the Shelby Williams Field, Station 041-1.

A. Permitted Equipment

The facility consists of the following equipment;

- (1) 360 brake-horsepower (bhp) White Superior Compressor Engine (installed 1979).
- (1) Up to 95 bhp natural gas-fired four-stroke rich-burn (4SRB) compressor engine.
- (1) 75 thousand British thermal units per hour (MBtu/hr) BS&B glycol dehydrator.

The spark ignition engines operated under MAQP #2739-07 are equipped with Non-Selective Catalytic Reduction (NSCR) units and Air-to-Fuel Ratio (AFR) controllers.

B. Source Description

The complex has two primary purposes. The first is to boost the field gas to the natural gas transmission system. This initial compression of the gas is accomplished with the 360 bhp White Superior compressor engine. In late 2005, MOGO began construction of a 3.5 mile gas gathering line to allow the new Lake Frances Gas production field to be gathered separately from the Williams Gas Field. In 2006, MOGO proposed to add a smaller booster compressor to accommodate the expanded gathering system.

The second purpose of the complex is to "dry" the gas as it is being processed. The gas contains some moisture, which must be removed from the system prior to being sent into the transmission system. This is accomplished with the BS&B 75 MBtu/hr dehydrator, also commonly called a reboiler or glycol unit. The gas stream is “dried” by contacting the water-saturated gas with triethylene glycol (TEG), also known as lean glycol. The TEG-to-water ratio varies between 2 and 5 gallons of TEG per pound of water; the industry accepted rule-of-thumb is 3 gallons of TEG per pound of water removed.

The rich glycol stream, laden with moisture, methane, and Volatile Organic Compound (VOC), is processed in the TEG regenerator, also known as the reboiler, which removes the absorbed water any remaining organic constituents. The glycol is heated to about 300 degrees Fahrenheit (°F) in order to drive off the water in the form of steam. The heat that is necessary for this is generated by burning natural gas in the dehydrator reboiler. The TEG regenerator off gas, including VOC’s, will be directly emitted from the still vent. Emissions are related to the glycol recirculation rate.

C. Permit History

On April 13, 1993, the Montana Power Company (MPC) was issued **MAQP #2739-00** for the operation of a natural gas compressor station. The compressor station was constructed in 1979 and was identified as the Williams Field, Station 041-1.

On December 17, 1993, MPC requested an administrative amendment to MAQP #2739-00. The administrative amendment revised the emission limitations from a gram per bhp-hour (g/bhp-hr) limit to a pound per hour (lb/hr) limit. Rather than limit the engines to a g/bhp-hr limit, an hourly emission limit allowed for operational flexibility. The modification allowed MPC to account for varying parameters such as engine revolutions per minute (RPM), operating load, ambient air temperature, gas temperature, site elevation, fuel gas quality, AFR, field gas conditions, and etc.

In addition, to clarify oxides of nitrogen (NO_x) mass emission calculations, NO_x emission limitations were identified as nitrogen dioxide (NO_2). Furthermore, as requested by MPC on July 30, 1993, the derating information was corrected to use a more accurate altitude derating curve. **MAQP #2739-01** replaced MAQP #2739-00 on March 1, 1994.

On September 4, 1998, MPC requested an administrative amendment to MAQP #2739-00 in order to remove the testing requirements for the 360 bhp White Superior Compressor Engine. The Department of Environmental Quality (Department) agreed to remove the testing requirements for the 360 bhp White Superior Compressor Engine because the action was consistent with the Department's testing policy. In addition, the permit format, language, and rule references were updated. **MAQP #2739-02** replaced MAQP #2739-01 on November 22, 1998.

On March 4, 1999, the Department received written notice from MPC and Montalban Oil and Gas Operations, Inc. (MOGO) requesting the Department to transfer MAQP #2739-02 from MPC to MOGO. **MAQP #2739-03** replaced MAQP #2739-02 on April 4, 1999.

On April 28, 2003, the Department received written notice from MOGO and Genesis Energy, Inc. (Genesis) requesting the Department to transfer MAQP #2739-03 from MOGO to Genesis Energy. The current permit action transfers MAQP #2739-03 from MOGO to Genesis. In addition, the permit format, language, and rule references were updated to reflect current Department permit format, language, and rule references. **MAQP #2739-04** replaced MAQP #2739-03.

