

July 9, 2024

Justin BearChild  
Humic Growth Solutions  
Shelby, Montana Facility  
28190 U.S. Highway 2 East  
Shelby, MT 59474

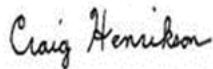
Sent via email: [justin.bearchild@hgsbioscience.com](mailto:justin.bearchild@hgsbioscience.com)

**RE: Final Permit Issuance for MAQP #5303-00**

Dear Justin BearChild:

Montana Air Quality Permit (MAQP) #5303-00 is deemed final as of July 9, 2024, by DEQ. This permit is for Humic Growth Solutions, a potassium humate manufacturing facility. All conditions of the Decision remain the same. Enclosed is a copy of the permit with the final date indicated.

For DEQ,



Craig Henrikson  
Air Quality Engineer  
Air Quality Bureau  
(406) 444-6711



Emily Hultin  
Air Quality Engineering Scientist  
Air Quality Bureau  
(406) 444-2049

Montana Department of Environmental Quality  
Air, Energy & Mining Division  
Air Quality Bureau

Montana Air Quality Permit #5303-00

Humic Growth Solutions  
Shelby, Montana Facility  
Section 36, Township 32 North, Range 2 West  
28190 US Highway 2 East, Shelby, Montana, 59474

July 09, 2024



MONTANA AIR QUALITY PERMIT #5303-00

Issued To:  
Humic Growth Solutions  
28190 U.S. Highway 2 East  
Shelby, MT 59474

MAQP: #5303-00  
Application Complete: 04/23/2024  
Preliminary Determination Issued: 05/23/2024  
DEQ's Decision Issued: 06/21/2024  
Permit Final: 07/09/2024

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Humic Growth Solutions (HGS), 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. Permitted Equipment

HGS operates a potassium humate manufacturing facility that produces humic acid. A complete list of permitted equipment is in Section I of the permit analysis.

B. Plant Location

The Shelby facility is located within an area of Toole County in Section 36, Township 32 N, Range 2 W, at latitude 48.48805, longitude -111.81537.

Section II: Conditions and Limitations

A. Emission Limitations

1. HGS may operate one natural gas-fired spray dryer with maximum firing capacity not to exceed 40 MMBtu/hr with an inherent baghouse for product recovery rated for up to 85,000 actual cubic feet per minute and grain loading rate of 0.02 grains per dry standard cubic feet (gr/dscf) (ARM 17.8.749).
2. HGS shall follow manufacturer's recommendations for maintenance and utilize good combustion practices for spray dryer operation (ARM 17.8.749 and ARM 17.8.752).
3. HGS may operate one natural gas-fired water heater with maximum firing rate up to 5 MMBtu/hr (ARM 17.8.749).
4. HGS shall utilize good combustion practices for operation of the water heater and utilize low NOx burners to limit NOx emissions (ARM 17.8.749 and ARM 17.8.752).

5. HGS 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).
6. HGS 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).
7. HGS shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.6 (ARM 17.8.749).
8. HGS shall comply with all applicable standards and limitations, and the reporting, recordkeeping and notification requirements contained in 40 CFR 60, Subpart A (ARM 17.8.340 and 40 CFR 60, Subpart A).

#### 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 of Environmental Quality (DEQ) may require further testing (ARM 17.8.105).

#### C. Operational Reporting Requirements

1. HGS shall supply the DEQ with annual production information for all emission points, as required by the DEQ 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 DEQ by the date required in the emission inventory request. Information shall be in the units required by the DEQ. 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). HGS shall submit the following information annually to the DEQ by March 1 of each year; the information may be submitted along with the annual emission inventory (ARM 17.8.505).

- a. Annual PM, PM<sub>2.5</sub>, PM<sub>10</sub>, CO, NO<sub>x</sub>, SO<sub>2</sub>, and VOCs.
2. HGS shall notify the DEQ 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 DEQ, 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 HGS 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 DEQ, and must be submitted to the DEQ upon request. These records may be stored at a location other than the plant site upon approval by the DEQ (ARM 17.8.749).
4. HGS shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emission inventory information (ARM 17.8.749 and ARM 17.8.1204).

### SECTION III: General Conditions

- A. Inspection – HGS shall allow the DEQ’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 such as Continuous Emission Monitoring Systems (CEMS) or Continuous Emission Rate Monitoring Systems (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 HGS fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving HGS 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 DEQ’s decision may request, within 15 days after the DEQ 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 DEQ’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 DEQ’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 DEQ’s decision on the application is final 16 days after the DEQ’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 DEQ at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by HGS 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 Analysis  
Humic Growth Solutions  
MAQP #5303-00

I. Introduction/Process Description

Humic Growth Solutions (HGS) owns and operates a potassium humate (humic acid) manufacturing facility. The facility is located at Section 36, Township 32 North, Range 2 West. The physical address is 28190 US Highway 2 East, in Shelby, Montana, and is known as the HGS Shelby facility.

A. Permitted Equipment

Equipment used at this facility includes, but is not limited, to the following:

1. One natural gas-fired spray dryer fitted with a baghouse – SD01
2. One natural gas-fired water heater – WH01

B. Source Description

HGS is a humic acid manufacturing facility that takes a low-grade coal, a form of highly oxidized lignite, and converts it into humic acid. This process results in a heavy bottom cut referred to as humin, which is a byproduct of the process. HGS produces a dry water-soluble humic acid and granulizes the product, making it easier to handle and transport. The water-soluble humic acid is more soluble than the raw humate. HGS takes raw humate and adds potassium hydroxide and water where the mixture is then blended and heated, resulting in a dark mixture that is easily separated through a screening process. The liquid heavy cut that falls to the bottom is collected and is the humin. The material separated from the humin during screening is fed into a spray dryer which removes the solid product and evaporates any remaining liquid. The exhaust stream from the spray dryer is fed into a scrubber which returns spent water containing product material back to the spray dryer holding tank. The resulting product is a fine dry powder that can be packaged and sold as water-soluble humic acid powder (WSP). The WSP is manually fed into a powder hopper, which gravity-feeds into pneumatically sealed product bags. Any dust from this material handling operation is fed to the baghouse. The WSP undergoes further processing where it is compressed into granules (WSG) at a different HGS facility.

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 of Environmental Quality (DEQ). Upon request, DEQ will provide references for the 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 DEQ, 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 DEQ.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the DEQ, 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).

HGS 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 DEQ upon request.

4. ARM 17.8.110 Malfunctions. (2) The DEQ 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
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM<sub>10</sub>

HGS 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 be taken to control emissions of airborne particulate matter. (2) Under this rule, HGS 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, allow, or permit 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. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.
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 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR Part 60.

HGS is not an NSPS affected source because it does not meet the definition of a natural gas processing plant defined in 40 CFR Part 60.

D. ARM 17.8, Subchapter 4 – Stack Height and Dispersion Techniques, including, but not limited to:

1. ARM 17.8.401 Definitions. This rule includes a list of definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.402 Requirements. HGS must demonstrate compliance with the ambient air quality standards with a stack height that does not exceed Good Engineering Practices (GEP). The proposed height of the new or modified stack for HGS is below the allowable 65-meter GEP stack height.
- E. 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 DEQ. HGS submitted the appropriate permit application fee for the current permit action.
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 DEQ by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the DEQ. 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 DEQ 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.

- F. 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 tons per year of any pollutant. HGS has a PTE greater than 25 tons per year of PM and PM<sub>10</sub>; 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 Montana Air Quality Permit 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. HGS submitted the required permit application for the current permit action. 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. HGS submitted an affidavit of publication of public notice for the March 20, 2024, issue of the *Shelby Promoter*, a newspaper of general circulation in the Town of Shelby in Toole County, as proof of compliance with the public notice requirements.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the DEQ 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 DEQ 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 HGS 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 DEQ'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 DEQ.

