



Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor

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November 26, 2010

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

Dear Mr. Howerton:

Montana Air Quality Permit #4598-00 is deemed final as of November 25, 2010, by the Department of Environmental Quality (Department). This permit is for Banner Transportation Company, LLC's Vaira Station 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,

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

Shawn Juers
Environmental Engineer
Air Resources Management Bureau
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VW:SJ
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #4598-00

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

November 25, 2010



MONTANA AIR QUALITY PERMIT

Issued To: Banner Transportation Company, LLC MAQP: #4598-00
P.O. Box 5103 Application Complete: 9/21/2010
Enid, OK 73702 Preliminary Determination Issued: 10/22/2010
Department's Decision Issued: 11/09/2010
Permit Final: 11/25/2010
AFS #: 083-0795

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. Permitted Equipment

BTC owns and operates a crude oil unloading facility. Crude oil enters the facility via tanker truck and pipeline. Twelve 400 barrel (bbl) vertical fixed roof tanks are onsite to store crude oil. The crude oil is transferred off site via pipeline. 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. Emissions sources are detailed in the emissions inventory section of the permit analysis associated with this permit.

B. Plant Location

The facility is located in the NW $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 4, Township 24 North, Range 54 East, in Richland County, Montana, and is referred to as the Vaira Station.

SECTION II: Conditions and Limitations

A. Operational Limitations

1. BTC shall unload, into the crude oil tanks, crude oil only. BTC shall limit the combined throughput of crude oil through the tanks to a total of not more than 108,112,248 gallons per year (ARM 17.8.749).
2. 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).
3. Loading of crude oil into the tanks shall be restricted to submerged fill loading. Submerged fill loading may be accomplished via the submerged fill pipe method and/or the bottom fill loading method (ARM 17.8.752).
4. 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).

5. 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).
6. 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.5 (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 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, and must be submitted to the Department upon request (ARM 17.8.749).

D. Testing Requirements

1. The Department of Environmental Quality (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. 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).
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(l)(d) (ARM 17.8.745).

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 #4598-00

I. Introduction/Process Description

Banner Transportation Company (BTC) owns and operates a crude oil unloading station. The facility is located in the NW¼ of the NW¼ of Section 4, Township 24 North, Range 54 East, and is known as the Vaira Station.

A. Permitted Equipment

- Twelve (12) 400 barrel (bbl) Vertical Fixed Roof Tanks
- Crude Oil Tanker Truck Unloading Station
- Fugitive emissions from vapor losses from valves, pump seals, flanges, connectors, hatches, man-way covers, and air eliminators.

B. Source Description

BTC owns and operates a crude oil unloading facility. Crude oil enters the facility via tanker truck and pipeline.

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 17.8.213 Ambient Air Quality Standard for Ozone
3. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
4. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
5. ARM 17.8.221 Ambient Air Quality Standard for Visibility
6. ARM 17.8.222 Ambient Air Quality Standard for Lead
7. ARM 17.8.223 Ambient Air Quality Standard for 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 be 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). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR Part 60.
 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 of any pollutant. BTC has a PTE greater than 25 tons per year of 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 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. 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 September 1, 2010 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 tons per year of any pollutant (excluding fugitive emissions).

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 by BTC in MAQP application #4598-00, addressing some available methods of controlling VOC and Particulate Matter (PM) emissions. 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. Tanks - VOC BACT

Floating Roof Storage Tanks

BTC is proposing to operate tanks constructed with a fixed roof. Installing floating roofs on the tanks would not be economically feasible, given the uncontrolled emissions of VOC from the small fixed roof tanks.

Flares

Due to the low volume of vapors that would be expected to be produced in the crude oil storage tanks, a flare would not be technically feasible. Furthermore, there is not a continuous source of fuel gas for the pilot flame. A flare system is considered technically and economically infeasible as BACT in this instance.

Vapor Recovery Unit

The absence of an available gas pipeline to accept vapors from the storage tanks, and the low volume of vapors which would be collected, makes this technology technically and economically infeasible as BACT in this instance.

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 significant reduction in emissions can be achieved by utilizing submerged filling. BTC also presented 'best management practices' as BACT. Therefore, the Department has determined that submerged filling practices, and proper operation and maintenance of the tanks, as reviewed by inspection of the tanks, constitutes BACT in this instance.