On January 5, 2006, the Department received a permit application to add a natural gas-fired 4SRB compressor engine, referred to as Compressor Unit #02. Application was for an engine of up to 86 bhp, with an AFR controller and a NSCR unit. In addition, on February 22, 2006, the Department received a de minimis notification, requesting the addition of VOC emissions from the existing glycol dehydrator to the emission inventory. **MAQP #2739-05** replaced MAQP #2739-04.

On March 9, 2010, the Department received a de minimis request from Genesis indicating the replacement of Compressor Unit #02 with a larger 4SRB engine of up to 95 bhp. Further information was received regarding potential uncontrolled and controlled emissions from the proposed engine on March 17, 2009, with additional documentation which reconfirmed the controlled emissions received on March 19, 2009. The permit action was an administrative amendment which reflected the de minimis engine change, as requested by Genesis in the final letter, concerning this action, received on March 22, 2010. **MAQP #2739-06** replaced MAQP #2739-05.

The Department received notification on June 7, 2012, from Genesis, indicating a transfer of assets and assignment of ownership of the facility to MOGO. The current permit action reflects this ownership transfer and updates the permit language and rule references used by the Department. **MAQP# 2739-07** replaced MAQP #2739-06.

D. Current Permit Action

The Department received notification on October 8, 2021, from MVGI, indicating a transfer of assets and assignment of ownership of the facility to MOGO. The current permit action reflects this ownership transfer and updates the permit language and rule references used by the Department. **MAQP# 2739-08** will replace MAQP #2739-07.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., Montana Code Annotated (MCA).

   MOGO shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide (SO_2)
3. ARM 17.8.211 Ambient Air Quality Standards for NO_2
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide (CO)
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone (O_3)
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide (H_2S)
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter (PM)
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead (Pb)
10. ARM 17.8.223 Ambient Air Quality Standard for Particulate Matter with an Aerodynamic Diameter of Ten Microns or Less (PM_{10})

MOGO must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions are taken to control emissions of airborne particulate matter. (2) Under this rule, MOGO shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.

3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.

4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. (4) Commencing July 1, 1972, no person shall burn liquid or solid fuels containing sulfur in excess of 1 pound of sulfur per million Btu fired. (5) Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions. MOGO will burn pipeline quality natural gas in its compressor engines and dehydration unit, which will meet this limitation.

6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.

7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 Code of Federal Regulations (CFR), Part 60, Standards of Performance for New Stationary Sources (NSPS). This facility is subject to the provisions of 40 CFR Part 60, as follows;

    a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:

b. 40 CFR 60, Subpart KKK – Standards of Performance for Equipment leaks of VOC from Onshore Natural Gas Processing Plants. The provisions of this subpart apply to affected facilities in onshore natural gas processing plants. Natural gas processing plant (gas plant) is defined in this subpart as any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both. MOGO is not located at a processing plant site and therefore not subject to this subpart.

c. 40 CFR 60, Subpart LLL – Standards of Performance for Onshore Natural Gas Processing: SO_2 Emissions. MOGO is not an NSPS affected source under this subpart, because it does not meet the definition of a natural gas processing plant as defined in 40 CFR 60, Subpart KKK; furthermore this facility does not process sour gas as regulated by Subpart LLL.

d. 40 CFR 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. The provisions of this subpart are applicable to owners and operators of stationary spark ignition internal combustion engines (SI ICE) that commence construction after June 12, 2006, where the engines are less than 500 horsepower (hp) and are manufactured on or after July 1, 2008. For the purposes of this subpart, the date that construction commences is the date the engine is ordered. The SI ICE engines associated with MAQP #2739-07 are less than 500 hp and are therefore potentially subject to the provisions of this subpart depending upon the date of construction and manufacture.