G. 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).

H. 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 tons/year of any pollutant;
  - b. PTE > 10 tons/year of any one hazardous air pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the DEQ may establish by rule; or
  - c. PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) in a serious PM<sub>10</sub> 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 #5303-00 for HGS, the following conclusions were made:
  - a. The facility's PTE is less than 100 tons/year for any pollutant.

- b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.
- c. This source is not located in a serious PM<sub>10</sub> nonattainment area.
- d. This facility is not subject to any current NSPS.
- e. This facility is not subject to any current NESHAP standards.
- 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.
- h. As allowed by ARM 17.8.1204(3), the DEQ may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's potential to emit.
  - i. In applying for an exemption under this section, the owner or operator of the source shall certify to the DEQ that the source's potential to emit, does not require the source to obtain an air quality operating permit.
  - ii. Any source that obtains a federally enforceable limit on potential to emit shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

HGS has not taken federally enforceable permit limits to keep potential emissions below major source permitting thresholds. Therefore, the facility is not a major source and, thus a Title V operating permit is not required.

DEQ determined that the annual reporting requirements contained in the permit are sufficient to satisfy this requirement.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness.

HGS shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204 (3)(b). The annual certification shall comply with requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emission inventory information.

Based on these facts, DEQ determined that HGS 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, HGS will be required to obtain a Title V Operating Permit.

### III. BACT Determination

A BACT determination is required for each new or modified source. HGS 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 submitted by HGS in permit application #5303-00, addressing some available methods of controlling PM<sub>10</sub> and PM<sub>2.5</sub> emissions from the spray dryer. A BACT analysis was submitted to address some available methods of controlling NO<sub>x</sub> from the spray dryer as well. A BACT was submitted for addressing control methods for NO<sub>x</sub> emissions from the combustion water heater. DEQ reviewed these methods, as well as previous BACT determinations. The following control options have been reviewed by the DEQ in order to make the following BACT determination.

The control options selected have controls and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

#### Spray Dryer Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>) BACT

A BACT was submitted for the Spray Dryer PM, with a baghouse being selected by HGS. However, as the baghouse is an inherent part of the process, as it is utilized for product recovery, it is not required to go through a BACT analysis (ARM 17.8.749).

#### Spray Dryer NO<sub>x</sub> BACT

The HGS Shelby facility has one 40 MMBtu/hr natural gas-fired spray dryer with a baghouse. The NO<sub>x</sub> that form during combustion are from two major mechanism:

1. Thermal NO<sub>x</sub>
2. Fuel NO<sub>x</sub>

Since natural gas is relatively free of fuel-bound nitrogen, the contribution of this second mechanism to the formation of NO<sub>x</sub> emissions in natural gas-fired equipment is minimal, leaving thermal NO<sub>x</sub> as the main source of NO<sub>x</sub> emissions. Thermal NO<sub>x</sub> formation is a function of residence time, oxygen level, and flame temperature, that can be minimized by controlling these elements in the design of the combustion equipment.

Table 3 lists the different control technologies and feasibility of each.

**Table 2. Cost Analysis for LNB Replacement**

**BACT Control Cost Evaluation for LNB Replacement - General Information**

| Parameter             | Value | Notes   |
|-----------------------|-------|---|
| Process Information   |       |   |
| Heat Input            | 40    | MMBTU/hr per unit   |
| Current Emission Rate | 17.18 | TPY - EPA AP-42 Section 1.4 Emission Factors for Nitrogen Oxides (NO <sub>x</sub> ) and Carbon Monoxide (CO)<br>From natural gas combustion (100lb/MMscf) |

|                                   |         |  |
|-----------------------------------|---------|--|
| Estimated Emission Rate           | 8.59    | TPY - EPA AP-42 Section 1.4 Emission Factors for Nitrogen Oxides (NOx) and Carbon Monoxide (CO)<br>From natural gas combustion (50lb/MMscf)  |
| <b>Labor Costs</b>                |         |  |
| Operator (\$/hour)                | \$25.50 | Bureau of Labor Statistics, Occupational wages by Region, Median Annual Wage for Installation/Maintenance/Repair, Machinery cited \$53,040.<br>Assumed a standard working year contains 2080 hours |
| Maintenance (\$/hour)             | \$25.50 | Bureau of Labor Statistics, Occupational wages by Region, Median Annual Wage for Installation/Maintenance/Repair, Machinery cited \$53,040.<br>Assumed a standard working year contains 2080 hours |
| <b>Economic Factors</b>           |         |  |
| Equipment Life Expectancy (Years) | 15      | U.S. EPA's Alternative Control Techniques Document -- NOx Emissions from Process Heaters, Section 6.2  |
| Interest Rate (%)                 | 8.50%   | Prime Rate (fedprimerate.com) as of January 2024   |

| BACT Control Cost Evaluation for LNB Replacement - Capital Investment |             |   |
|---|-------------|---|
| Parameter   | Value       | Notes   |
| Total Equipment Cost  | \$105,723   | Total equipment estimate provided by John Wiinamaki (HGS) on 12/22/2023   |
| Direct Installation Costs   | \$56,568    | Shawn McPhearson with SJM Industrial provided this estimate on 12/21/2023   |
| Indirect Installation Costs   | \$34,930.88 | U.S EPA Cost Control Manual Section 1, Chapter 2 Cost Estimation: Concepts and Methodology, Table 2.4                           |
| Freight   | \$5,286     | U.S EPA Cost Control Manual Section 1, Chapter 2 Cost Estimation: Concepts and Methodology, Table 2.4                           |
| Sales Tax   | \$3,172     | U.S EPA Cost Control Manual Section 1, Chapter 2 Cost Estimation: Concepts and Methodology, Table 2.4                           |
| Instrumentation   | \$10,572    | U.S EPA Cost Control Manual Section 1, Chapter 2 Cost Estimation: Concepts and Methodology, Table 2.4                           |
| Total Increase in Capital Investment (\$)                             | \$216,252   | Sum of total equipment, direct installation, indirect installation, contingency, freight, sales tax, and instrumentation costs. |

|                               |          |   |
|-------------------------------|----------|---|
| Capital Recovery Factor (CRF) | 0.12     | U.S EPA Cost Control Manual Section 1, Chapter 2 Cost Estimation: Concepts and Methodology, Equation 2.8a |
| Capital Recovery Cost (CRC)   | \$26,041 | U.S EPA Cost Control Manual Section 1, Chapter 2 Cost Estimation: Concepts and Methodology, Equation 2.8a |

| BACT Control Cost Evaluation for LNB Replacement - Annual Operation, Insurance, Tax, and Other Costs |          |   |
|--|----------|---|
| Parameter  | Value    | Notes   |
| Operating Labor  | \$13,961 | Assumed 0.5 hours per 8-hour shift  |
| Supervisory Labor  | \$2,094  | Assumed to be 15% of Operating Labor, EPA Cost Control Manual Section 1, Chapter 2 Cost Estimation: Concepts and Methodology, Section 2.6.5.2                       |
| Maintenance Labor  | \$13,961 | Assumed 0.5 hours per 8-hour shift  |
| Maintenance Materials  | \$13,961 | Assumed the same as Maintenance Labor per U.S. EPA Cost Control Manual Section 1, Chapter 2 Cost Estimation: Concepts and Methodology, Section 2.6.5.3              |
| Total Direct Operating Costs   | 43,978   | Sum of Direct Operating Costs on an Annual Basis  |
| Insurance, Tax, and Other Annual Costs <sup>1</sup>  |          |   |
| Overhead   | \$26,387 | Assumed to be 60% of the total Direct Operating Costs, U.S. EPA Cost Control Manual Section 1, Chapter 2 Cost Estimation: Concepts and Methodology, Section 2.6.5.7 |
| Administrative Changes   | \$4,325  | Assumed to be 2% of the Total Capital Investments, U.S. EPA Cost Control Manual Section 1, Chapter 2 Cost Estimation: Concepts and Methodology, Section 2.6.5.8     |
| Property Tax   | \$2,163  | Assumed to be 1% of the Total Capital Investments, U.S. EPA Cost Control Manual Section 1, Chapter 2 Cost Estimation: Concepts and Methodology, Section 2.6.5.8     |
| Increase in Insurance  | \$2,163  | Assumed to be 1% of the Total Capital Investments, U.S. EPA Cost Control Manual Section 1, Chapter 2 Cost Estimation: Concepts and Methodology, Section 2.6.5.8     |
| Total Insurance, Tax, and Other Annual Costs   | \$35,037 | Sum of Insurance, Tax, and Other Annual Costs   |



