DEQ
Montana Department
of Environmental Quality

September 7, 2016

Rich Ayala
Hiland Crude, LLC
Albin Station
370 Van Gordon Street
Lakewood, CO 80228

Dear Mr. Ayala:

Montana Air Quality Permit #4599-05 is deemed final as of 9/7/2016, by the Department of Environmental Quality (Department). This permit is for a crude oil unloading facility. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

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

Loni Patterson
Environmental Engineer
Air Quality Bureau
(406) 444-1452

JM:LP
Enclosure

Montana Department of Environmental Quality
Air, Energy, and Mining Division

Montana Air Quality Permit #4599-05

Hiland Crude, LLC
Albin Station
370 Van Gordon Street
Lakewood, CO 80228

September 7, 2016

MONTANA AIR QUALITY PERMIT

Issued To:	Hiland Crude, LLC Albin Station 370 Van Gordon Street Lakewood, CO 80228	MAQP: #4599-05 Administrative Amendment (AA) Request Received: 7/25/2016 Department Decision Issued: 8/19/2016 Permit Final: 9/7/2016 AFS #: 083-0796

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

SECTION I: Permitted Facilities

A. Plant Location

Hiland Crude, LLC (Hiland) owns and operates a crude oil unloading facility located in the Southwest ¼ of the Southwest ¼ of Section 25, Township 24 North, Range 56 East in Richland County, Montana. The site, identified as the Albin Station, is sited approximately five miles southwest of Girard, Montana.

B. Current Permit Action

On July 25 2016, the Department received a request from Hiland Partners Holdings, LLC, to change the mailing address and to update the facility contact for facilities operating under the name Hiland Crude, LLC.

SECTION II: Conditions and Limitations

A. Operational Limitations

1. Hiland shall only unload crude oil at the facility. (ARM 17.8.749).

2. The combined throughput of crude oil through Tanks A1 through A6 and Tanks AE1 through AE13, shall not exceed 207,176,000 gallons during any Rolling 12-month period (ARM 17.8.749).

3. The combined throughput of crude oil through Tank 100-1, Tank 25-1, and Tank 25-2 shall not exceed 667,764,720 gallons during any rolling 12-month period (ARM 17.8.749).

4. Hiland shall be limited to tanker truck unloading operations only. No loading of tanker trucks shall take place at the facility (ARM 17.8.749).

5. Loading of crude oil into the tanks shall be restricted to submerged fill loading. Submerged fill loading may be accomplished via a submerged fill pipe method and/or a bottom fill loading method (ARM 17.8.752).

6. Hiland shall not operate or have on site more than one (1) propane-fired generator set and the maximum rated design capacity of the engine driving the generator shall not exceed 11 brake-horsepower (8 kilowatts) (ARM 17.8.749).

7. Hiland 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).

8. Hiland 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).

9. Hiland 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.8 (ARM 17.8.752).

10. Hiland shall comply with all applicable standards, testing, reporting, recordkeeping, and monitoring requirements of 40 CFR 60, Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984*, for any applicable liquid storage vessel (ARM 17.8.752, ARM 17.8.340, and 40 CFR 60, Subpart Kb).

11. Hiland shall comply with all applicable standards, testing, reporting, recordkeeping, and monitoring requirements of 40 CFR 60, Subpart OOOO, *Standards of Performance for crude Oil and Natural Gas Production, Transmission and Distribution*, for any applicable liquid storage vessel (ARM 17.8.752, ARM 17.8.340, and 40 CFR 60, Subpart OOOO).

12. Hiland shall comply will all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart JJJJ, *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines* and 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable spark ignition internal combustion engine (ARM 17.8.340; 40 CFR 60, Subpart JJJJ; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Inspection and Maintenance Requirements

1. Each calendar month, tanks, valves, flanges, pump seals, open-ended lines, connectors, hatches, man way covers, and air eliminators shall be inspected for excessive leaks. For purposes of this requirement, detection methods incorporating sight, sound, or smell are acceptable (ARM 17.8.105 and ARM 17.8.752).

2. Hiland shall (ARM 17.8.105 and ARM 17.8.752):

   a. Make a first attempt at repair for any leak no later than 5 calendar days after the leak is detected; and

b. Repair any leak as soon as practicable, but no later than 15 calendar days after it is detected, except as provided in Section II.B.3.

3. Delay of repair of equipment for which a leak has been detected would be allowed if repair within 15 days is technically infeasible. Such equipment shall be repaired as soon as reasonably possible (ARM 17.8.752).

C. Recordkeeping Requirements

1. Hiland shall document the monthly inspections, indicating the date of the inspection and the results (ARM 17.8.749).

2. For any repair delayed under the exception of Section II.B.3 above, the duration of the leak, a general description of the repair required, and the reasons justifying the delay, shall be recorded and maintained with the records required in Section II.C.1 (ARM 17.8.749).