8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below:

a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to a New Emissions Standards for Hazardous Air Pollutants (NESHAP) Subpart as listed below:

b. 40 CFR 63, Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities. This subpart applies to the owners and operators of the emission points, specified in paragraph (b) of 40 CFR 63, Subpart HH, that are located at oil and natural gas production facilities that are a major or area source of hazardous air pollutants (HAP) and the process, upgrade, or store natural gas prior the point at which natural gas enters the transmission and storage source category or is delivered to a final end user. For area sources of HAPs, the affected source includes each TEG dehydration unit located at a facility meeting the aforementioned criteria. As an area source of HAPs which receives natural gas directly from the production field, the TEG dehydration unit is subject to the applicable provisions of 40 CFR 63, Subpart HH.

c. 40 CFR 63, Subpart HHH National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities. The provisions of Subpart HHH applies to owners and operators of natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final end user, and that are major sources of HAP emissions as defined in section 63.1271. Based on the information submitted by MOGO, this facility is not subject to the provisions of 40 CFR 63, Subpart HHH because the facility is not a major source of HAP emissions.

d. 40 CFR 63, Subpart ZZZZ National Emission Standards for Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines (RICE). The provisions of Subpart ZZZZ established national emission and operating limitations for HAPs emitted from stationary RICE located at major and area sources of HAP emissions, except RICE being tested at a stationary test cell/stand. This subpart also establishes requirements to demonstrate initial and continuous compliance established emission and operating limitations. As an area source of HAPs the RICE operated under MAQP #2739-07 are subject to this subpart.

D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. A permit fee is not required for the current permit action because the action is considered an administrative permit change.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

   An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tpy of any pollutant. MOGO has a PTE greater than 25 tpy of NO_X; therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the MAQP Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. MOGO was not required to submit an application because the current

permit action is considered an administrative permit change. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. This action is an administrative action for changes made under ARM 17.8.745. Therefore, no public notice was required.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving MOGO of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source because this facility is not a listed source and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions).

G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:

a. PTE > 100 tpy of any pollutant;

b. PTE > 10 tpy of any single HAP, PTE > 25 tpy of a combined HAPs, or lesser quantity as the Department may establish by rule; or

c. PTE > 70 tpy of PM_{10} in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #2739-07, the following conclusions were made:

a. The facility's PTE is less than 100 tpy for any pollutant.

b. The facility's PTE is less than 10 tpy of any single HAP and less than 25 tpy for combined HAPs.

c. This source is not located in a serious PM_{10} nonattainment area.

d. This facility is potentially subject to a current NSPS (40 CFR 60, Subpart JJJJ).

e. This facility is subject to the area source provisions of a current NESHAP (40 CFR 63, Subpart HH and Subpart ZZZZ).

f. This source is not a Title IV affected source, or a solid waste combustion unit.

g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that MOGO will be a minor source of emissions as defined under Title V. However, if minor sources subject to NSPS are required to obtain a Title V Operating Permit, MOGO will be required to comply.

III. BACT Determination

A BACT determination is required for each new or modified source. MOGO shall install on the new or modified source the maximum air pollution control capability which is technically practicable and economically feasible, except that BACT shall be utilized.

A BACT analysis was not required for the current permit action because the current permit action is considered an administrative permit action.

IV. Emission Inventory

	Emissions Tons/Year [PTE]								
Emission Source	PM	PM_{10}	$PM_{2.5}$	PM_{cond}	CO	NOx	SO_2	VOC	TOTAL HAPS
Compressor Unit #1 [360 bhp 4SRB Engine]	0.26	0.26	0.26	0.13	6.95	38.25	0.008	17.38	0.434
Compressor Unit #2 [95 bhp 4SRB Engine]	0.07	0.07	0.07	0.03	0.92	0.92	0.002	0.92	0.110
TEG Reboiler [0.075 MMbtu/hr]	0.002	0.002	0.002	0.002	0.03	0.03	0.0002	0.002	ND
TEG Dehydration Still Vent	--	--	--	--	--	--	--	3.09	ND
EMISSION TOTALS ►	0.33	0.33	0.33	0.17	7.90	39.19	0.01	21.39	0.54

BACT, Best Available Control Technology
bhp, brake-horsepower
BSFC, brake-specific fuel consumption
Btu, British Thermal Units
CO, carbon monoxide
ft^3, cubic feet
g, gram
HAP, hazardous air pollutant
lb. pound
LHV, lower heating value
MMBtu, million British Thermal Units
Mscf, thousand standard cubic feet
MMscf, million standard cubic feet
ND, not determined
NO_X, oxides of nitrogen
PTE, Potential To Emit
PM, particulate matter
PM_{COND}, condensable particulate matter
PM_{10}, particulate matter with an aerodynamic diameter of 10 microns or less
$PM_{2.5}$, particulate matter with an aerodynamic diameter of 2.5 microns or less [Sum of condensable and filterable]
SCC, source classification code
SO_2, oxides of sulfur
TPH, tons per hour
TPY, tons per year
VOC, volatile organic compounds
4SRB, four-stroke rich-burn