B. 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.

C. 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 – 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 as equally affective, and is more environmentally friendly than chemical dust suppressant, water has been identified as the 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**

MAQP 4598-00 Vaira Station Allowable Emissions in Tons Per Year								
Source	VOC	HAPs	PM	PM ₁₀	PM _{2.5}	CO	NO _x	SO _x
A1 - 400 bbl Tank (Vertical Fixed Roof)	2.29	0.09	ND	ND	ND	ND	N/A	ND
A2 - 400 bbl Tank (Vertical Fixed Roof)	2.29	0.09	ND	ND	ND	ND	N/A	ND
A3 - 400 bbl Tank (Vertical Fixed Roof)	2.29	0.09	ND	ND	ND	ND	N/A	ND
A4 - 400 bbl Tank (Vertical Fixed Roof)	2.29	0.09	ND	ND	ND	ND	N/A	ND
A5 - 400 bbl Tank (Vertical Fixed Roof)	2.29	0.09	ND	ND	ND	ND	N/A	ND
A6 - 400 bbl Tank (Vertical Fixed Roof)	2.29	0.09	ND	ND	ND	ND	N/A	ND
B1 - 400 bbl Tank (Vertical Fixed Roof)	2.29	0.09	ND	ND	ND	ND	N/A	ND
B2 - 400 bbl Tank (Vertical Fixed Roof)	2.29	0.09	ND	ND	ND	ND	N/A	ND
B3 - 400 bbl Tank (Vertical Fixed Roof)	2.29	0.09	ND	ND	ND	ND	N/A	ND
B4 - 400 bbl Tank (Vertical Fixed Roof)	2.29	0.09	ND	ND	ND	ND	N/A	ND
B5 - 400 bbl Tank (Vertical Fixed Roof)	2.29	0.09	ND	ND	ND	ND	N/A	ND
B6 - 400 bbl Tank (Vertical Fixed Roof)	2.29	0.09	ND	ND	ND	ND	N/A	ND
Fugitive Leak Emissions	6.85	3.10	ND	ND	ND	N/A	N/A	N/A
Fugitive Vehicle Emissions	N/A	N/A	5.41	1.58	0.16	N/A	N/A	N/A
TOTAL:	34.32	4.13	5.41	1.58	0.16	0	0	0

**Emissions Inventory Notes:

bbl = oil barrel (42 Gallons)
 CO = carbon monoxide
 Deg F = degrees Fahrenheit
 ft = foot
 gal = gallons
 HAPs = hazardous air pollutants
 lbs = pounds
 N/A = not applicable
 ND = no data available
 NO_x = oxides of nitrogen
 PM = particulate matter
 PM₁₀ = 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
 psia = actual pounds per square inch
 psia = pounds per square inch as read by gauge (not including atmospheric pressure)
 RVP = Reid vapor pressure
 SO_x = oxides of sulfur
 TPH = tons per hour
 TPY = tons per year
 VOC = volatile organic compounds
 yr = year

400 bbl Vertical Fixed Roof Tanks

VOC emissions calculated using EPA's TANKS 4.0.9d Emissions Calculation Software

Turnovers Per Year:

Maximum Rated Design

Process Rate:

214,437 bbl/yr

Working Volume of Tank:

403 bbl/yr (based on actual dimensions)

Calculations:

$$214437\text{bbl/yr} \div (1/403 \text{ bbl}) = 532.27 \text{ turnovers/yr}$$

*TANKS Notes

- Tank color is actually tan - medium gray was chosen to approximate in TANKS
- Breather Vent settings were left at TANKS 4.0.9d default values
- Dome radius was set to 6 ft vs. 12 ft in the application (tank characteristics indicate 0 height)

VOC Emissions =

$$4578.98\text{lb/yr} \times 0.0005\text{ton/lb} =$$

2.29 TPY

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification
 User Identification: MAQP 4598-00
 City:
 State: Montana
 Company:
 Type of Tank: Vertical Fixed Roof Tank
 Description: Banner Transportation, LLC Vaira Station

Tank Dimensions
 Shell Height (ft): 20.00
 Diameter (ft): 12.00
 Liquid Height (ft) : 20.00
 Avg. Liquid Height (ft): 20.00
 Volume (gallons): 16,920.59
 Turnovers: 532.27
 Net Throughput(gal/yr): 9,006,323.75
 Is Tank Heated (y/n): N

Paint Characteristics
 Shell Color/Shade: Gray/Medium
 Shell Condition: Good
 Roof Color/Shade: Gray/Medium
 Roof Condition: Good

Roof Characteristics
 Type: Dome
 Height (ft) 0.00
 Radius (ft) (Dome Roof) 6.00

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

Meteorological Data used in Emissions Calculations: Williston, North Dakota (Avg Atmospheric Pressure = 13.82 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

MAQP 4598-00 - Vertical Fixed Roof Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fracl.	Vapor Mass Fracl.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Crude oil (RVP 5)	All	49.59	39.44	59.95	44.51	2.3405	1.8900	2.8749	50.0000			207.00	Option 4: RVP=5

