



Brian Schweitzer, Governor

P. O. Box 200901

Helena, MT 59620-0901

(406) 444-2544

Website: www.deq.mt.gov

April 3, 2012

Mr. Mike Howerton
Banner Transportation Company, LLC
Albin Station
P.O. Box 5103
Enid, OK 73702

Dear Howerton:

Montana Air Quality Permit #4599-01 is deemed final as of April 3, 2012, by the Department of Environmental Quality (Department). This permit is for a crude oil unloading facility and associated equipment. 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,

Vickie Walsh
Air Permitting Program Supervisor
Air Resources Management Bureau
(406) 444-9741

Doug Kuenzli
Environmental Science Specialist
Air Resources Management Bureau
(406) 444-4267

VW:DCK
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #4599-01

Banner Transportation Company, LLC
Albin Station
P.O. Box 5103
Enid, OK 73702

April 3, 2012



MONTANA AIR QUALITY PERMIT

Issued To: Banner Transportation Company, LLC MAQP: #4599-01
Albin Station Application Complete: 02/8/2012
P.O. Box 5103 Preliminary Determination Issued: 02/24/2012
Enid, OK 73702 Department's Decision Issued: 03/16/2012
Permit Final: April 3, 2012
AFS #: 083-0796

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Banner Transportation Company, LLC (BTC), 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

BTC owns and operates a crude oil unloading facility located in the Southwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ 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 January 10, 2012, the Department of Environmental Quality (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 current action incorporates the proposed modifications, updates the rule references and language used by the Department, and updates the emissions inventory.

SECTION II: Conditions and Limitations

A. Operational Limitations

1. BTC shall unload, into the crude oil tanks, crude oil only (ARM 17.8.749).
2. The combined throughput of crude oil through Tanks A1 through A8, Tanks AE1 through AE4, and Tanks EC01 through EC03 shall not exceed 142,224,345 gallons per year (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 192,885,000 gallons per year (ARM 17.8.749).
4. BTC 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. BTC shall comply with all applicable standards, testing, reporting, recordkeeping, and monitoring requirements of 40 CFR 60, Subpart Kb (ARM 17.8.752, ARM 17.8.340, and 40 CFR 60, Subpart Kb)
7. BTC 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. BTC 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. BTC 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 17.8.749).

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. BTC 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. BTC 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 BTC 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. BTC 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.
2. Throughput 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).
3. 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).
4. BTC 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(1)(d) (ARM 17.8.745).

F. Notification

BTC shall provide the Department with written notification of the actual start-up date of the additional crude oil storage tanks postmarked within 15 days after the actual start-up date (ARM 17.8.749)

SECTION III: General Conditions

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

- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department’s decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department’s decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department’s decision on the application is final 16 days after the Department’s decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the MAQP shall be made available for inspection by the Department at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by BTC 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
Banner Transportation Company LLC
MAQP #4599-01

I. Introduction/Process Description

Banner Transportation Company (BTC) 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]
 - Fifteen (15) 16,800 gal Vertical Fixed Roof tanks [400 bbl]
3. Two (2) 500 British Thermal Units per hour (Btu/hr) natural gas fired heaters (insignificant emissions units)
2. Associated Equipment
 - Fugitive VOC emissions
 - Fugitive PM emissions

B. Source Description

BTC 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 Montana Air Quality Permit Application 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

D. Current Permit Action

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 current action incorporates the proposed modifications, updates the rule references and language used by the Department, and updates the emissions inventory. **MAQP #4599-01** replaces MAQP #4599-00

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 of Environmental Quality (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).

BTC 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 (SO₂)
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide (NO₂)
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide (CO)
5. ARM 17.8.213 Ambient Air Quality Standards for Ozone (O₃)
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide (H₂S)
7. ARM 17.8.220 Ambient Air Quality Standards 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 (PM₁₀)

BTC 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, BTC 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).
 - 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 (m³) 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 m³ 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 m³ but less than 151 m³ 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 m³). However, the 25,000 bbl tanks and the 100,000 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 BTC, the design of these tanks complies with requirements of this subpart.
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.