Compressor Engine [SCC 2-02-002-53]

Compressor Unit #1 - 360 bhp White Superior 4SRB Engine

Engine Output Capacity: 360 bhp [Design Maximum]
Fuel Input: 3.06 MMBtu/hr [BSFC → 8,600 Btu/hp-hr]
3.0 Mscf/hr [LHV →1,020 btu/ft^3]
Hours of Operation: 8760 hours/year

Particulate Emissions:

PM Emissions (filterable):

Emission Factor 0.0095 lb/MMBtu [AP- 42 Table 3.2-3, 7/00]
Calculations (0.0095 lb/MMBtu) * (3.06 MMBtu/hr) = 0.03 lbs/hr
(0.03 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) = 0.13 TPY

PM Emissions (condensable):

Emission Factor 0.00991 lb/MMBtu [AP- 42 Table 3.2-3, 7/00]
Calculations (0.00991 lb/MMBtu) * (3.06 MMBtu/hr) = 0.03 lbs/hr
(0.03 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) = 0.13 TPY

Total PM Emissions (All PM assumed to be < $PM_{10 \text{ and } PM2.5)}$

Calculations	PM (filterable) + PM (condensable) =	0.06 lbs/hr
	(0.06 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	0.26 TPY

CO Emissions:

Emission Factor	2.00 gram/bhp-hr [BACT Determination]	
Calculations	(2.00 g/bhp-hr) * (360 hp) * 0.002205 lb/gram) =	1.59 lbs/hr
	(1.59 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	6.95 TPY

NO_x Emissions:

Emission Factor	11.00 gram/bhp-hr [BACT Determination]	
Calculations	(11.00 g/bhp-hr) * (360 hp) * 0.002205 lb/gram) =	8.73 lbs/hr
	(8.73 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	38.25 TPY

SO_2 Emissions:

Emission Factor	0.000588 lb/MMBtu [AP- 42 Table 3.2-3, 7/00]	
Calculations	(0.000588 lb/MMBtu) * (3.06 MMBtu/hr) =	0.002 lbs/hr
	(0.00 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	0.008 TPY

VOC Emissions:

Emission Factor	5.00 gram/bhp-hr [BACT Determination]	
Calculations	(5.00 g/bhp-hr) * (360 hp) * 0.002205 lb/gram) =	3.97 lbs/hr
	(3.97 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	17.38 TPY

Hazardous Air Pollutants (uncontrolled):

$Emission\ Rate_{Hourly}$ = Emission Factor (EF) * Fuel Input (MMBtu)

$Emission\ Rate_{Annual}$ = (Hourly Emission Rate [lbs/hr]) * (8760 hrs/yr) * (0.0005 tons/lb)

Where: Emission Rate, Pollutant Emission Rate in lbs/hr
EF, Pollutant Emission Factor [AP - 42 Table 3.2-3, 7/00]
Fuel Input, Maximum Fuel Consumption Rate in MMBtu/hr [Maximum Input = 0.775 MMBtu-hr]

HAP Pollutant	Emission Factor [lb/MMBtu]	Emission Rate [lb/hr]	Emission Rate [TPY]
1,1,2,2-Tetrachloroethane	0.0000253	0.00008	0.00034
1,1,2-Trichloroethane	0.0000153	0.00005	0.00021
Acetaldehyde	0.00279	0.00854	0.03739
Acrolein	0.00263	0.00805	0.03525
1,3-Butadiene	0.000663	0.00203	0.00889
Dichloropropene	0.0000127	0.00004	0.00017
Benzene	0.00158	0.00483	0.02118
Carbon Tetrachloride	0.0000177	0.00005	0.00024
Chlorobenzene	0.0000129	0.00004	0.00017
Chloroform	0.0000137	0.00004	0.00018
Ethylbenzene	0.0000248	0.00008	0.00033
Ethylene Dibromide	0.0000213	0.00007	0.00029
Formaldehyde	0.0205	0.06273	0.27476
Methanol	0.00306	0.00936	0.04101
Methylene Chloride	0.0000412	0.00013	0.00055
Naphthalene	0.0000971	0.00030	0.00130
PAH	0.000141	0.00043	0.00189