| BACT Control Cost Evaluation for LNB Replacement - Total Annual Cost |           |   |
|--|-----------|---|
| Parameter  | Value     | Notes   |
| Total Annual Cost  | \$105,056 | Sum of Capital Recovery Cost, Total Direct Operating Costs, Insurance, Tax, and Other Annual Costs. |
| NO <sub>x</sub> Cost Per Ton Removed                                 |           |   |
| NO <sub>x</sub> Removed (TPY)  | 8.59      |   |
| Cost Per Ton of NO <sub>x</sub> Removed (\$/ton)                     | \$12,233  |   |

**Table 3. Control Technologies**

| Control Technologies  | Rank | Percent Control                  | Reasoning   | Feasible |
|---|------|----------------------------------|---|----------|
| Low NO <sub>x</sub> Burners/Ultra Low NO <sub>x</sub> Burners | 1    | 9-30 ppm                         | \$12,233/ton of NO <sub>x</sub> removed +\$492,800 (for lost production)      | Yes      |
| Good Combustion Practices                                     | 2    | NA                               | HGS utilizes good practices to ensure low levels of NO <sub>x</sub> emissions | Yes      |
| Flue Gas Recirculation  | NA   | NA                               | Not demonstrated for dryers   | No       |
| SCR   | NA   | 70-90% NO <sub>x</sub> Reduction | Demonstrated once, but not on a similar spray dryer                           | No       |

BACT was determined to be good combustion practices, as the Low NO<sub>x</sub>/Ultra Low NO<sub>x</sub> burner replacements are not economically feasible.

#### Water Heater NO<sub>x</sub> BACT

The Shelby facility has one 5 MMBtu/hr low NO<sub>x</sub> gas-fired water heater.

The use of good combustion practices usually includes the following components: (1) proper fuel mixing in the combustion zone; (2) high temperatures and low oxygen levels in the primary zone; (3) overall excess oxygen levels high enough to complete combustion while maximizing boiler efficiency, and (4) sufficient residence time to complete combustion. Good combustion practices are accomplished through design as it relates to time, temperature, turbulence, and boiler operation as it relates to excess oxygen levels. Good combustion practices are technically feasible and implemented for the water heater.

Due to the nature and size of this source and its associated emissions, BACT was determined to be good combustion practices combined with the use of low NO<sub>x</sub> burners.

IV. Emission Inventory

| Emission Unit                                | CO (TPY) | NO <sub>x</sub> (TPY) | PM (TPY) | PM <sub>10</sub> (TPY) | PM <sub>2.5</sub> (TPY) | SO <sub>2</sub> (TPY) | VOC (TPY) | Total HAP (TPY) |
|--|----------|-----------------------|----------|------------------------|-------------------------|-----------------------|-----------|-----------------|
| Spray Dryer                                  | 14.43    | 17.2                  | 62.26    | 52.93                  | 18.68                   | 0.1                   | 0.94      | 0.32            |
| Water Heater                                 | 1.8      | 1.07                  | 0.04     | 0.16                   | 0.16                    | 0.01                  | 0.12      | 0.04            |
| Total  | 16.2     | 18.3                  | 62.3     | 53.09                  | 18.84                   | 0.12                  | 1.06      | 0.36            |
| Permitting Threshold <sup>1,2</sup>          | 25       | 25                    | 25       | 25                     | 25                      | 25                    | 25        | 25              |
| Subject to Permitting?                       | No       | No                    | Yes      | Yes                    | No                      | No                    | No        | No              |
| Major Title V Source Thresholds <sup>3</sup> | 100      | 100                   | 100      | 100                    | 100                     | 100                   | 100       | 25              |
| Considered a Major Source?                   | No       | No                    | No       | No                     | No                      | No                    | No        | No              |

**\*\*CO = carbon monoxide**

(fil) = filterable

HAPs = hazardous air pollutants

hp = horsepower

lb = pound

N/A = not applicable

ND = no data available

NO<sub>x</sub> = oxides of nitrogen

PM = particulate matter

PM<sub>10</sub> = particulate matter with an aerodynamic diameter of 10 microns or less

PM<sub>2.5</sub> = particulate matter with an aerodynamic diameter of 2.5 microns or less

SO<sub>2</sub> = sulfur dioxide

TPH = tons per hour

TPY = tons per year

VOC = volatile organic compounds

yr = year

Footnotes:

1. Per ARM17.8.740 (19) potential to emit does not include any restrictions unless federally-enforceable
2. ARM 17.8.743(1) (e) – 25 tons of year of an airborne pollutant, other than lead
3. <http://deq.mt.gov/Air/assistance>
4. Inventory reflects maximum allowable emissions for all pollutants based on maximum production and year-round operation (8,760 hours). The facility did not take limits on production or hours of operation.

V. Existing Air Quality

Toole County, MT is currently designated as an attainment area, as of April 22, 2024.

VI. Air Quality Impacts

The amount of emissions generated by the operation will not exceed any ambient standard.

VII. Ambient Air Impact Analysis

Based on the information provided and the conditions established in MAQP #5303-00, the DEQ determined that the impact from this permitting action will be minor. DEQ believes it will not cause or contribute to a violation of any ambient air quality standard.

VIII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, DEQ conducted a private property taking and damaging assessment which is located in the attached environmental assessment and is located in the attached environmental assessment.

IX. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.



**FINAL ENVIRONMENTAL ASSESSMENT**

**Humic Growth Solutions**

**06/21/2024**

**Air Quality Bureau**

**Air, Energy, and Mining Division**

**Montana Department of Environmental Quality**

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## Project Overview

COMPANY NAME: Humic Growth Solutions  
EA DATE: June 21, 2024  
SITE NAME: Humic Growth Solutions – Shelby Facility  
MAQP#: 5303-00  
Application Received Date: March 21, 2024  
Additional Information Received: April 23, 2024

## Location

Township 32 North, Range 2 West, Section 36

County: Toole

PROPERTY OWNERSHIP: FEDERAL                      STATE                      PRIVATE X

## Compliance with the Montana Environmental Policy Act

Under the Montana Environmental Policy Act (MEPA), Montana agencies are required to prepare an environmental review for state actions that may have an impact on the human environment. The proposed action is considered to be a state action that may have an impact on the human environment and, therefore, the Department of Environmental Quality (DEQ) must prepare an environmental review. This Environmental Assessment (EA) will examine the proposed action and alternatives to the proposed action and disclose potential impacts that may result from the proposed and alternative actions. DEQ will determine the need for additional environmental review based on consideration of the criteria set forth in Administrative Rules of Montana (ARM) 17.4.608. DEQ may not withhold, deny, or impose conditions on the Permit based on the information contained in this EA (§ 75-1- 201(4), MCA).

## Proposed Action

Humic Growth Solutions (HGS) has applied for a Montana Air Quality permit modification under the Clean Air Act of Montana to permit this facility. The state law that regulates air quality permitting in Montana is the Clean Air Act of Montana, §§ 75-2-101, et seq., (CAA) Montana Code Annotated (MCA). DEQ may not approve a proposed project contained in an application for an air quality permit unless the project complies with the requirements set forth in the CAA of Montana and the administrative rules adopted thereunder, ARMs 17.8.101 et. seq. The proposed action would be located on privately owned land, in Shelby, Toole County, Montana. All information included in this EA is derived from the permit application, discussions with the applicant, analysis of aerial photography, topographic maps, and other research tools.