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

D. Testing Requirements

1. The Department may require testing (ARM 17.8.105).

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

E. Reporting Requirements

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

   Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. A copy of any records kept as required by Section II.C.2 shall be submitted to the Department postmarked within 30 days of the inspection in which the leak was detected. A follow up report, if needed, shall follow describing corrective actions taken (ARM 17.8.749).

3. Hiland shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit,*** change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or

would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).

SECTION III: General Conditions

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

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

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

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

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

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

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

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

Montana Air Quality Permit (MAQP) Analysis
Hiland Crude, LLC
MAQP #4599-05

I. Introduction/Process Description

Hiland Crude, LLC (Hiland) owns and operates a crude oil unloading station. The facility is located in the Southwest ¼ of the Southwest ¼ of Section 25, Township 24 North, Range 56 East, in Richland County, Montana, and is referred to as the Albin Station.

A. Permitted Equipment

1. Crude Oil Tanks:

- One (1) 4,200,000 gallon (gal) internal floating roof tank [100,000 barrels (bbl)]
- Two (2) 1,050,000 gal internal floating roof tanks [25,000 bbl]
- Nineteen (19) 16,800 gal vertical fixed roof tanks [400 bbl]

2. Two (2) 500 British Thermal Units per hour (Btu/hr) natural gas fired heaters.

3. One (1) 8 kilowatt (kW) propane-fired emergency generator.

4. Associated Equipment; including truck unloading racks, pumps, valves, and miscellaneous connections.

5. Three (3) 16,800 gal vertical fixed roof fresh water Storage tanks [400 bbl].

B. Source Description

Hiland owns and operates a crude oil unloading facility. Crude oil enters the facility via tanker truck and pipeline and is stored in various sized tanks. Crude oil is transferred off-site by way of pipeline using an electric pump. The natural gas fired heaters are employed to heat the crude oil, reducing its viscosity to facilitate the oil transfer process. Evaporative losses during storage and during filling and emptying operations occur from the tanks. Fugitive emissions occur from vapor losses from valves, pump seals, flanges, connectors, hatches, man-way covers, and air eliminators.

C. Permit History

On September 21, 2010, the Montana Department of Environmental Quality (Department) received a complete MAQP Application from Banner Transportation Co., LLC for the operation of a crude oil unloading facility to be known as the Albin Station. **MAQP #4599-00** was issued final on November 25, 2010.

On January 10, 2012, the Department received an application for modification of the existing air quality permit proposing the installation of three (3) additional 400 barrel fixed roof crude oil storage tanks to the Albin Station. A subsequent correspondence was received on February 8, 2012 requesting the inclusion of two additional 400 barrel fixed roof crude oil storage tanks in the permit action. The permitting action incorporated the proposed modifications, updated the rule references and language used by the Department, and updated the emissions inventory. **MAQP #4599-01** replaced MAQP #4599-00.

The Department received a letter from Hiland on June 13, 2012, that requested an administrative amendment of MAQP #4599-01 to change the name from Banner Transportation Co, LLC to Hiland. **MAQP #4599-02** replaced MAQP #4599-01.

On October 5, 2012, the Department received an application for modification of MAQP #4599-02 from Bison Engineering, Inc. (Bison), on behalf of Hiland, proposing the installation of four (4) additional 400 barrel fixed roof crude oil storage tanks to the Albin Station. The current permit action incorporates the proposed modifications, as well as, the installation of an 8 kilowatt (kW) propane-fired emergency generator, addressed in a de minimis notification received by the Department on April 30, 2012. The application received for the current action did not account for two 400 bbl fixed roof crude oil tanks which were installed under MAQP #4599-01. Upon consultation with Hiland, it was determined that four additional tanks were still necessary. In addition to the aforementioned changes, adjustments were made at the request of the permit holder to several tank identification references. This permit action also updates the rule references and language used by the Department, and updates the emissions inventory. **MAQP #4599-03** replaced MAQP# 4599-02.

The Department received an application for the modification of MAQP #4599-03 from Hiland, proposing the increase of throughput for Tank 100-1, Tank 25-1 and Tank 25-2 to not exceed 667,764,720 gallons during any rolling 12-month period. **MAQP #4599-04** replaced MAQP 4599-03.

D. Current Permit Action

On July 25 2016, the Department received a request from Hiland Partners Holdings, LLC, to change the mailing address from 2 North Nevada Avenue, Colorado Springs, CO 80903 to 370 Van Gordon Street, Lakewood, CO 80228 and to update the facility contact for facilities operating under the name Hiland Crude, LLC. The current permit action reflects this change and updates the permit language to reflect current permit language and references. **MAQP #4599-05** replaces MAQP #4599-04.