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. BTC 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 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 tons per year (tpy) of any pollutant. BTC has a PTE greater than 25 tpy of PM and Volatile Organic Compounds (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 MAQP Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. BTC submitted the required permit application for the current permit action. (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. BTC submitted an affidavit of publication of public notice for the January 11, 2012 issue of the *Sydney Herald*, a newspaper of general circulation in the Town of Sydney in Richland 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 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 BTC 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 PM₁₀ in a serious PM₁₀ 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 #4599-01 for BTC, 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 PM₁₀ non-attainment 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.
 - g. This source is not an EPA designated Title V source.

Based on these facts, the Department has determined that BTC will be a minor source of emissions as defined under Title V.

III. BACT Determination

A BACT determination is required for each new or modified source. BTC 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 with the current application, addressing some available methods of controlling VOC emissions released. The Department reviewed these methods, as well as previous BACT determinations. The following control options have been reviewed by the Department in order to make the following BACT determination.

A. Floating Roof Storage Tanks

BTC is proposing to operate tanks constructed with a fixed roof. Installing floating roofs on the smaller 400 bbl crude oil tanks would not be economically feasible, given the uncontrolled emissions of VOC from those tanks. Furthermore, BTC indicated that floating roof 400 bbl storage tanks are not commercially available. The Department has not required floating roof tanks as BACT for other similar sources. Therefore, floating roofs are not considered BACT in this case.

B. Flares

BTC provided a review of operating an open or enclosed flare to thermally destroy the VOC emissions. Flares provide a high level of destruction efficiency and can be operated with low capital cost and maintenance; however, the operation of such a device presents several shortcomings in conjunction with this type of facility. Operation of a flare at a crude oil unloading station presents a safety concern due to the intake of air into the tanks during liquid withdrawal and the potential of the flare to ignite the vapors within the tank during this process.

Additionally, a continuous source of fuel gas for the pilot flame is not available, nor is there a continuous vent gas stream for the primary flame. An external fuel source would be required to enrich the vent stream to maintain a minimum heating value for flare combustion.

Due to the expressed safety concerns and the technical and economical impracticability's associated with the lack of fuel gas a flare does not constitute BACT in this instance. The Department does not consider the use of a flare as a generally accepted practice at crude oil unloading stations.

C. Vapor Recovery Unit

Vapor recovery technologies all require a continuous source of fuel gas which is not available on site for the project. In addition, there is no sales gas line available for a recovered gas stream. These technologies were eliminated as BACT in this instance due to technical and economic infeasibility.

D. Submerged Fill Practices

During submerged fill loading, liquid enters the tank below the liquid level in the tank. Liquid turbulence is controlled significantly during submerged loading, resulting in lower vapor generation than encountered during splash loading. Based on review of crude oil emission factors associated with cargo tank loading via submerged fill versus splash loading, a reduction in emissions can be achieved by utilizing submerged filling. Therefore, the Department has determined that submerged filling practices constitute BACT in this instance, as proposed by BTC. The Department has also determined that proper operation, inspection, and maintenance of the tanks, as proposed by BTC, constitutes BACT.

E. Fugitive Emissions – VOC BACT

Fugitive emissions occur from vapor losses from valves, pump seals, flanges, connectors, and air eliminators. The Department is not aware of any method of controlling these emissions other than through routine inspection and maintenance of the components. Therefore, the Department has determined that routine inspections and appropriate maintenance of these components constitutes BACT.

F. Fugitive Emissions – PM BACT

Fugitive emissions from vehicle traffic on unpaved roads would be expected to occur at the facility. Two types of emissions controls are readily available and are typically used for dust suppression of fugitive particulate emissions from vehicle traffic – chemical dust suppressant and water. Chemical dust suppressant could be used on the gravel roads at the facility. However, because water is more readily available, is less expensive, is equally as effective, and is more environmentally friendly than chemical dust suppressant, water has been identified as BACT for particulate emissions at the facility. BTC may, however, use chemical dust suppressant to assist in controlling particulate emissions from the surrounding plant area. Water suppression, with the option of using chemical dust suppressant, has been required of recently permitted similar sources.