## Purpose and Need

Under MEPA, Montana agencies are required to prepare an environmental review for state actions that may have an impact on the human environment. The Proposed Action is considered to be a state action that may have an impact on the human environment and, therefore, DEQ must prepare an environmental review. This EA will examine the proposed action and alternatives to the proposed action and disclose potential impacts that may result from the proposed and alternative actions. DEQ will determine the need for additional environmental review based on consideration of the criteria set forth in ARM 17.4.608.

**Table 1: Summary of Proposed Action**

| Proposed Action  |  |
|--|--|
| <b>General Overview</b>  | This permitting action is to acquire a Montana Air Quality Permit (MAQP) for a humic acid manufacturing facility that has been in operation since 2017, but did not previously have an air quality permit.   |
| <b>Duration &amp; Hours of Operation</b>   | <b>Construction:</b> No construction is anticipated for this permitting action.<br><b>Operation:</b> The facility operates 24 hrs/day, from Monday-Friday.   |
| <b>Estimated Disturbance</b>   | No disturbance is anticipated for this permitting action. Even though it is a new permit, the facility has been in existence prior to being permitted.   |
| <b>Construction Equipment</b>  | No construction is anticipated for this permitting action.   |
| <b>Personnel Onsite</b>  | <b>Construction:</b> No construction is anticipated for this permitting action.<br><b>Operation:</b> Approximately 12 employees at the Shelby facility.  |
| <b>Location and Analysis Area</b>  | <b>Location:</b> Latitude 48.48805, longitude -111.81537<br><b>Analysis Area:</b> The area being analyzed as part of this environmental review includes the immediate project area (Figure 1), as well as neighboring lands surrounding the analysis area, as reasonably appropriate for the impacts being considered. |
| The applicant is required to comply with all applicable local, county, state, and federal requirements pertaining to the following resource areas. |  |
| <b>Air Quality</b>   | The applicant proposes to receive an air quality permit for a facility that manufactures humic acid and has been in operation since 2017, but was previously not permitted.  |
| <b>Water Quality</b>   | This permitting action would not affect water quality. HGS is required to comply with the applicable local, county, state and federal requirements pertaining to water quality.  |

|   |   |
|---|---|
| <b>Erosion Control and Sediment Transport</b> | This permitting action would not affect erosion control and sediment transport. HGS is required to comply with the applicable local, county, state and federal requirements pertaining to erosion control and sediment transport. |
| <b>Solid Waste</b>                            | This permitting action would not affect solid waste in the area. HGS is required to comply with the applicable local, county, state and federal requirements pertaining to solid waste.   |
| <b>Cultural Resources</b>                     | This permitting action would not affect cultural resources. HGS is required to comply with the applicable local, county, state and federal requirements pertaining to cultural resources.   |
| <b>Hazardous Substances</b>                   | This permitting action would not contribute to any hazardous substances. HGS is required to comply with the applicable local, county, state and federal requirements pertaining to hazardous substances.                          |
| <b>Reclamation</b>                            | This permitting action would not require any reclamation.   |

| <b>Cumulative Impact Considerations</b> |   |
|---|---|
| <b>Past Actions</b>                     | No previous actions as this is a new permit.  |
| <b>Present Actions</b>                  | Issuing an MAQP to a previously unpermitted facility that requires an MAQP.   |
| <b>Related Future Actions</b>           | DEQ is not currently aware of any future projects from HGS. Any future projects would be subject to a new permit application. |

See Figure 1 and Figure 2 below for the project location of the HGS site.



**Figure 1: Regional Location Map**



**Figure 2. Detailed Aerial View**



## EVALUATION OF AFFECTED ENVIRONMENT AND IMPACT BY RESOURCE:

The impact analysis will identify and evaluate whether the impacts are direct or secondary impacts to the physical environment and human population in the area to be affected by the proposed project. Direct impacts occur at the same time and place as the action that causes the impact. Secondary impacts are a further impact to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action (ARM 17.4.603(18)). Where impacts would occur, the impacts will be described.

Cumulative impacts are the collective impacts on the human environment within the borders of Montana that could result from the Proposed Action when considered in conjunction with other past and present actions related to the Proposed Action by location and generic type. Related future impacts must also be considered when these actions are under concurrent consideration by any state agency through pre-impact statement studies, separate impact statement evaluation, or permit processing procedures. The activities identified in Table 1 were analyzed as part of the cumulative impacts assessment for each resource.

The duration is quantified as follows:

- **Construction Impacts (short-term):** These are impacts to the environment during the construction period. When analyzing duration, please include a specific range of time.
- **Operation Impacts (long-term):** These are impacts to the environment during the operational period. When analyzing duration, please include a specific range of time.

The intensity of the impacts is measured using the following:

++No impact: There would be no change from current conditions.

- **Negligible:** An adverse or beneficial effect would occur but would be at the lowest levels of detection.
- **Minor:** The effect would be noticeable but would be relatively small and would not affect the function or integrity of the resource.
- **Moderate:** The effect would be easily identifiable and would change the function or integrity of the resource.
- **Major:** The effect would alter the resource.

## 1. Geology and Soil Quality, Stability, and Moisture

The HGS Shelby facility is at an approximate elevation of 3400 feet as referenced by the topographic map on the Montana DEQ GIS website.

Toole County is characterized by metamorphic, sedimentary clastic rock. The ground surface surrounding the HGS Shelby facility consists of ground-moraine deposits. There is integrated drainage and flat or undulating surface topography.

Prior to construction of the HGS facility, the land was used for agriculture. The area surrounding the HGS Shelby site consists of rural homes and farmland.

### ***Direct Impacts:***

The information provided above is based on the information provided to DEQ by HGS. Available information includes the permit application, analysis of aerial photography, topographic maps, information provided by HGS and other research tools. The initial construction of the Shelby facility was new disturbance and the land that was once agricultural is now industrial. Soil was disturbed during construction and operation of the proposed action, approximately 5.24 acres of disturbance from initial construction and startup. There is no impact expected to topography and geology from this permitting action as it is issuing a MAQP for a facility that is already in operation since 2017.

### ***Secondary Impacts:***

No secondary impacts to geology, stability, and moisture would be expected because the HGS facility is already in operation and is located within the existing HGS property boundary.

### ***Cumulative Impacts:***

Major cumulative impacts to geology, stability, and moisture would be expected because the HGS facility is now in existence, where prior to 2017 the land was used for agricultural purposes. However, the facility is already in operation and is located within the existing HGS property boundary.

## 2. Water Quality, Quantity, and Distribution

Shelby, MT is located approximately 11 miles from Aloe Lake, a popular fishing spot in the region, and approximately 85 miles from the Marias River, a frequented place for river-related recreation.

### ***Direct Impacts:***

The information provided above is based on the information provided by the applicant for the purpose of obtaining the pending air quality permit. HGS has not submitted any other permit applications that DEQ is aware of.

When originally constructed, the HGS Shelby facility disturbed approximately 5.24 acres of land, which is now occupied by the operational facility.

Precipitation and surface water would generally be expected to infiltrate into the subsurface, however, any surface water that left the site could have carried sediment from the disturbed site, originally. However, that was prior to operation in 2017 and currently minor impacts to water would be anticipated as it is now an existing facility.

No fragile or unique water resources or values are present. No impacts to water quality and quantity, which are resources of significant statewide and societal importance are expected.

***Secondary Impacts:***

No secondary impacts to water quality, quantity and distribution would be expected, nor any impacts from stormwater runoff.

***Cumulative Impacts:***

Minor cumulative impacts are anticipated from the original construction of the facility, but now this is now an existing facility. Previously the land was used for agricultural purposes, but now is used for industrial purposes.