E. Additional Information

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

II. Applicable Rules and Regulations

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

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

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

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

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

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

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

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

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

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

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

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

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

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions are taken to control emissions of airborne particulate matter. (2) Under this rule, Hiland 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, authorize, 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 Code of Federal Regulation (CFR) Part 60, Standards of Performance for New Stationary Sources (NSPS). Based on the information submitted by Hiland, the following NSPS (40 CFR 60) are applicable:

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

   b. 40 CFR 60 Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984. The affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m^3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984, except storage vessels with a capacity greater than

or equal to 151 m^3 storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

This subpart does not apply to the 400 bbl tanks (63.6 m^3). However, the 25,000 bbl tanks [Tanks 25-1 and 25-2) and the 100,000 (Tank 100-1) bbl tank are subject to this subpart. Therefore, these tanks must comply with the requirements of 40 CFR 60.112b. Based on the information submitted by Bison Engineering, Inc on behalf of Hiland, the design and operation of these tanks complies with the requirements of this subpart.

c. 40 CFR 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. The provisions of this subpart are applicable to owners and operators of stationary spark ignition internal combustion engines (SI ICE) that commence construction after June 12, 2006, where the stationary SI ICE are manufactured on or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 horsepower. As the condition related to generator set engine is written de minimis friendly, applicability to 40 CFR 60, Subpart JJJJ is dependent upon the SI ICE equipment installed and operated.

d. 40 CFR 60, Subpart OOOO - Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution. Pursuant to 40 CFR §60.5365, affected sources are those onshore crude oil and natural gas production, transmission and distribution facilities listed which commence construction, modification or reconstruction after August 23, 2011. Facility operations at the Albin Station subject to this subpart are limited to each single crude oil storage vessel. 40 CFR 60, Subpart OOOO does not prescribe emissions standards or control requirements for storage vessel with VOC (volatile organic compounds) emissions less than 6 tons per year (tpy), nor storage vessel subject to and controlled in accordance with the requirements for storage vessels in 40 CFR 60, Subpart Kb.

At this time no applicable emission standards or control requirements exist for the storage vessels operating at the Albin Station, as the 400 bbl fixed roof tanks (Tanks A01-A6 and AE1-AE13) do not present VOC emissions equal to or greater than 6 tpy and the remaining storage vessels (Tanks 100-1, 25-1, and 25-2) are subject to and controlled in accordance with the requirements for storage vessels in 40 CFR 60, Subpart Kb.

8. ARM 17.8.341 Emission Standards for Hazardous Air Pollutants. This source shall comply with the standards and provisions of 40 CFR Part 61, as appropriate.

9. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with any applicable requirements of 40 CFR Part 63. Based on the information submitted by Hiland, the following NESHAP (40 CFR 63) are applicable:

a. 40 CFR 63, Subpart A – General Provisions apply to all equipment of facilities subject to a NESHAP Subpart as listed below:

b. 40 CFR 63, Subpart ZZZZ – NESHAPs for Stationary Reciprocating Internal Combustion Engines (RICE). Pursuant to 40 CFR §63.6590(a), an affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of hazardous air pollutant (HAP) emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand. Pursuant to 40 CFR 63.6590(a)(2)(iii), a stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006. As Hiland is considered an area source of HAP emissions and operates RICE equipment the propane-fired generator engine is subject to this subpart.

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

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an MAQP application fee concurrent with the submittal of an MAQP application. A permit application is incomplete until the proper application fee is paid to the Department. The current permit action is considered an administrative amendment; therefore, Hiland was not required to submit an application fee.

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

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

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

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

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an MAQP or permit modification to construct, modify, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tpy of any pollutant. Hiland has a PTE greater than 25 tpy of PM and VOC; therefore, an MAQP 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. The current permit action is considered an administrative amendment; a permit application was not required. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. The current permit action is an administrative amendment, and therefore, did not require a publication of a public notice.

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

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

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

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

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

11. ARM 17.8.762 Duration of Permit. An MAQP 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 MAQP 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 MAQP 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 MAQP may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

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

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

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

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

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

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

a. PTE > 100 tpy of any pollutant.

b. PTE > 10 tpy of any single Hazardous Air Pollutant (HAP), or PTE > 25 tpy of any combination of HAP's, or lesser quantity as the Department may establish by rule.

c. PTE > 70 tpy of PM_{10} in a serious PM_{10} non-attainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (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 #4599-05 for Hiland, the following conclusions were made:

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

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

c. This source is not located in a serious PM_{10} non-attainment area.

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

e. This facility is subject to a current NESHAP (40 CFR 63, Subpart ZZZZ).
f. This source is not a Title IV affected source.