Stryene	0.0000119	0.00004	0.00016
Toluene	0.000558	0.00171	0.00748
Vinyl Chloride	0.00000718	0.00002	0.00010
Xylene	0.000195	0.00060	0.00261
Hazardous Air Pollutant Totals	0.03241808	0.0992	0.434

Compressor Unit #2 - 95 bhp 4SRB Engine

Engine Output Capacity: 95 bhp [Design Maximum]
Fuel Input: 0.775 MMBtu/hr [BSFC → 8,163 Btu/hp-hr]
0.8 Mscf/hr [LHV →1,020 btu/ft^3]
Hours of Operation: 8760 hours/year

Particulate Emissions (uncontrolled):

PM Emissions

Emission Factor	0.0095 lb/MMBtu [AP- 42 Table 3.2-3, 7/00]	
Calculations	(0.0095 lb/MMBtu) * (0.775485 MMBtu/hr) =	0.007 lbs/hr
	(0.01 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	0.03 TPY

PM Emissions (condensable):

Emission Factor	0.00991 lb/MMBtu [AP- 42 Table 3.2-3, 7/00]	
Calculations	(0.00991 lb/MMBtu) * (0.775485 MMBtu/hr) =	0.008 lbs/hr
	(0.01 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	0.03 TPY

Total PM Emissions (All PM assumed to be < $PM_{10 \text{ and } PM2.5)}$

Calculations	PM (filterable) + PM (condensable) =	0.02 lbs/hr
	(0.02 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	0.07 TPY

CO Emissions:

Emission Factor	1.00 gram/bhp-hr [BACT Determination]	
Calculations	(1.00 g/bhp-hr) * (95 hp) * 0.002205 lb/gram) =	0.21 lbs/hr
	(0.21 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	0.92 TPY

NO_x Emissions:

Emission Factor	1.00 gram/bhp-hr [BACT Determination]	
Calculations	(1.00 g/bhp-hr) * (95 hp) * 0.002205 lb/gram) =	0.21 lbs/hr
	(0.21 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	0.92 TPY

SO_2 Emissions (uncontrolled):

Emission Factor	0.000588 lb/MMBtu [AP- 42 Table 3.2-3, 7/00]	
Calculations	(0.000588 lb/MMBtu) * (0.775485 MMBtu/hr) =	0.0005 lbs/hr
	(0.00 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	0.002 TPY

VOC Emissions:

Emission Factor	1.00 gram/bhp-hr [BACT Determination]	
Calculations	(1.00 g/bhp-hr) * (95 hp) * 0.002205 lb/gram) =	0.21 lbs/hr
	(0.21 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	0.92 TPY

Hazardous Air Pollutants (uncontrolled):

Emission Rate$_{Hourly}$ = Emission Factor (EF) * Fuel Input (MMBtu)

Emission Rate$_{Annual}$ = (Hourly Emission Rate [lbs/hr]) * (8760 hrs/yr) * (0.0005 tons/lb)

Where: Emission Rate, Pollutant Emission Rate in lbs/hr
EF, Pollutant Emission Factor [AP - 42 Table 3.2-3, 7/00]
Fuel Input, Maximum Fuel Consumption Rate in MMBtu/hr [Maximum Input = 0.775 MMBtu-

HAP Pollutant	Emission Factor [lb/MMBtu]	Emission Rate [lb/hr]	Emission Rate [TPY]
1,1,2,2-Tetrachloroethane	0.000025	0.00002	0.00009
1,1,2-Trichloroethane	0.000015	0.00001	0.00005
Acetaldehyde	0.002790	0.00216	0.00948
Acrolein	0.002630	0.00204	0.00893
1,3-Butadiene	0.000663	0.00051	0.00225
Dichloropropene	0.000013	0.00001	0.00004
Benzene	0.001580	0.00123	0.00537
Carbon Tetrachloride	0.000018	0.00001	0.00006
Chlorobenzene	0.000013	0.00001	0.00004
Chloroform	0.000014	0.00001	0.00005
Ethylbenzene	0.000025	0.00002	0.00008
Ethylene Dibromide	0.000021	0.00002	0.00007
Formaldehyde	0.020500	0.01590	0.06963
Methanol	0.003060	0.00237	0.01039
Methylene Chloride	0.000041	0.00003	0.00014
Naphthalene	0.000097	0.00008	0.00033
PAH	0.000141	0.00011	0.00048
Stryene	0.000012	0.00001	0.00004
Toluene	0.000558	0.00043	0.00190
Vinyl Chloride	0.000007	0.00001	0.00002
Xylene	0.000195	0.00015	0.00066
Hazardous Air Pollutant Totals	0.032418	0.0251	0.11011