### **3. Air Quality**

As of March 31, 2024, Toole County is designated as an Unclassifiable/Attainment area for all criteria pollutants according to 40 CFR 81.327. Applicants are required to comply with all laws relating to air, such as the Federal Clean Air Act, National Ambient Air Quality Standards set by the Environmental Protection Agency (EPA), and the Clean Air Act of Montana. HGS is a minor source of emissions.

***Direct Impacts:***

Expected emissions from the currently operating facility are shown in the Permit Analysis Section within the Emission Inventory. An assessment of greenhouse gases (GHG) is described in Section 23 of this EA.

Air quality standards, set by the federal government and DEQ are enforced by the AQB and allow for pollutants at the levels permitted within the MAQP. The HGS Shelby emissions include particulate matter (PM) species, oxides of NO<sub>x</sub>, CO, sulfur dioxide (SO<sub>2</sub>), volatile organic compounds (VOCs), Hazardous Air Pollutants (HAPs), and GHG emissions. These emissions come mainly from fuel combustion.

Air pollution control equipment must be operated at the maximum design for which it is intended ARM 17.8.752(2). Limitations would be placed on the allowable emissions for the new emission sources. As part of the air quality permit application, HGS submitted a Best



Available Control Technology (BACT) analysis for each emitting unit. These proposed limits were reviewed by DEQ and incorporated into MAQP #5303-00 as federally enforceable conditions. These permit limits cover NO<sub>x</sub>, CO, SO<sub>2</sub>, VOCs, PM, and HAPs with associated ongoing compliance demonstrations, as determined by DEQ.

Air quality standards are regulated by the federal Clean Air Act, 42 U.S.C. 7401 *et seq.* and CAA, § 50-40-101 *et seq.* MCA, and are implemented and enforced by DEQ's AQB. As stated above, HGS is required to comply with all applicable state and federal laws. Minor air quality impacts would be anticipated for the proposed action.

***Secondary Impacts:***

Impacts from the operation of the HGS Shelby facility are to be restricted by an MAQP and therefore should have minor secondary air quality impacts.

***Cumulative Impacts:***

Cumulative impacts from the operation of the HGS Shelby facility are to be restricted by an MAQP and therefore should have minor air quality impacts. Major impacts were anticipated upon initial startup and operation as a new facility was constructed where there previously was not one before. The Shelby area also has other stationary sources, the Northern Express Transportation Authority, MAQP#2672-02 and Asper Funeral Homes, MAQP#5183-00, that both contribute to the air quality in Shelby.

#### **4. Vegetation Cover, Quantity, and Quality**

There are no known rare or sensitive plants or cover types present in the site area. No fragile or unique resources or values, or resources of statewide or societal importance, are present. DEQ conducted research using the Montana Natural Heritage Program (MTNHP) website and ran the query titled "Environmental Summary Report" dated April 3, 2024. The proposed action is located at the existing HGS Shelby facility.

The area surrounding the HGS Shelby facility site is a mix of fields of sweet grass and sagebrush.

No important plant areas are present in the area.

***Direct Impacts:***

The information provided above is based on the information that DEQ had available to it at the time of completing this EA and provided by the applicant. Available information includes the permit application, analysis of aerial photography, topographic maps, geologic maps, soil maps, and other research tools. The proposed action would be located within the HGS Shelby facility property boundary. The site used to be utilized for agricultural purposes, but currently is used for industrial practices. The initial construction of the facility had a major effect on the land as it did reduce the vegetation cover with the new facility, but as this facility has been in operation since 2017, no new impacts to vegetation cover, quantity and quality are expected.

**Secondary Impacts:**

No secondary impacts are expected since land disturbance at the HGS Shelby facility took place in 2017.

**Cumulative Impacts:**

Minor cumulative impacts are expected from this facility as it did reduce the amount of agricultural land and convert it to industrial usage. However, any future actions would not be considered first time disturbance as the facility has been in operation since 2017.

## 5. Terrestrial, Avian, and Aquatic Life and Habitats

As described earlier in Section 4. Vegetation Cover, the area is represented by agricultural and industrial operations and DEQ conducted research using the MTNHP website and ran the query titled “Environmental Summary Report” dated April 3, 2024. which produced the following species of concern (SOC): Preble's Shrew, Greater Short-horned Lizard, Sage Thrasher, Dwarf Shrew, Little Brown Myotis, Long-eared Myotis, Long-legged Myotis, Merriam's Shrew, North American Porcupine, Silver-haired Bat, Swift Fox, Townsend's Big-eared Bat, Sharp-tailed Grouse, Crowe's Sedge, Smooth Goosefoot, Schweinitz's Flatsedge, Long-sheath Waterweed, Hoary Bat, American White Pelican, Baird's Sparrow, Brewer's Sparrow, Burrowing Owl, Chestnut-collared Longspur, Common Poorwill, Long-billed Curlew, Sprague's Pipit, and the Thick-billed Longspur. The polygon area analyzed using the MTNHP website produces an area inherently larger than the specific disturbance area, so some additional species may be reported that are not necessarily present in this exact area, but nearby.

No important bird areas are present.

**Direct Impacts:**

The potential impact to terrestrial, avian and aquatic life and habitats would be negligible, due to the long-term industrial nature of the site.

**Secondary Impacts:**

No secondary impacts to terrestrial, avian and aquatic life and habitats stimulated or induced by the direct impacts analyzed above or from the development and operation of the HGS Shelby facility would be expected.

**Cumulative Impacts:**

Minor cumulative impacts to terrestrial, avian and aquatic life and habitats stimulated or induced by the direct impacts analyzed above or from the development and operation of the HGS Shelby facility would be expected due to this facility having been operational since 2017.

## 6. Unique, Endangered, Fragile, or Limited Environmental Resources

As described in Section 5 above, DEQ conducted a search using the MTNHP webpage. The search used a polygon that overlapped the 5.24-acre site and produced the list of species of concern identified in Section 5. The project would not be in core, general or connectivity sage grouse habitat, as designated by the Sage Grouse Habitat Conservation Program (Program) at: <http://sagegrouse.mt.gov>.

### ***Direct Impacts:***

Among the SOC from the MTNHP list, these species would not be displaced by the proposed action as it has been in operation since 2017. The potential impact would be negligible.

### ***Secondary Impacts:***

The proposed action and the development and operation of the HGS Shelby facility would have no secondary impacts to endangered species because the permit conditions are protective of human and animal health and all lands involved in the proposed action are currently used for industrial operations and would not change the effect to the environment.

### ***Cumulative Impacts:***

The proposed action and the development and operation of the HGS Shelby facility would have minor cumulative impacts to endangered species because the permit conditions are protective of human and animal health and all lands involved in the proposed action are currently used for industrial operations and would not change the effect to the environment outside of the original construction of the facility prior to operation in 2017.

## 7. Historical and Archaeological Sites

The Montana State Historic Preservation Office (SHPO) was contacted to conduct a file search for historical and archaeological sites within Section 36 Township 32 North, Range 2 West. SHPO provided a letter dated April 3, 2024, that indicated there have been seven previously recorded sites within the designated search location. Some of these sites were ineligible, some eligible and others undetermined. The type of sites that have been recorded include several identified as “Precontact Stone Circle” and “Precontact Rock Cairn(s).” A site identified as “historic railroad” was noted as eligible. There previously have been four reports run for this area. It is SHPO’s position that any structure over fifty years of age is considered historic and is potentially eligible for listing on the National Register of Historic Places. If any structures are within the Area of Potential Effect, and are over fifty years old, SHPO recommends that they be recorded, and a determination of their eligibility be made prior to any disturbance taking place.

However, should structures need to be altered, or if cultural materials are inadvertently discovered during this proposed action, SHPO requests their office be contacted for further

investigation.