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

IV. Emissions Inventory

Emission Source		Emissions Tons/Year [PTE]							
Tank ID	Tank Description	PM	PM ₁₀	PM _{2.5}	CO	NO _x	SO ₂	VOC	HAPS
100-1	100,000 bbl Internal Floating Roof Tank	--	--	--	--	--	--	0.56	0.021
25-1	25,000 bbl Internal Floating Roof Tank	--	--	--	--	--	--	0.86	0.032
25-1	25,000 bbl Internal Floating Roof Tank	--	--	--	--	--	--	0.86	0.032
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
A7	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
A8	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
EC01	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
EC02	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
EC03	400 bbl Vertical Fixed Roof Tank	--	--	--	--	--	--	2.51	0.095
--	Fugitive Emissions - Equipment Leaks	--	--	--	--	--	--	16.86	0.636
--	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
--	Fugitive Particulate Emissions - Vehicle Travel	29.56	9.27	0.93	--	--	--	--	--
TOTAL EMISSIONS ►		29.56	9.27	0.93	NG	NG	NG	56.81	2.14

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

Btu, British Thermal Units	PM _{2.5} , particulate matter with an aerodynamic diameter of 2.5 microns or less [Sum of condensable and filterable]
CO, carbon monoxide	psia, pounds per square inch actual
Gal, gallon	psig, pounds per square inch as read by gauge (not including atmospheric pressure)
HAP, Hazardous Air Pollutant	R, degrees Rankine
hp, horsepower	RVP, Reid Vapor Pressure
lb. pound	SO ₂ , oxides of sulfur
NO _x , oxides of nitrogen	sq/ft, square feet
NG, negligible emissions [< 0.001 tpy]	TPH, tons per hour
PTE, Potential To Emit	TPY, tons per year
PM, particulate matter	VOC, volatile organic compounds
PM _{COND} , condensable particulate matter	
PM ₁₀ , particulate matter with an aerodynamic diameter of 10 microns or less	

Crude Oil Storage & Handling [SCC 404003128109]

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

Tank Identification and Physical Characteristics:

100,000 Barrel Internal Floating Roof Tank

Tank Dimensions

Diameter (ft):	134.00
Volume (gallons):	4,200,000.00
Turnovers:	4.80
Self Supporting Roof:	YES
Annual Net Throughput(gal/yr):	20,160,000.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition:	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Is Tank Heated (y/n): NO
 Number of Columns: 0.00
 Effective Column Diameter: 0.00

Rim-Seal System
 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% Open 1
 Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask. 1

25,000 Barrel Internal Floating Roof Tank

Tank Dimensions

Diameter (ft): 67.00
 Volume (gallons): 1,050,000.00
 Turnovers: 82.25
 Self Supporting Roof: YES
 Annual Net Throughput(gal/yr): 86,362,500.00
 Is Tank Heated (y/n): NO
 Number of Columns: 0.00
 Effective Column Diameter: 0.00

Paint Characteristics

Internal Shell Condition: Light Rust
 Shell Color/Shade: White/White
 Shell Condition: Good
 Roof Color/Shade: White/White
 Roof Condition: Good

Rim-Seal System

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 20
 Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open 1
 Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask. 1

400 Barrel Veridical Fixed Roof Tank

Tank Dimensions

Shell Length (ft): 20.00
 Diameter (ft): 12.00
 Volume (gallons): 16,920.59
 Turnovers: 560.36
 Net Throughput(gal/yr): 9,481,623.19
 Is Tank Heated (y/n): N