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

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

III. BACT Determination

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

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

IV. Emissions Inventory

Emission Source		Emissions Tons/Year [PTE]							
Tank	Tank Description	PM	PM_{10}	$PM_{2.5}$	CO	NO_x	SO_2	VOC	HAP
100-1	100,000 bbl Internal Floating Roof Tank	--	--	--	--	--	--	0.74	0.03
25-1	25,000 bbl Internal Floating Roof Tank	--	--	--	--	--	--	1.56	0.06
25-2	25,000 bbl Internal Floating Roof Tank	--	--	--	--	--	--	1.56	0.062
A1	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
A2	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
A3	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
A4	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
A5	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
A6	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
AE1	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
AE2	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
AE3	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
AE4	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
AE5	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
AE6	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
AE7	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
AE8	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
AE9	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
AE10	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.86	0.118
AE11	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.86	0.118
AE12	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.86	0.118
AE13	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.86	0.118
--	Fugitive Emissions - Equipment Leaks	--	--	--	--	--	--	17.50	0.660
--	Natural Gas-Fired Heater [500 Btu/hr]	NG	NG	NG	NG	NG	NG	NG	NG
--	Natural Gas-Fired Heater [500 Btu/hr]	NG	NG	NG	NG	NG	NG	NG	NG
--	8 kW Propane-Fired Emergency	0.01	0.017	0.017	0.38	2.79	NG	0.08	NG
--	Fugitive Particulate Emissions - Vehicle	53.8	16.9	1.57	--	--	--	--	--
	TOTAL EMISSIONS ►	53.8	16.9	1.58	0.38	2.79	NG	75.6	2.85

[1] *Meteorological Data used in Tank Emissions Calculations: Williston, N. Dakota (Avg. Atmospheric Pressure = 13.82 psia).*

bbl, U.S. barrels
Btu, British Thermal Units
CO, carbon monoxide
EF, emission factor
Ft^3, cubic feet
Gal, gallon
HAP, Hazardous Air Pollutant
hp, horsepower
kW, kilowatt
lb. pound
MMBtu, million British Thermal Units
MMscf, million standard cubic feet
NO_X, oxides of nitrogen
NG, negligible emissions [< 0.001 tpy]
PTE, Potential To Emit
PM, particulate matter
PM_{COND}, condensable particulate matter
PM_{10}, particulate matter with an aerodynamic diameter of 10 microns or less
$PM_{2.5}$, particulate matter with an aerodynamic diameter of 2.5 microns or less [Sum of condensable and filterable]
psia, pounds per square inch actual
psig, pounds per square inch as read by gauge (not including atmospheric pressure)
R, degrees Rankine
RVP, Reid Vapor Pressure
SO_2, oxides of sulfur
scf, standard cubic feet
sq/ft, square feet
TPH, tons per hour
TPY, tons per year
VMT, vehicle miles travelled
VOC, volatile organic compounds

Crude Oil Storage & Handling

Emission determination based on U.S. EPA TANKS 4.0.9d Emissions Estimate Software(1)

Tank Identification and Physical

100,000 Barrel Internal Floating Roof Tank [SCC 40400332]

Tank Dimensions		Paint Characteristics	
Diameter (ft):	134.00	Internal Shell	Light Rust
Volume (gallons):	4,200,000.00	Shell Color/Shade:	White/White
Turnovers:	16.62	Shell Condition:	Good
Self Supporting Roof:	YES	Roof Color/Shade:	White/White
Annual Net	69,804,000.00	Roof Condition:	Good
Is Tank Heated (y/n):	NO		
Number of Columns:	0.00	**Rim-Seal System**	
Effective Column	0.00	Primary Seal:	Mechanical Shoe
		Secondary Seal:	None

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status

Access Hatch (24-in. Diam.)/Unbolted Cover, No Gasket	1
Automatic Gauge Float Well/Unbolted Cover, No Gasket	1
Roof Leg or Hanger Well/Adjustable	49
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

25,000 Barrel Internal Floating Roof Tank(s) [SCC 40400332]

Tank Dimensions		Paint Characteristics	
Diameter (ft):	67.00	Internal Shell	Light Rust
Volume (gallons):	1,050,000.00	Shell Color/Shade:	White/White
Turnovers:	284.75	Shell Condition:	Good
Self Supporting Roof:	YES	Roof Color/Shade:	White/White
Annual Net	289,987,500.00.	Roof Condition:	Good
Is Tank Heated (y/n):	NO		
Number of Columns:	0.00	**Rim-Seal System**	
Effective Column	0.00	Primary Seal:	Mechanical Shoe
		Secondary Seal:	None

Deck Characteristics

Deck Fitting Category:	Typical
Deck Type:	Welded

Deck Fitting/Status

Access Hatch (24-in. Diam.)/Unbolted Cover, No gasket	1
Automatic Gauge Float Well/Unbolted Cover, No gasket	1
Roof Leg or Hanger Well/Adjustable	49
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10%	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech.	1

400 Barrel Veridical Fixed Roof Tank(s) [SCC 40400312]

Tank Dimensions

Shell Length (ft):	20.00	Shell Color/Shade:	
Diameter (ft):	12.00	Shell Condition:	
Volume (gallons):	16,920.59		

Roof Characteristics		**Breather Vent Settings**
Type:	Dome	Vacuum Settings (psig):
Height (ft)	0.00	Pressure Settings (psig)
Radius (ft) [Dome Roof]	12.00	Is Tanks Heated (Y/N):