***Direct Impacts:***

Although the search by SHPO has identified some sites, the HGS Shelby facility project is not expected to impact any new locations the likelihood of any cultural properties being impacted is low.

***Secondary Impacts:***

No secondary impacts to historical and archaeological sites are anticipated since the proposed action Shelby facility are located on land currently in industrial use.

***Cumulative Impacts:***

No cumulative impacts to historical and archaeological sites are anticipated since the proposed action Shelby facility are located on land currently in industrial use.

## 8. Aesthetics

The site is located in an area mostly surrounded by grasslands, other agricultural solution businesses, and some privately owned homes, the closest of which is approximately 0.7 miles away from the north of the facility. The proposed action would occur on private land. It is not expected that the nearest residences to the proposed site would experience any noticeable change in noise levels. The noise levels at the property boundary would not be expected to change.

The HGS Shelby facility is situated on approximately 5.24 acres. There would be no construction activity at the site as it has been operational since 2017.

***Direct Impacts:***

There would be no construction as the facility has been operational since 2017, therefore no increase in noise levels is anticipated from this permitting action. Noise levels are not expected to change beyond the property boundary. The HGS Shelby facility profile changed when the facility was originally constructed but would not be changing with this permitting action. Impacts were major when the facility was constructed as there are now structures on the property where there were not prior to construction/operation. With this permitting action, no new structures are being added and the profile of the facility is not changing.

***Secondary Impacts:***

There would be no secondary impacts on the aesthetics because the property currently is in industrial use and its noise would not be expected to differ any from the surrounding HGS Shelby facility.



***Cumulative Impacts:***

Major impacts occurred with the addition of structures on the property when it was originally constructed. With this permitting action, no cumulative impacts are anticipated as it has been an operational facility since 2017 and no changes are happening to the property.

**9. Demands on Environmental Resources of Land, Water, Air, or Energy**

The site is located in an area characterized by industrial activities that include other agriculture facilities. The city of Shelby, MT, is characterized by oil and agricultural business. The operation of the HGS Shelby facility manufactures humic acid.

***Direct Impacts:***

During construction of the period of the HGS Shelby facility, there was an increase on the demands of land, water, air, and energy. Once operational, energy and electric demands would continue for the duration of the facility’s lifetime at or near current levels. See the Air Quality and Water Quality sections of the EA to review the potential impacts from the proposed action regarding air and water resources.

***Secondary Impacts:***

No secondary impacts are anticipated as a result of this permitting action. Minor impacts were anticipated after the initial construction of the facility as it was building structures where there were none previously, but as it has been in operation since 2017, those impacts are now negligible.

***Cumulative Impacts:***

Minor cumulative impacts are anticipated as a result of this permitting action. Minor impacts were anticipated after the initial construction of the facility as it was building structures where there were none previously, but as it has been in operation since 2017.

**10. Impacts on Other Environmental Resources**

The site is surrounded by agricultural industrial properties and the city of Shelby is characterized by oil and agricultural businesses.

***Direct Impacts:***

No other environmental resources are known to have been identified in the area beyond those discussed above. Hence, there is no impact to other environmental resources.

***Secondary Impacts:***

No secondary impacts to other environmental resources are anticipated as a result of the proposed permitting action.

***Cumulative Impacts:***

No cumulative impacts to other environmental resources are anticipated as a result of the proposed permitting action.

**11. Human Health and Safety**

The applicant would be required to adhere to all applicable state and federal safety laws. The access to the public would continue to be restricted to this property.

***Direct Impacts:***

Negligible changes in impacts to human health and safety are anticipated as a result of this project action. Upon initial startup of operation there would be additional traffic in and out of this area, but that has been ongoing since 2017. These activities, however, are regulated by other state and federal laws to ensure they are operated safely.

***Secondary Impacts:***

No secondary impacts to human health and safety are anticipated as a result of the proposed permitting action.

***Cumulative Impacts:***

No cumulative impacts to human health and safety are anticipated as a result of the proposed permitting action.

**12. Industrial, Commercial, and Agricultural Activities and Production**

The site is currently zoned as Business Highway, and other adjacent agricultural industrial properties. This site used to be used for agricultural activities prior to construction of the HGS Shelby facility started up operation in 2017.

***Direct Impacts:***

The original construction of the HGS Shelby facility reduced the agricultural land on the property by converting it to industrial land. Once operational in 2017, impacts on the industrial, commercial, and agricultural activities and production in the area would be negligible.

***Secondary Impacts:***

No secondary impacts to industrial, commercial, and agricultural activities and production are anticipated as a result of the proposed permitting action.

***Cumulative Impacts:***

Cumulative impacts upon startup of construction and operational were major as the land is no longer being used for agricultural purposes, but for industrial purposes. Once

operational, the cumulative impacts are negligible as the facility is now used for industrial purposes.

### 13. Quantity and Distribution of Employment

There currently are approximately 12 permanent jobs located at the HGS Shelby facility.

#### ***Direct Impacts:***

The proposed action would be expected to have no impact on the overall distribution of employment as the facility has been in operation since 2017 and no new additional employment is resulting from this permitting action. When the facility was originally built, there was an increase in workers performing the construction of the facility and then with staffing the facility for operation.

#### ***Secondary Impacts:***

No secondary impact is expected on long-term employment from the proposed action because it is an already operational facility.

#### ***Cumulative Impacts:***

Major impacts upon the startup and construction of the facility happened in relation to employment. Once operational, there were no impacts on employment for this permitting action as the facility has been in operation since 2017.

### 14. Local and State Tax Base and Tax Revenues

The proposed action would be expected to have minor impacts on the local and state tax base and tax revenue.

#### ***Direct Impacts:***

Local, state, and federal governments would be responsible for appraising the property, setting tax rates, collecting taxes, from the companies, employees, or landowners benefiting from this operation. A minor impact is expected on the tax base and revenue with the proposed action.

#### ***Secondary Impacts:***

No secondary impacts to local and state tax base and tax revenues are anticipated as a result of the proposed permitting action.

#### ***Cumulative Impacts:***

Moderate impacts to local and state tax base and tax revenues were anticipated with the construction and operation of a new facility in the area.

Since the facility has been in operation since 2017, no cumulative impacts are anticipated from this permitting action.

## 15. Demand for Government Services

The area surrounding the HGS Shelby facility site consists of other agricultural solutions facilities.

### ***Direct Impacts:***

Compliance review and assistance oversight by DEQ AQB would be conducted in concert with other area activity when in the vicinity. The proposed action would have only minor impacts on demand for government services, mainly through oversight by DEQ AQB.

### ***Secondary Impacts:***

No secondary impacts are anticipated on government services with the proposed action and a minimal increase in impact would occur from the permitting and compliance needs associated with this newly permitted facility.

### ***Cumulative Impacts:***

Minor cumulative impacts are anticipated on government services with the proposed action and a minimal increase in impact would occur from the permitting and compliance needs associated with this newly permitted facility.

## 16. Locally-Adopted Environmental Plans and Goals

A review was also conducted of the City of Shelby website on April 2, 2024. Review of the City's Planning page revealed a Growth Policy was completed in 2019. Other Planning documents were also viewed, one of which was a Community Health Improvement Plan, dated 2017-2019.

### ***Direct Impacts:***

HGS's Shelby facility is on property which is already zoned as Business Highway. No impacts from the proposed action would be expected relative to any locally adopted community planning goals.

### ***Secondary Impacts:***

No secondary impacts to the locally adopted environmental plans and goals are anticipated as a result of the proposed permitting action.

### ***Cumulative Impacts:***

No cumulative impacts to the locally adopted environmental plans and goals are anticipated as a result of the proposed permitting action.

## 17. Access to and Quality of Recreational and Wilderness Activities

Shelby, MT is located approximately 11 miles from Aloe Lake, a popular fishing spot in the region, and approximately 85 miles from the Marias River, a frequented place for river-related recreation.