Paint Characteristics

Shell Color/Shade: Gray/Medium
 Shell Condition: Good

Breather Vent Settings

Vacuum Settings (psig): -0.03
 Pressure Settings (psig): 0.03

Roof Characteristics

Type: Dome
 Height (ft): 0.00
 Radius (ft) [Dome Roof]: 12.00

Liquid Contents of Storage Tank - Properties:

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight.	Liquid Mass Fraction	Vapor Mass Fraction	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
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):	143.8990
Number of Columns:	0.0000
Effective Column Diameter (ft):	0.0000
Annual Net Throughput (gal/yr.):	20,160,000.0000
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):	1,128.2429

Roof Fitting/Status	Qty	Roof Fitting Loss Factors			Losses(lb)
		KFa(lb-mole/yr)	KFb(lb-mole/(yr mph ⁿ))	m	
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):	310.3579
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):	67.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Withdrawal Losses (lb):	1,232.8845
Number of Columns:	0.0000
Effective Column Diameter (ft):	0.0000

Annual Net Throughput (gal/yr.):	86,362,500.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0060
Average Organic Liquid Density (lb/gal):	7.1000
Tank Diameter (ft):	67.0000
Deck Fitting Losses (lb):	180.6561
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):	226.2000
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):	67.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Total Losses (lb):	1,723.8985

Roof Fitting/Status	Qty.	Roof Fitting Loss Factors			Losses(lb)
		KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	
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	20	7.90	0.00	0.00	126.1877
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

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: 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

Total Tank VOC Losses/Emissions

Tank Identification	Rim Seal Loss (lbs/year)	Withdrawal Loss (lbs/year)	Deck fitting Loss (lbs/year)	Deck Seam Loss (lbs/year)	Working Loss (lbs/year)	Breathing Loss (lbs/year)	Total Emissions	
							(lbs/year)	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 [A1-A8; AE1- AE4; EC01-EC03]	--	--	--	--	4363.82	657.93	5021.75	2.51

Fugitive Emissions - Equipment Leaks

VOC Emissions = (No. Components) * (Component Specific EF)

Component Description	Number of Components	Emission Factors		VOC Emissions	
		(kg/hr)	(lbs/hr)	lbs/hr	TPY
Valves	473	0.0025	0.0055	2.61	11.42
Pump Seals	17	0.013	0.0287	0.49	2.13
Other	41	0.0075	0.0165	0.68	2.97
Connectors	0	0.00021	0.0005	0.00	0.00
Flanges	314	0.00011	0.0002	0.08	0.33
Open-end Lines	0	0.0014	0.0031	--	--
Total VOC Emissions ►				3.849	16.858

Basis: Protocol for Equipment Leak Emission Estimates, EPA-453/R-95-017, Emission Standards Division 11/95

Hazardous Air Pollutant Emissions

HAP Constituents	Emission Factor [% HAP Vapor Phase]	HAP Emissions Per Source Type			
		100 K bbl Tank	25 K bbl Tank	400 bbl Tank	Equip. Leaks
2,2,4,-Trimethylpentane	0.56	0.003	0.005	0.014	0.094
Benzene	0.12	0.0007	0.001	0.003	0.020
Ethyl Benzene	0.09	0.001	0.001	0.002	0.015
m & p-Xylene	0.46	0.003	0.004	0.012	0.078
n-Hexane	2.2	0.012	0.019	0.055	0.371

o-Xylene	0.11	0.0006	0.001	0.003	0.019
Toluene	0.23	0.001	0.002	0.006	0.039
Total HAP Emissions ▶		0.021	0.032	0.095	0.636

Individual HAP emission factor basis US EPA Speciate Program Profile No. 1208 - Crude Oil Production Gathering Tanks

Natural Gas-Fired Heater

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

Particulate Emissions (uncontrolled):

Total Particulate PM/PM₁₀/PM_{2.5} Emissions:

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/PM₁₀/PM_{2.5} Emissions (condensable):

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

Total Particulate PM/PM₁₀/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

SO₂ 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

Unpaved Roadways [Haul Roads]