Tank Throughput	Existing Tanks [A1 - A6 and AE1 -	New Tanks [Tanks AE10 - AE13]
Turnovers:	560.36	679.5
Net Throughput (gal/yr):	9,481,584	11,497,500

Liquid Contents of Storage Tank - Properties:

		Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp	Vapor Pressure (psia)			Vapor Mol.	Liquid Mass	Vapor Mass	Mol.	Basis for Vapor
Mixture/Component	Month	Avg.	Min.	Max.	(deg F)	Avg.	Min.	Max.	Weight.	Fraction	Fraction	Weight	Pressure Calculations
Crude Oil (RVP 5)	All	43.08	37.17	48.98	41.45	2.041	N/A	N/A	50.00			207.00	Option 4: RVP=5

TANKS 4.0.9D Annual Emission Reports:

100,000 bbl IFRT Annual Emission Calculations

Rim Seal Losses (lb):	620.7157
Seal Factor A (lb-mole/ft-yr):	5.8000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.0399
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.0410
Tank Diameter (ft):	134.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Withdrawal Losses (lb):	498.2502
Number of Columns:	0.0000
Effective Column Diameter (ft):	0.0000
Annual Net Throughput (gal/yr.):	69,804,000.00
Shell Clingage Factor (bbl/1000 sqft):	0.0060
Average Organic Liquid Density (lb/gal):	7.1000
Tank Diameter (ft):	134.0000
Deck Fitting Losses (lb):	363.6282

Value of Vapor Pressure Function:	0.0399
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	455.3000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000
Tank Diameter (ft):	134.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Total Losses (lb):	1,482.5276

Roof Fitting/Status	Qty	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, No Gasket	1	36.00	5.90	1.20	28.7516
Automatic Gauge Float Well/Unbolted Cover, No Gasket	1	14.00	5.40	1.10	11.1812
Roof Leg or Hanger Well/Adjustable	49	7.90	0.00	0.00	309.1599
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	9.5839
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	4.9517

25,000 bbl IFRT Annual Emission Calculations

Rim Seal Losses (lb):	620.7157
Seal Factor A (lb-mole/ft-yr):	5.8000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.0399
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.0410
Tank Diameter (ft):	134.00
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Withdrawal Losses (lb):	2,134.1092
Number of Columns:	0.0000
Effective Column Diameter (ft):	0.0000
Annual Net Throughput (gal/yr.):	298,985,022.00
Shell Clingage Factor (bbl/1000 sqft):	0.0060
Average Organic Liquid Density (lb/gal):	7.1000
Tank Diameter (ft):	134.00

25,000 bbl IFRT Annual Emission Calculations, Continued

Deck Fitting Losses (lb):	363.6282
Value of Vapor Pressure Function:	0.0399
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	455.3000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000
Tank Diameter (ft):	134.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Total Losses (lb):	3,118.4531

Roof Fitting/Status	Qty.	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, No Gasket	1	36.00	5.90	1.20	28.7516
Automatic Gauge Float Well/Unbolted Cover, No Gasket	1	14.00	5.40	1.10	11.1812
Roof Leg or Hanger Well/Adjustable	49	7.90	0.00	0.00	309.1599
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	9.5839
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	4.9517

400 bbl VFR Annual Emission Calculations [Existing Tanks A1-A6; AE1-AE9]

Standing Losses (lb):	657.9258
Vapor Space Volume (cu ft):	1,224.0621
Vapor Density (lb/cu ft):	0.0214
Vapor Space Expansion Factor:	0.1611
Vented Vapor Saturation Factor:	0.4268
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	1,224.0621
Tank Diameter (ft):	12.0000
Vapor Space Outage (ft):	10.8231
Tank Shell Height (ft):	20.0000
Average Liquid Height (ft):	10.0000
Roof Outage (ft):	0.8231
Roof Outage (Dome Roof)	
Roof Outage (ft):	0.8231
Dome Radius (ft):	12.0000
Shell Radius (ft):	6.0000

Vapor Density	
Vapor Density (lb/cu ft):	0.0214
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.3409
Daily Avg. Liquid Surface Temp. (deg. R):	509.3644
Daily Average Ambient Temp. (deg. F):	41.4292
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	504.1792
Tank Paint Solar Absorptance (Shell):	0.6800
Tank Paint Solar Absorptance (Roof):	0.6800
Daily Total Solar Insulation Factor (Btu/sqft day):	1,217.5000
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.1611
Daily Vapor Temperature Range (deg. R):	41.0192
Daily Vapor Pressure Range (psia):	0.9849
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.3409
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.8900
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	2.8749
Daily Avg. Liquid Surface Temp. (deg R):	509.3644
Daily Min. Liquid Surface Temp. (deg R):	499.1096
Daily Max. Liquid Surface Temp. (deg R):	519.6192
Daily Ambient Temp. Range (deg. R):	24.7750
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.4268
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.3409
Vapor Space Outage (ft):	10.8231
Working Losses (lb):	4,363.8226
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.3409
Annual Net Throughput (gal/yr.):	9,481,623.1909
Annual Turnovers:	560.3600
Turnover Factor:	0.2202
Maximum Liquid Volume (gal):	16,920.5925
Maximum Liquid Height (ft):	20.0000
Tank Diameter (ft):	12.0000
Working Loss Product Factor:	0.7500
Total Losses (lb):	5,021.7484