### ***Direct Impacts:***

There would be no impacts to the access to wilderness activities as none are in the vicinity of the proposed action. Recreationalists on the Marias River or Aloe Lake would not notice any change as the facility has been in existence since 2017. Noise levels would not increase with this permitting action and would not affect the surrounding wilderness areas.

### ***Secondary Impacts:***

No secondary impacts to access and quality of recreational and wilderness activities are anticipated as a result of the proposed permitting action which is wholly contained within the boundary of the HGS Shelby facility.

### ***Cumulative Impacts:***

No cumulative impacts to access and quality of recreational and wilderness activities are anticipated as a result of the proposed permitting action which is wholly contained within the boundary of the HGS Shelby facility. Even upon startup of construction of the HGS Shelby facility, the closest wilderness region was approximately 11 miles away, so noise levels would be negligible and site construction would not have been able to have been seen from that distance.

## 18. Density and Distribution of Population and Housing

The proximity of the proposed action to the City of Shelby would accommodate housing needs for workers.

### ***Direct Impacts:***

This permitting action would not add to the population or require additional housing, therefore, no impacts to density and distribution of population and housing are anticipated.

### ***Secondary Impacts:***

No secondary impacts to density and distribution of population and housing are anticipated as a result of the proposed permitting action or the operation of the Shelby facility.

### ***Cumulative Impacts:***

No cumulative impacts to density and distribution of population and housing are anticipated as a result of the proposed permitting action as the HGS Shelby facility has been in operation since 2017. Originally, the population most likely increased due to the need to

staff the facility, but since commencing operation, there are no impacts on the density and distribution of population and housing.

## 19. Social Structures and Mores

Based on the required information provided by HGS, DEQ is not aware of any native cultural concerns that would be affected by the proposed action on this existing facility. Shelby, MT is located in Blackfeet and Gros Ventre tribe territory and is approximately 50 miles southeast of the Blackfeet Reservation.

### ***Direct Impacts:***

The proposed action is located on an existing industrial site, no disruption of native or traditional lifestyles would be expected, therefore, no impacts to social structure and mores are anticipated.

### ***Secondary Impacts:***

No secondary impacts to social structures and mores are anticipated as a result of the proposed operations as the facility has been in operation since 2017.

### ***Cumulative Impacts:***

Outside of original construction of the facility, no cumulative impacts to social structures and mores are anticipated as a result of the proposed operations as the facility has been in operation since 2017.

## 20. Cultural Uniqueness and Diversity

Based on the required information provided by HGS, DEQ is not aware of any unique qualities of the area that would be affected by the proposed action at this existing facility.

### ***Direct Impacts:***

No impacts to cultural uniqueness and diversity are anticipated from this project.

### ***Secondary Impacts:***

No secondary impacts to cultural uniqueness and diversity are anticipated as a result of the proposed permitting action or from the operation of the HGS Shelby facility on existing industrial property.

### ***Cumulative Impacts:***

No cumulative impacts to cultural uniqueness and diversity are anticipated as a result of the proposed permitting action or from the operation of the HGS Shelby facility on what is now existing industrial property.

## 21. Private Property Impacts

The proposed action would take place on privately-owned land. The analysis below in response to the Private Property Assessment Act indicates no impact. DEQ does not plan to deny the application or impose conditions that would restrict the regulated person’s use of private property so as to constitute a taking. Further, if the application is complete, DEQ must take action on the permit pursuant to § 75-2-218(2), MCA. Therefore, DEQ does not have discretion to take the action in another way that would have less impact on private property—its action is bound by a statute.

There are private residences in the area of the proposed action. The closest residence is located approximately 0.7 miles to the north of the property.

| 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 DEQ determined there are no taking or damaging implications associated with this permit action.

## 22. Other Appropriate Social and Economic Circumstances

Due to the nature of the proposed action, no further direct or secondary impacts are anticipated from this project.

## 23. Greenhouse Gas Assessment

Issuance of this permit would authorize the operation of the HGS Shelby facility of a manufacturing facility of humic acid, including the utilization of a natural gas fired spray dryer with baghouse, and a natural gas water heater.

The analysis area for this resource is limited to the activities regulated by the issuance of MAQP#5303-00, which is to permit a facility that has been in operation since 2017. The amount of natural gas fuel utilized at this site may be impacted by a number of factors including seasonal weather impediments and equipment malfunctions. To account for these factors DEQ has calculated the max amount of emissions using 8760 hours per year of operation.

For the purpose of this analysis, DEQ has defined greenhouse gas emissions as the following gas species: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and many species of fluorinated compounds. The range of fluorinated compounds includes numerous chemicals which are used in many household and industrial products. Other pollutants can have some properties that also are similar to those mentioned above, but the EPA has clearly identified the species above as the primary GHGs. Water vapor is also technically a greenhouse gas, but its properties are controlled by the temperature and pressure within the atmosphere, and it is not considered an anthropogenic species.

The combustion of diesel fuel at the site would release GHGs primarily being carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O) and much smaller concentrations of uncombusted fuel components including methane (CH<sub>4</sub>) and other volatile organic compounds (VOCs).

DEQ has calculated GHG emissions using the EPA Simplified GHG Calculator version May 2023, for the purpose of totaling GHG emissions. This tool totals carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), and methane (CH<sub>4</sub>) and reports the total as CO<sub>2</sub> equivalent (CO<sub>2</sub>e) in metric tons CO<sub>2</sub>e. The calculations in this tool are widely accepted to represent reliable calculation approaches for developing a GHG inventory.

### ***Direct Impacts:***

Operation of the spray dryer and water heater throughout the life of the facility would produce exhaust fumes containing GHGs.

DEQ estimates that approximately 20,938 metric tons of CO<sub>2</sub>e will be produced per year.

To account for variability due to the factors described above, DEQ has calculated the



maximum amount of emissions using a factor of 8760 hours per year for operation in combination with the maximum heat input value. Using the Environmental Protection Agency's (EPA) simplified GHG Emissions Calculator for mobile sources, approximately 20,938 metric tons of CO<sub>2</sub>e would be produced per year.

***Secondary Impacts:***

GHG emissions contribute to changes in atmospheric radiative forcing, resulting in climate change impacts. GHGs act to contain solar energy loss by trapping longer wave radiation emitted from the Earth's surface and act as a positive radiative forcing component (BLM 2021). The impacts of climate change throughout the Northern part of Montana may include changes in flooding and drought, rising temperatures, the spread of invasive species (BLM 2021).

***Cumulative Impacts:***

Montana recently used the EPA State Inventory Tool (SIT) to develop a greenhouse gas inventory in conjunction with preparation of a possible grant application for the Community Planning Reduction Grant (CPRG) program. This tool was developed by EPA to help states develop their own greenhouse gas inventories, and this relies upon data already collected by the federal government through various agencies. The inventory specifically deals with carbon dioxide, methane, and nitrous oxide and reports the total as CO<sub>2</sub>e. The SIT consists of eleven Excel based modules with pre-populated data that can be used as default settings or in some cases, allows states to input their own data when the state believes their own data provides a higher level of quality and accuracy. Once each of the eleven modules is filled out, the data from each module is exported into a final "synthesis" module which summarizes all of the data into a single file. Within the synthesis file, several worksheets display the output data in a number of formats such as emissions by sector and emissions by type of greenhouse gas.

DEQ has determined the use of the default data provides a reasonable representation of the greenhouse gas inventory for the various sectors of the state, and an estimated annual greenhouse gas inventory by year. The SIT data is currently only updated through the year 2021, as it takes several years to validate and make new data available within revised modules.

Future GHG emissions from operations such as this site would be represented within the module Carbon Dioxide Emissions from Fossil Fuel Combustion, and emissions from the Transportation Sector within the Commercial and Industrial sectors. At present, the total GHG emissions for the state of Montana are approximately 47.7 MMTCO<sub>2</sub>e annually. If HGS were to exist for 30 years, the total project lifetime emissions would be approximately 628,140 metric tons of CO<sub>2</sub>e. The HGS facility accounts for 0.044% of GHG emissions in Montana per year.