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

MAQP 4598-00 - Vertical Fixed Roof Tank

Components	Losses(lbs)		
	Working Loss	Breathing Loss	Total Emissions
Crude oil (RVP 5)	4,198.25	380.72	4,578.98

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

MAQP 4598-00 - Vertical Fixed Roof Tank

Annual Emission Calculations

Standing Losses (lb):	390.7227
Vapor Space Volume (cu ft):	452.3893
Vapor Density (lb/cu ft):	0.0214
Vapor Space Expansion Factor:	0.1611
Vented Vapor Saturation Factor:	0.6683
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	452.3893
Tank Diameter (ft):	12.0000
Vapor Space Outage (ft):	4.0000
Tank Shell Height (ft):	20.0000
Average Liquid Height (ft):	20.0000
Roof Outage (ft):	4.0000
Roof Outage (Dome Roof)	
Roof Outage (ft):	4.0000
Dome Radius (ft):	6.0000
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):	1,217.6000
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):	0.0800
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:	0.6683
Vapor Pressure at Daily Average Liquid:	
Surface Temperature (psia):	2.3409
Vapor Space Outage (ft):	4.0000
Working Losses (lb):	4,198.2548
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid	
Surface Temperature (psia):	2.3409
Annual Net Throughput (gal/yr.):	9,008,323.7487
Annual Turnovers:	532.2700
Turnover Factor:	0.2230
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):	4,578.9775

HAPs emissions from Tanks:			
HAP	Speciation Factor (%)	Total VOC Emissions (TPY)	HAP Emissions (TPY)
2,2,4-trimethylpentane	0.56%	2.29	0.0128
Benzene	0.12%	2.29	0.0027
Ethylbenzene	0.09%	2.29	0.0021
m&p xylene	0.46%	2.29	0.0105
n-hexane	2.20%	2.29	0.0504
o-xylene	0.11%	2.29	0.0025
toluene	0.23%	2.29	0.0053
TOTAL HAPs per tank:			0.0863
TOTAL HAPs from Tanks: (=sum HAPs * 12 tanks)			1.04

Speciation factors from EPA Speciate Program Profile No. 1208 - Crude Oil Production (Version 4.2)

CO₂e Emissions From Tanks			
GHG	Speciation Factor (%)	Total Vapor Emissions (TPY)	Emissions (TPY)
Methane	27.40%	3.15	0.86
CO ₂ e per tank (= Methane x 21)			18.15
CO ₂ e From Tanks = (per tank * 12 tanks)			217.80

Speciation factor from: http://www.epa.gov/gasstar/documents/ll_final_vap.pdf

Fugitive Leak Emissions

Component		Emissions Factor (lb/hr/source)	TOC (TPY)
Total Number of Valves	150	0.0055	3.61
Total Number of Pump Seals	7	0.029	0.89
Total Number of Others	29	0.017	2.16
Total Number of Connectors	0	0.00046	0.00
Total Number of Flanges	175	0.00024	0.18
Total Number of Open Ended Lines	0	0.0031	0.00
TOTAL TOC EMISSIONS:			6.85

Emissions Factors from Protocol for Equipment Emissions Estimates, EPA 453/R-95-017, 11/95
(assumed light oil for conservative estimates)

TOTAL VOC Emissions:

6.85 TPY

<u>HAPs emissions from Fugitive Leaks:</u>			
HAP	Speciation Factor (%)	Total VOC Emissions (TPY)	HAP Emissions (TPY)
2,2,4-trimethylpentane	0.56%	6.85	0.0383
Benzene	0.12%	6.85	0.0082
Ethylbenzene	0.09%	6.85	0.0062
m&p xylene	0.46%	6.85	0.0315
n-hexane	2.20%	6.85	0.1506
o-xylene	0.11%	6.85	0.0075
toluene	0.23%	6.85	0.0157
TOTAL HAPs from fugitives:			3.10

Speciation factors from EPA Speciate Program Profile No. 1208 - Crude Oil Production (Version 4.2)

Fugitive Vehicle Emissions (Haul Roads)

AP-42 13.2 (11/2006)

$$E = k (s/12)^a (W/3)^b$$

where k, a, b, c and d are empirical constants (Reference 6) given below and

E = size-specific emission factor (lb/VMT)
 s = surface material silt content (%)
 W = mean vehicle weight (tons)

Constant	Industrial Roads (Equation 1a)			Public Roads (Equation 1b)		
	PM-2.5	PM-10	PM-30*	PM-2.5	PM-10	PM-30*
k (lb/VMT)	0.15	1.5	4.9	0.15	1.5	6.0
a	0.9	0.9	0.7	1	1	1
b	0.45	0.45	0.45	-	-	-
c	-	-	-	0.2	0.2	0.3
d	-	-	-	0.5	0.5	0.3
Quality Rating	B	B	B	B	B	B