400 bbl VFR Annual Emission Calculations [New Tanks AE10 - AE13]	
Standing Losses (lb):	657.9258
Vapor Space Volume (cu ft):	1,224.0621
Vapor Density (lb/cu ft):	0.0214
Vapor Space Expansion Factor:	0.1611
Vented Vapor Saturation Factor:	0.4268
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	1,224.0621
Tank Diameter (ft):	12.0000
Vapor Space Outage (ft):	10.8231
Tank Shell Height (ft):	20.0000
Average Liquid Height (ft):	10.0000
Roof Outage (ft):	0.8231
Roof Outage (Dome Roof)	
Roof Outage (ft):	0.8231
Dome Radius (ft):	12.0000
Shell Radius (ft):	6.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0214
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.3409
Daily Avg. Liquid Surface Temp. (deg. R):	509.3644
Daily Average Ambient Temp. (deg. F):	41.4292
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	504.1792
Tank Paint Solar Absorptance (Shell):	0.6800
Tank Paint Solar Absorptance (Roof):	0.6800
Daily Total Solar Insulation Factor (Btu/sqft day):	1,217.5000
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.1611
Daily Vapor Temperature Range (deg. R):	41.0192
Daily Vapor Pressure Range (psia):	0.9849
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.3409
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.8900
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	2.8749
Daily Avg. Liquid Surface Temp. (deg R):	509.3644
Daily Min. Liquid Surface Temp. (deg R):	499.1096
Daily Max. Liquid Surface Temp. (deg R):	519.6192
Daily Ambient Temp. Range (deg. R):	24.7750

Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.4268
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.3409
Vapor Space Outage (ft):	10.8231
Working Losses (lb):	5,066.0416
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.3409
Annual Net Throughput (gal/yr.):	11,497,500.0000
Annual Turnovers:	679.4975
Turnover Factor:	0.2108
Maximum Liquid Volume (gal):	16,920.5925
Maximum Liquid Height (ft):	20.0000
Tank Diameter (ft):	12.0000
Working Loss Product Factor:	0.7500
Total Losses (lb):	5,723.9674

Total Tank VOC Losses/Emissions

Tank Identification	Rim Seal Loss (lbs/yea	Withdrawal Loss (lbs/yea	Deck fitting Loss (lbs/yea	Deck Seam Loss (lbs/year	Working Loss (lbs/yea	Breathing Loss (lbs/yea	Total Emissions (lbs/yea	TPY
100,000 bbl [100-1]	620.72	143.9	363.63	--	--	--	1128.24	0.56
25,000 bbl [25-1 & 25-2]	310.39	1232.88	180.66	--	--	--	1723.90	0.86
400 bbl [Existing Tanks A1-A6;	--	--	--	--	4363.82	657.93	5021.75	2.51
400 bbl [New Tanks AE10 - AE13]	--	--	--	--	5066.04	657.93	5723.97	2.86

Fugitive Emissions - Equipment

VOC Emissions = (Number of Components) * (Component Specific EF)

Component Description	Number of Componen	Emission Factors (kg/hr)	Emission Factors (lbs/hr)	VOC Emissions lbs/hr	VOC Emissions TPY
Valves	473	0.0025	0.0055	2.67	11.71
Pump Seals	17	0.013	0.0287	0.52	2.26
Other	41	0.0075	0.0165	0.73	3.19
Connectors	0	0.00021	0.0005	-	--
Flanges	314	0.00011	0.0002	0.08	0.34
Open-end Lines	0	0.0014	0.0031	--	--
			Total VOC Emissions	3.99	17.495

Basis:

→ *Protocol for Equipment Leak Emission Estimates, EPA-453/R-95-017, USEPA-OAQPS Emission*

→ *Applied Light Oil emission factors*

Hazardous Air Pollutant Emissions

HAP Constituents	Emission Factor [% HAP Vapor Phase]	HAP Emissions Per Source Type [tpy] 100 K bbl Tank	25 K bbl Tank	400 bbl Tank [A1-A6; AE1-AE9]	400 bbl Tank [AE10-AE13]	Equip. Leaks
2,2,4,-Trimethylpentane	0.56	0.003	0.005	0.014	0.016	0.098
Benzene	0.12	0.0007	0.001	0.003	0.003	0.021
Ethyl Benzene	0.09	0.001	0.001	0.002	0.003	0.016
m & p-Xylene	0.46	0.003	0.004	0.012	0.013	0.080
n-Hexane	2.2	0.012	0.019	0.055	0.063	0.385
o-Xylene	0.11	0.0006	0.001	0.003	0.003	0.019
Toluene	0.23	0.001	0.002	0.006	0.007	0.040
Total HAP Emissions [tpy] ►		0.021	0.032	0.095	0.108	0.660