GHG emissions that would be emitted as a result of the proposed activities would add to GHG emissions from other sources. The current private land utilization<sup>1</sup> or No Action Alternative of the site also produces GHGs.

## **Reference**

Bureau of Land Management (BLM) 2021. Specialist Report on Annual Greenhouse Gas Emissions and Climate Trends from Coal, Oil, and Gas Exploration and Development on the Federal Mineral Estate. Available at: <https://www.blm.gov/content/ghg/2021/>. Accessed February 28, 2024.

## **PROPOSED ACTION ALTERNATIVES:**

### No Action Alternative:

In addition to the analysis above for the proposed action, DEQ is considering a “no action” alternative. The “no action” alternative would deny the approval of the proposed permitting action. The applicant would lack the authority to conduct the proposed activity. Any potential impacts that would result from the proposed action would not occur. The no action alternative forms the baseline from which the impacts of the proposed action can be measured.

### Other Ways to Accomplish the Action:

In order to meet the project objective to permit the HGS Shelby facility, there are no other ways to accomplish this action outside of creating a new MAQP for the Shelby facility. This site has been in operation until 2017 and is required to have a MAQP.

If the applicant demonstrates compliance with all applicable rules and regulations as required for approval, the “no action” alternative would not be appropriate. Pursuant to, § 75-1-201(4)(a), (MCA) DEQ “may not withhold, deny, or impose conditions on any permit or other authority to act based on” an environmental assessment.

## **CONSULTATION**

DEQ engaged in internal and external efforts to identify substantive issues and/or concerns related to the proposed project. Internal scoping consisted of internal review of the environmental assessment document by DEQ staff. External scoping efforts also included queries to the following websites/databases/personnel:

MAQP#5303-00 Application, MAQP#5303-00 Response to Incompleteness Letter, EPA State Inventory Tool, the EPA GHG Calculator Tool, the Montana Natural Heritage Program Website, the Montana Cadastral Mapping Program, the City of Shelby Website, and the State Historical Preservation Office.

## **PUBLIC INVOLVEMENT:**

The public comment period for this permit action was from May 23, 2024, through June 7, 2024. Public comments were submitted to DEQ through the DEQ website, email, written letter, or in person.

## **OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION:**

The proposed project would be located on private land. All applicable state and federal rules must be adhered to, which, at some level, may also include other state, or federal agency jurisdiction.

This environmental review analyzes the proposed project submitted by the Applicant. The project would be negligible and would be fully reclaimed to the permitted postmining land uses at the conclusion of the project and thus would not contribute to the long-term cumulative effects of mining in the area.

## **NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL IMPACTS**

When determining whether the preparation of an environmental impact statement is needed, DEQ is required to consider the seven significance criteria set forth in ARM 17.4.608, which are as follows:

- The severity, duration, geographic extent, and frequency of the occurrence of the impact;
- The probability that the impact will occur if the proposed action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact will not occur;
- Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts – identify the parameters of the proposed action;
- The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources and values;
- The importance to the state and to society of each environmental resource or value that would be affected.
- Any precedent that would be set as a result of an impact of the proposed action that would commit the department to future actions with significant impacts or a decision in principle about such future actions; and
- Potential conflict with local, state, or federal laws, requirements, or formal plans.

## **CONCLUSIONS AND FINDINGS**

DEQ finds that this action results in negligible impacts to air quality and GHG emissions in Toole County, Montana.

The severity, duration, geographic extent, and frequency of the occurrence of the impacts associated with the proposed air quality project would be limited. The proposed action would result in no new disturbance at the Shelby facility. The site would be permitted to operate the HGS Shelby facility.

As discussed in this EA, DEQ has not identified any significant impacts associated with the proposed actions for any environmental resource. DEQ does not believe that the proposed activities by the Applicant would have any growth-inducing or growth-inhibiting aspects, or contribution to cumulative impacts. The proposed site does not appear to contain known unique or fragile resources.

There are no unique or known endangered fragile resources in the project area. No underground disturbance would be required for this project.

There would be negligible impacts to view-shed aesthetics as the facility is already built and in operation.

Demands on the environmental resources of land, water, air, or energy would not be significant, as it is already an operational facility.

Impacts to human health and safety would not be significant as access roads would be closed to the public and because the site is on Privately Owned Land. The public is not allowed on the HGS Shelby facility site.

As discussed in this EA, DEQ has not identified any significant impacts associated with the proposed activities on any environmental resource.

Issuance of a Montana Air Quality Permit to the Applicant does not set any precedent that commits DEQ to future actions with significant impacts or a decision in principle about such future actions. If the Applicant submits another modification or amendment, DEQ is not committed to issuing those revisions. DEQ would conduct an environmental review for any subsequent permit modifications sought by the Applicant that require environmental review. DEQ would make permitting decisions based on the criteria set forth in the Clean Air Act of Montana.

Issuance of the Permit to the Applicant does not set a precedent for DEQ's review of other applications for Permits, including the level of environmental review. The level of environmental review decision is made based on case-specific consideration of the criteria set forth in ARM 17.4.608.

Finally, DEQ does not believe that the proposed air quality permitting action by the Applicant would have any growth-inducing or growth-inhibiting impacts that would conflict with any local, state, or federal laws, requirements, or formal plans.

Based on a consideration of the criteria set forth in ARM 17.4.608, the proposed operation is not predicted to significantly impact the quality of the human environment. Therefore, preparation of an EA is the appropriate level of environmental review for MEPA.

**PREPARATION AND APPROVAL**

**EA and Significance Determination Table prepared by:**

**Emily Hultin**

Air Quality Engineering Scientist

Environmental Assessment Reviewed by:

**Approved by: Craig Henrikson**

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## References

**Air Quality Permit Application Received March 21, 2024**

**Response to Incompleteness DEQ Letter Received on April 23, 2024**

**Montana State Historical Preservation Office (SHPO) Report Received April 3, 2024**

**Montana Natural Heritage Program (Website Search Downloads) Last Download April 3, 2024**

**Montana Cadastral GIS Layer – Through-Out Project Up Until Decision Issuance**

**Air Quality Bureau Permitted Source List-GIS Layer**

**Air Quality Permit MAQP #2672-02**

**Air Quality Permit MAQP #5183-00**

**City of Shelby Website**

## **ABBREVIATIONS and ACRONYMS**

AQB – Air Quality Bureau  
ARM - Administrative Rules of Montana  
BACT – Best Available Control Technology  
BMP - Best Management Practices  
CAA – Clean Air Act of Montana  
CFR - Code of Federal Regulations  
CO - carbon monoxide  
DEQ – Department of Environmental Quality  
DNRC – Department of Natural Resources and Conservation  
EA – Environmental Assessment  
EIS – Environmental Impact Statement  
EPA - U.S. Environmental Protection Agency  
FCAA Federal Clean Air Act  
HGS- Humic Growth Solutions  
MAQP – Montana Air Quality Permit  
MCA – Montana Code Annotated  
MEPA – Montana Environmental Policy Act  
MTNHP - Montana Natural Heritage Program  
NO<sub>x</sub> - oxides of nitrogen  
PM - particulate matter  
PM<sub>10</sub> - particulate matter with an aerodynamic diameter of 10 microns and less  
PM<sub>2.5</sub> - particulate matter with an aerodynamic diameter of 2.5 microns and less  
PPAA - Private Property Assessment Act  
Program - Sage Grouse Habitat Conservation Program  
PSD - Prevention of Significant Deterioration  
SHPO - Montana State Historic Preservation Office  
SOC - Species of Concern  
SO<sub>2</sub> - sulfur dioxide  
tpy – tons per year  
U.S.C. - United States Code  
VOC - volatile organic compound