TEG Dehydration Reboiler [SCC 3-10-002-28]

Fuel Input: 0.075 MMBtu [Design Maximum]
73.53 scf/hr [1020 Btu/ft^3]
0.644 MMscf/year
Hours of Operation: 8760 hours/year

Particulate Emissions (uncontrolled):

Total Particulate PM/PM$_{10}$/PM$_{2.5}$ Emissions:

Emission Factor 7.60 lb/MMscf [AP- 42 Table 1.4-2, 7/98]
Calculations (7.6 lb/MMscf) * (0.64 MMscf/year) = 4.90 lbs/year
(4.90 lbs/hr) * (0.0005 tons/lb) = 0.0024 TPY

Total Particulate PM/PM$_{10}$/PM$_{2.5}$ Emissions (condensable):

Emission Factor 5.70 lb/MMscf [AP- 42 Table 1.4-2, 7/98]
Calculations (5.7 lb/MMscf) * (0.64 MMscf/year) = 3.67 lbs/year
(3.67 lbs/hr) * (0.0005 tons/lb) = 0.0018 TPY

Total Particulate PM/PM$_{10}$/PM$_{2.5}$ Emissions (filterable):

Emission Factor	1.90 lb/MMscf	[AP- 42 Table 1.4-2, 7/98]		
Calculations	(1.9 lb/MMscf) * (0.64 MMscf/year) =		1.22	lbs/year
	(1.22 lbs/hr) * (0.0005 tons/lb) =		0.0006	TPY

CO Emissions (controlled):

Emission Factor	84.00 lb/MMscf	[AP- 42 Table 1.4-1, 7/98]		
Calculations	(84 lb/MMscf) * (0.64 MMscf/year) =		54.11	lbs/year
	(54.11 lbs/hr) * (0.0005 tons/lb) =		0.027	TPY

NO_x Emissions (controlled):

Emission Factor	100.00 lb/MMscf	[AP- 42 Table 1.4-1, 7/98]		
Calculations	(100 lb/MMscf) * (0.64 MMscf/year) =		64.41	lbs/year
	(64.41 lbs/hr) * (0.0005 tons/lb) =		0.032	TPY

SO_2 Emissions (uncontrolled):

Emission Factor	0.60 lb/MMscf	[AP- 42 Table 1.4-2, 7/98]		
Calculations	(0.6 lb/MMscf) * (0.64 MMscf/year) =		0.39	lbs/year
	(0.39 lbs/hr) * (0.0005 tons/lb) =		0.0002	TPY

VOC Emissions (controlled):

Emission Factor	5.50 lb/MMscf	[AP- 42 Table 1.4-2, 7/98]		
Calculations	(5.5 lb/MMscf) * (0.64 MMscf/year) =		3.54	lbs/year
	(3.54 lbs/hr) * (0.0005 tons/lb) =		0.002	TPY

TEG Dehydration Still Vent Stack [SCC 3-10-002-27]

GRI-GLYCalc 4.0 Emission Report

Hours of Operation:	8760	hrs/year
Dry Gas Flow:	1.0	MMscf/day
Glycol Flow Rate:	15	gpm

	VOC	
	[lbs/hr]	[TPY]
Regenerator Emissions	0.504	2.208
Flash Tank Off Gas	0.202	0.883
Pollutant Totals	0.71	3.091

V. Existing Air Quality

The MOGO Shelby Williams Field, Station 041-1 is located in the NE¼ of the NE¼ of Section 2, Township 29 North, Range 4 West, in Pondera County, Montana. Pondera County is unclassifiable/attainment for the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants.

VI. Ambient Air Impact Analysis

Based on controls established within MAQP 2739-07 and good dispersion characteristics exhibited, the Department believes that controlled emissions from the source will not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

VIII. Environmental Assessment

The current permit action is an Administrative Action; therefore, an Environmental Assessment is not required.

Analysis Prepared By: T. Burrows
Date: October 14, 2021