Miles Travelled: 6999 Annual Vehicle Miles Travelled
Vehicle Weight: 39.1 Tons [Mean Vehicle Weight: 45 tons Loaded & 18.8 tons empty]
Control Method: Water Application

Control Efficiency (Ce): 50%

Particulate Emissions (controlled):

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 [AP-42 Table 13.2.2-2, 11/06]
k, Empirical Constant PM₁₀ = 1.5 [AP-42 Table 13.2.2-2, 11/06]
k, Empirical Constant PM_{2.5} = 0.15 [AP-42 Table 13.2.2-2, 11/06]
s, Surface Material Silt Content (%) = 13.5 [AP-42 Table 13.2.2-1, 11/06]
W, Mean Vehicle Weight (tons) = 39.1 [Data Provided By Applicant]
a, Empirical Constant PM = 0.7 [AP-42 Table 13.2.2-2, 11/06]
a, Empirical Constant PM₁₀/PM_{2.5} = 0.9 [AP-42 Table 13.2.2-2, 11/06]
b, Empirical Constant PM - PM_{2.5} = 0.45 [AP-42 Table 13.2.2-2, 11/06]

PM Emissions:

Emission Factor $EF = 4.9 * (13.5/12)^{0.7} * (39.1/3)^{0.45} = 16.90$ lbs/VMT
Calculations $(16.90 \text{ lbs/VMT}) * (6999 \text{ VMT/year}) * (1-.50 \text{ Ce}) = 59126.72$ lbs/year
 $(59,126.72 \text{ lbs/year}) * (0.0005 \text{ tons/lb}) = 29.56$ TPY

PM₁₀ Emissions:

Emission Factor $EF = 1.5 * (13.5/12)^{0.7} * (39.1/3)^{0.45} = 5.30$ lbs/VMT
Calculations $(5.30 \text{ lbs/VMT}) * (6999 \text{ VMT/year}) * (1-.50 \text{ Ce}) = 18531.45$ lbs/year
 $(18,531.45 \text{ lbs/year}) * (0.0005 \text{ tons/lb}) = 9.27$ TPY

PM_{2.5} Emissions:

Emission Factor $EF = 0.15 * (13.5/12)^{0.9} * (39.1/3)^{0.45} = 0.53$ lbs/VMT
Calculations $(0.53 \text{ lbs/VMT}) * (6999 \text{ VMT/year}) * (1-.50 \text{ Ce}) = 1853.15$ lbs/year
 $(1,853.15 \text{ lbs/year}) * (0.0005 \text{ tons/lb}) = 0.93$ TPY

V. Existing Air Quality

The Albin station is located in eastern Montana within a sparsely populated area with generally 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. Ambient Air Impact Analysis

The Department determined, based on the relatively small amount of allowable emissions, that the impacts from this permitting action will be minor. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

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

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

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

VIII. Environmental Assessment

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

Analysis Prepared By: D. Kuenzli
Date: February 13, 2012

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-3490

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Banner Transportation Company, LLC
P.O. Box 5103
Enid, OK 73702

Montana Air Quality Permit Number: 4599-01

Preliminary Determination Issued: 02/12/2012

Department Decision Issued: 03/16/2012

Permit Final: 04/03/2012

1. *Legal Description of Site:* Southwest ¼ of the Southwest¼ of Section 25, Township 24 North, Range 56 East, in Richland County, Montana.
2. *Description of Project:* BTC proposes to operate a crude oil truck unloading station known as the Albin Station. This facility would be used to unload crude oil from transport trucks to storage tanks and to inject the oil into a pipeline.
3. *Objectives of Project:* The objectives of the project would be to generate business and revenue from the transport of crude oil to sales destinations.
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the “no-action” alternative. The “no-action” alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the “no-action” alternative to be appropriate because BTC demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the “no-action” alternative was eliminated from further consideration.
5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, would be included in MAQP #4599-01.
6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			X			Yes
B	Water Quality, Quantity, and Distribution			X			Yes
C	Geology and Soil Quality, Stability and Moisture			X			Yes
D	Vegetation Cover, Quantity, and Quality			X			Yes
E	Aesthetics			X			Yes
F	Air Quality			X			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			X			Yes
H	Demands on Environmental Resource of Water, Air and Energy			X			Yes
I	Historical and Archaeological Sites			X			Yes
J	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic Life and Habitats