*Assumed equivalent to total suspended particulate matter (TSP)
 ** - not used in this emission factor application

s = 9.41 % (avg AP-42)
 W = 31.9 tons (application)
 Vehicle Miles Traveled: 5 VMT/day {Estimated}

PM Emissions:

PM Emission Factor (Rated Load Capacity <50 tons):

a = 0.7
 b = 0.45
 k = 4.9
 E = 11.97224 lb/VMT
 Control Factor = 50.00%

PM= 59.34 Lbs/day
5.41 ton/yr

PM₁₀ Emissions:

PM Emission Factor (Rated Load Capacity <50 tons):

a = 0.9
 b = 0.45
 k = 1.5
 E = 3.490773 lb/VMT

PM= 17.30 Lbs/day
1.58 ton/yr

PM_{2.5} Emissions:

a = 0.9
 b = 0.45
 k = 0.15
 E = 0.349077 lb/VMT

1.730084 lbs/day
0.16 ton/yr

V. Existing Air Quality

The location of the Vaira Station is currently designated as attainment/unclassifiable for all criteria pollutants.

VI. Ambient Air Impact Analysis

The Department determined, based on the allowable emissions this facility may emit, 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	
XX		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	XX	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	XX	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	XX	4. Does the action deprive the owner of all economically viable uses of the property?
	XX	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?
	XX	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	XX	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?
	XX	7a. Is the impact of government action direct, peculiar, and significant?
	XX	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	XX	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?
	XX	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.

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: 4598-00

Preliminary Determination Issued: 10/22/2010

Department Decision Issued: 11/09/2010

Permit Final: 11/25/2010

1. *Legal Description of Site:* NW¼ of the NW¼ of Section 4, Township 24 North, Range 54 East in Richland County, Montana.
2. *Description of Project:* Banner Transportation Company, LLC (BTC) proposes to operate a crude oil truck unloading station known as the Vaira 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 #4598-00.
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			XX			Yes
B	Water Quality, Quantity, and Distribution			XX			Yes
C	Geology and Soil Quality, Stability and Moisture			XX			Yes
D	Vegetation Cover, Quantity, and Quality			XX			Yes
E	Aesthetics			XX			Yes
F	Air Quality			XX			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			XX			Yes
H	Demands on Environmental Resource of Water, Air and Energy			XX			Yes
I	Historical and Archaeological Sites			XX			Yes
J	Cumulative and Secondary Impacts			XX			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 #4598-00. The allowable emissions associated with this permitting action are relatively small, and include VOC and PM emissions. Control requirements for fugitive dust emissions would be included in MAQP #4598-00 to reduce PM 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

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 #4598-00 would require control of fugitive dust emissions to reduce deposition of PM. 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 consist of twelve tanks and would include truck traffic. Therefore, minor changes to aesthetics would be expected as a result of issuance of MAQP #4598-00.

F. Air Quality

MAQP #4598-00 would permit emissions of VOC and PM. MAQP #4598-00 would be derived from rules designed to protect air quality. The Department determined, based on the relatively small amount of emissions which would be allowable, that the impacts to air quality would be expected to 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). The NRIS search did not identify any species of special concern in the vicinity of the project 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. Due to the minor levels of potential air pollutant emissions and the results of the NRIS search, the Department would expect minor, if any, affect on any unique endangered, fragile, or limited environmental resources.

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

The Department contacted the State Historic Preservation Office (SHPO) to request a cultural resource file search for the project location to aid the Department in the assessment of impacts to historical and archeological sites. According to SHPO's records, there have been no previously recorded sites within the designated search locale. The absence of cultural properties in the area does not mean that they do not exist but rather reflects the absence of any previous cultural resource inventory in the area. Therefore, the Department would expect minor, if any, impacts to historical and archaeological sites in issuing MAQP #4598-00.

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 project would result in minor impacts to social structures and mores. The surrounding area is mainly used for agriculture activities, livestock grazing, and other oil and gas activities.

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.

D. Agricultural or Industrial Production

The facility would be located in an agricultural area. An increase in industrial production, and very slight decrease in agricultural resources, would be expected.

E. Human Health

MAQP #4598-00 would contain requirements and limitations derived from rules designed to protect human health. Therefore, the Department would expect no more than a minor effect to human health in issuing MAQP #4598-00.

F. Access to and Quality of Recreational and Wilderness Activities

The Department is not aware of recreational and wilderness activities in the area which this facility would affect.

G. Quantity and Distribution of Employment

The Department would expect a very minor effect to the quantity and distribution of employment as the facility would employ one person.

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 #4598-00.

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 #4598-00 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 #4598-00 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: Shawn Juers

Date: 10/6/2010