Basis: Individual HAP emission factors US EPA Speciate Program Profile No. 1208 - Crude Oil Production Gathering Tanks

Natural Gas-Fired Heater [SCC 10500206]

Fuel 500 Btu/hr [Design Maximum - Combined Throughput]
0.00000048 MMscf/hr [Based on 1,050 Btu/scf heating value]
Operating 8760 hours/year

Particulate Emissions

Total Particulate PM/PM_{10} /$PM_{2.5}$

Emission Factor 7.60 lb/MMscf [AP- 42 Table 1.4-1, 7/98]
Calculations (7.6 lb/MMscf) * (0.00000048 MMscf/hr) = 0.000004 lbs/hr
(0.000004 lbs/hr) * (hrs/yr) * (0.0005 tons/lb) = 0.000016 TPY

Total Particulate PM/PM_{10} /$PM_{2.5}$ Emissions

Emission Factor 5.70 lb/MMscf [AP- 42 Table 1.4-2, 7/98]
Calculations (5.7 lb/MMscf) * (0.00000048 MMscf/hr) = 0.000003 lbs/hr
(0.000003 lbs/hr) * (hrs/yr) * (0.0005 tons/lb) = 0.000012 TPY

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

Emission Factor 1.90 lb/MMscf [AP- 42 Table 1.4-2, 7/98]
Calculations (1.9 lb/MMscf) * (0.00000048 MMscf/hr) = 0.000001 lbs/hr
(0.000001 lbs/hr) * (hrs/yr) * (0.0005 tons/lb) = 0.000004 TPY

CO Emissions (uncontrolled):

Emission Factor 84.00 lb/MMscf [AP- 42 Table 1.4-1, 7/98]
Calculations (84 lb/MMscf) * (0.00000048 MMscf/hr) = 0.000040 lbs/hr
(0.000040 lbs/hr) * (hrs/yr) * (0.0005 tons/lb) = 0.000175 TPY

NO_x Emissions (uncontrolled):

Emission Factor 100.00 lb/MMscf [AP- 42 Table 1.4-1, 7/98]
Calculations (100 lb/MMscf) * (0.00000048 MMscf/hr) = 0.000048 lbs/hr
(0.000048 lbs/hr) * (hrs/yr) * (0.0005 tons/lb) = 0.000209 TPY

SO_2 Emissions (uncontrolled):

Emission Factor	0.60 lb/MMscf	[AP- 42 Table 1.4-2, 7/98]	
Calculations	(0.6 lb/MMscf) * (0.00000048 MMscf/hr) =		0.000000 lbs/hr
	(0.0000003 lbs/hr) * (hrs/yr) * (0.0005 tons/lb) =		0.000001 TPY

VOC Emissions (uncontrolled):

Emission Factor	5.50 lb/MMscf	[AP- 42 Table 1.4-2, 7/98]	
Calculations	(5.5 lb/MMscf) * (0.00000048 MMscf/hr) =		0.000003 lbs/hr
	(0.000003 lbs/hr) * (hrs/yr) * (0.0005 tons/lb) =		0.000011 TPY

Emergency Generator - 8 kW Propane-Fired [SCC 20201001]

Fuel	62	ft^3/hr [Manufacturer Specification @ 100% Load]
	0.15624	MMBtu/hr [Propane Heating Value = 2520 Btu/ft^3]
Operating	8760	hours/year

Basis:

→ *Utilized emission factors from AP-42 3.2 Natural Gas-Fired*

→ *4SLB Engine to provide a for worst case NO_x Emissions Scenario [AP- 42 Table*

→ *Worst case emission factor selected (< 90%*

→ *Worst case emission factor selected (< 90% - 105% Load)*

Particulate Emissions (uncontrolled):

PM Emissions - filterable: (All PM assumed to be ≤ $PM_{2.5}$)

Emission Factor	0.0000771 lb/MMBtu	[AP- 42 Table	
Calculations	(0.0000771 lb/MMBtu) * (MMBtu/hr)		0.00001 lbs/hr
	(0.00001 lbs/hr) * (hrs/yr) * (0.0005 tons/lb) =		0.00005 TPY

PM Emissions - condensable: (All PM assumed to be ≤ $PM_{2.5}$)

Emission Factor	0.00991 lb/MMBtu	[AP- 42 Table	
Calculations	(0.00991 lb/MMBtu) * (MMBtu/hr) =		0.00155 lbs/hr
	(0.00155 lbs/hr) * (hrs/yr) * (0.0005 tons/lb) =		0.00678 TPY