The Department would expect minor effects to terrestrial and aquatic life and habitats in issuing MAQP #4599-01. The allowable emissions associated with this permitting action are limited and include volatile organic compounds (VOC) and particulate emissions (PM), as well as, minor emissions of hazardous air pollutants (HAP). Control requirements for fugitive dust emissions would be included in MAQP #4599-01 to reduce particulate matter emissions and therefore the amount of deposition. Overall, any impacts to terrestrial and aquatic life and habitats would be expected to be minor.

B. Water Quality, Quantity and Distribution

Minor impacts would be expected on water quality, quantity, and distribution from the proposed project due to pollutant deposition and the use of water for dust suppression on the gravel roads. There would be no surface or groundwater discharges expected from this project, nor would there be any surface waters at or near the project site. Therefore minor, if any, impacts would be expected from the proposed project.

C. Geology and Soil Quality, Stability and Moisture

Water and/or chemical dust suppressant may be used to reduce fugitive dust emissions from vehicle traffic on unpaved roads. Minor, if any, impacts to water quality, quantity and distribution, and geology, soil quality, stability, and moisture would be expected from this activity.

D. Vegetation Cover, Quantity, and Quality

MAQP #4599-01 would require control of fugitive dust emissions to reduce deposition of particulate matter. The allowable emissions from the site are relatively small, and effects to vegetation cover, quantity, and quality would be expected to be minor.

E. Aesthetics

BTC proposes to own and operate a crude oil tanker truck unloading facility. The site would include tanks and truck traffic. Therefore, minor effects to aesthetics would be expected as a result of issuance of MAQP #4599-01.

F. Air Quality

MAQP #4599-01 would permit emissions of volatile organic compounds, particulate matter, and a small amount of HAP's. The air emissions from the facility would be minimized by enforceable conditions in the facility's MAQP. The Department determined, based on the allowable emissions from the facility and the existing air quality in the area, that the impacts from this permitting action would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

In an effort to identify any unique, fragile, or limited environmental resources in the area, the Department contacted the Montana Natural Heritage Program, Natural Resource Information System (NRIS). Search results concluded there is was a single species of concern within the area. In this case, the area was defined by the section, township, and range of the proposed location with an additional one mile buffer zone. The known species of concern identified was the Whooping Crane (Endangered).

Site operations would occur within a previously disturbed industrial site which contains several similar crude oil tank unloading and storage locations. Therefore, the overall industrial nature of the area would not change as a result of this permitting action. Due to the limitations placed on allowable emissions and the current use of the site affects on any unique endangered, fragile, or limited environmental resources would be expected to be minor.

H. Demands on Environmental Resource of Water, Air and Energy

The proposed project would have minor impacts on the demands of environmental resources of water, air, and energy because the facility would be a source of air pollutants. Water would be required for the control of particulate matter from vehicle traffic. The Department has determined that while the proposed project would require environmental resources of water, air, and energy, the impact would be expected to be minor.

I. Historical and Archaeological Sites

In an effort to identify any historical and archaeological sites at or near the proposed project area, the Department contacted the Montana Historical Society, State Historic Preservation Office (SHPO). According to the SHPO, there have not been any previously recorded sites within the designated search locale and that there is a low likelihood that cultural properties would be impacted. In this case, the area was defined by the section, township, and range of the proposed location. Based on the results of SHPO search and the fact that this is an existing facility with no significant construction necessary, the Department had determined that there would be no impact on any historical or archaeological sites.

J. Cumulative and Secondary Impacts

Potential physical and biological effects of any individual considerations above would be expected to be minor. Collectively, the potential cumulative and secondary impacts would be expected to be minor.