Total PM Emissions:

Calculations	PM Condensable + PM	0.001560 lbs/hr
	(0.00155 lbs/hr) * (hrs/yr) * (0.0005	0.00683 TPY

CO Emissions (uncontrolled):

Emission Factor	0.557 lb/MMBtu*	[AP- 42 Table 3.2-3, 7/00]	
Calculations	(0.557 lb/MMBtu) * (0.15624 MMBtu/hr) =		0.087026 lbs/hr
	(0.09 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =		0.381172 TPY

NO_x Emissions (uncontrolled):

Emission Factor	4.08 lb/MMBtu*	[AP- 42 Table	
Calculations	(4.08 lb/MMBtu) * (MMBtu/hr) =		0.63746 lbs/hr
	(0.64 lbs/hr) * (hrs/yr) * (0.0005 tons/lb) =		2.79207 TPY

SO_2 Emissions (uncontrolled):

Emission Factor	0.000588 lb/MMBtu	[AP- 42 Table	
Calculations	(0.000588 lb/MMBtu) * (MMBtu/hr) =		0.00009 lbs/hr
	(0.00 lbs/hr) * (hrs/yr) * (0.0005 tons/lb) =		0.00040 TPY

VOC Emissions

Emission Factor	0.118 lb/MMBtu	[AP- 42 Table	
Calculations	(0.12 g/bhp-hr) * (hp) * 0.002205 lb/gram) =		0.01844 lbs/hr
	(0.02 lbs/hr) * (hrs/yr) * (0.0005 tons/lb) =		0.08075 TPY

Unpaved Roadways (Haul Roads)

Miles 17878 Annual Vehicle Miles Travelled
Vehicle 39.1 Tons [Mean Vehicle Weight: 45 tons Loaded & 18.8 tons empty]
Control Method: Water Application
Control Efficiency 50%

Mileage

	Number of Tanks	Individual Tank [bbl/Yr]	Total Throughput [bbl]	No. Loads	VMT
100,000 bbl	1	1,661,778	1,661,778	5830.8	1457.7
25000 bbl	2	7,118,691	14,237,382	49955.73	12488.93
400 bbl (1)	15	225752	3386280	11881.68	2970.42
400 bbl (2)	4	273750	1095000	3842.11	960.53
	Facility Totals ►		9073710	71511	17877.58

Particulate Emissions

Emission Factor EF = k(s/12)^a * (W/3)^b [AP-42 13.2.2.2, 11/06]

where: EF, Emission Factor = lbs Emitted Per Vehicle Mile Traveled (VMT)

k, Empirical Constant PM =	4.9
k, Empirical Constant PM_{10} =	1.5
k, Empirical Constant $PM_{2.5}$ =	0.15
s, Surface Material Silt Content	13.5
W, Mean Vehicle Weight (tons)	39.1
a, Empirical Constant PM =	0.7
a, Empirical Constant PM_{10}	0.9
b, Empirical Constant PM -	0.45

PM Emissions:

Emission Factor	EF = 4.9 * (13.5/12)^0.7 * (39.1/3)^0.45 = 15.42 lbs/VMT	
Calculations	(15.42 lbs/VMT) * (17878 VMT/year) * (1-.50 Ce) (365-80)/365*1ton/2000lbs=	53.80 tons/year

PM_{10} Emissions:

Emission Factor	EF = 1.5 * (13.5/12)^0.7 * (39.1/3)^0.45 = 4.83 lbs/VMT	
Calculations	(4.83lbs/VMT) * (17878 VMT/year) * (1-.50 Ce)(365-80)/365*1ton/2000lbs =	16.86 tons/year

$PM_{2.5}$ Emissions:

Emission Factor	EF = 0.15 * (13.5/12)^0.9 * (39.1/3)^0.45 0.45 lbs/VMT	
Calculations	(0.45 lbs/VMT) * (17878 VMT/year) * (1-.50 Ce) (365-80)/365*1ton/2000lbs =	1.57 tons/year

V. Existing Air Quality

The Albin station is located in the Southwest ¼ of the Southwest ¼ of Section 25, Township 24 North, Range 56 East in Richland County, Montana. Eastern Montana generally provides for very good ventilation throughout the year. The area is designated unclassified/attainment with all ambient air quality standards and there are no major air pollution sources in the surrounding area.

VI. Air Quality Impacts

This permit action is an administrative amendment and therefore, the Department determined that there will be no impacts from this permitting action. The Department believes the facility will not have any air quality impacts.

VII. Ambient Air Impact Analysis

This permit action is an administrative amendment and therefore, the Department determined that there will be no impacts from this permitting action. The Department 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, the Department conducted the following private property taking and damaging assessment.

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

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

IX. Environmental Assessment

The current permit action will not result in an increase of emissions from the facility and is considered an administrative action; therefore, an Environmental Assessment is not required.

Permit Analysis Prepared by: Loni Patterson
Date: August 10, 2016