8. The following table summarizes the potential economic and social effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores			XX			Yes
B	Cultural Uniqueness and Diversity			XX			Yes
C	Local and State Tax Base and Tax Revenue			XX			Yes
D	Agricultural or Industrial Production			XX			Yes
E	Human Health			XX			Yes
F	Access to and Quality of Recreational and Wilderness Activities			XX			Yes
G	Quantity and Distribution of Employment			XX			Yes
H	Distribution of Population			XX			Yes
I	Demands for Government Services			XX			Yes
J	Industrial and Commercial Activity			XX			Yes
K	Locally Adopted Environmental Plans and Goals			XX			Yes
L	Cumulative and Secondary Impacts			XX			Yes

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department.

A. Social Structures and Mores

The facility would not cause a disruption to any native or traditional lifestyles or communities in the area. The proposed location would be on private property and the surrounding area would mainly be used for agriculture activities, livestock grazing, and other oil and gas activities. Therefore, no impacts would be expected on social structures and mores.

B. Cultural Uniqueness and Diversity

The project would be expected to result in minor, if any, impacts to cultural uniqueness and diversity. Effects to the distribution of population and the quantity and distribution of employment would be expected to be minor.

C. Local and State Tax Base and Tax Revenue

The proposed project would be expected to result in minor impacts to the local and state tax base and tax revenue. MAQP #4599-01 is for minor changes to an existing facility, therefore no new employment would be expected and the no significant gains to tax base or revenue are

D. Agricultural or Industrial Production

Impact on local industrial production would expect to be minor, as the facility is an existing and only a minor expansion is proposed. Minimal deposition of air pollutants would occur on the surrounding land (as described above in Section 7.F), therefore, only minor effects on the surrounding vegetation or agricultural production would be expected to occur. The surrounding area is largely undeveloped or agricultural land. Pollutant deposition from the project would be minimal because the emissions would be well controlled, widely dispersed (from factors such as wind speed and wind direction), and would expect to have minimal deposition on the surrounding area.

E. Human Health

As described in Section 7.F of the EA, the impacts from this facility on human health would expect to be minor because it would be considered a minor source of emissions and the conditions of MAQP #4599-01 would ensure that the facility would operate in compliance with all applicable rules and standards. These rules and standards are designed to be protective of human health.

F. Access to and Quality of Recreational and Wilderness Activities

Access to recreational opportunities would not be limited or modified by this facility. The equipment is located within an existing industrial site that has been established for similar use. All recreational opportunities, if available in the area, would still be accessible. Noise from the facility would be minimal to surroundings because of the facility size, expected hours of operation, and rural location. The facility is on private land and the Department has determined that the project would be a minor industrial source of emissions. Therefore, any changes in the quality of recreational and wilderness activities created by operating the equipment at this site would expect to be minor.

G. Quantity and Distribution of Employment

Minor effect to the quantity and distribution of employment as the facility would be expected. As this facility is in current operation and no significant changes in activity are proposed the impact to the quantity and distribution of employment associated with permit action would expect to be minor.

H. Distribution of Population

No significant change in the quantity and distribution of employment would be expected at this facility. Therefore, minor, if any, effects to the distribution of population would be expected as a result of issuance of MAQP #4599-01.

I. Demands for Government Services

Government services would be required for acquiring the appropriate permits for the proposed project and to verify compliance with the permits that would be issued. However, demands for government services would be expected to be minor.

J. Industrial and Commercial Activity

The Department would expect minor increases in local industrial and commercial activity with additional truck traffic associated with the normal operations of this facility.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans or goals that would be affected by the proposed facility. MAQP #4599-01 would be issued to protect air quality.

L. Cumulative and Secondary Impacts

Overall, minor cumulative and secondary impacts to the social and economic aspects of the human environment would be expected in the immediate area of operation.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for operation of a crude oil unloading station. MAQP #4599-01 includes conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Resources Management Bureau, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: D. Kuenzli

Date: February 13, 2012