

AIR QUALITY PERMIT

Issued To: Bitterroot Pet Crematorium, LLC
817 S. Shoshone Loop
Hamilton, MT 59840

Permit: # 3117-01
Administrative Amendment (AA)
Request Received: 09/09/03
Department Decision on AA: 10/02/03
Permit Final: 10/18/03
AFS: # 081-0006

An air quality permit, with conditions, is hereby granted to Bitterroot Pet Crematorium (Bitterroot), 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

Bitterroot is located in Hamilton, MT. The legal location is the East ½ of the East ½ of the Northeast ¼ of the Northeast ¼ of Section 17, Township 5 North, Range 20 West, Ravalli County, Montana. A complete list of the permitted equipment can be found in Section I.A of the permit analysis.

B. Current Permit Action

On September 9, 2003, the Department of Environmental Quality (Department) received a letter from Bitterroot. Bitterroot requested an administrative amendment to Permit #3117-00 to allow operational flexibility pertaining to the monitoring/recording requirements contained in Section II.C. Bitterroot requested that Section II.C.1 be modified to allow for the consideration of another acceptable method of monitoring temperature.

The current permit action modifies Section II.C.1 of the permit to allow for the consideration of other temperature monitoring methods. In addition, Permit #3117-00 was updated to reflect current Department permit format and permit language.

SECTION II. Conditions and Limitations

A. Operational Requirements

1. Bitterroot shall not incinerate/cremate any material other than animal remains and any corresponding containers (ARM 17.8.749).
2. Bitterroot shall provide written notice to the Department and obtain approval from the Department if material other than what would normally be termed animal remains, or its container, is to be incinerated (ARM 17.8.749).
3. The secondary chamber operating temperature of the 2000 Therm-Tec S-18 Incinerator shall be maintained above 1600 °F. The operating temperature shall be maintained during operation and for 1/2 hour after the feed has stopped (ARM 17.8.749).

B. Emission Limitations

1. Bitterroot shall not cause or authorize to be discharged into the atmosphere from the 2000 Therm-Tec S-18 Incinerator any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.752); and
2. Bitterroot shall not cause or authorize to be discharged into the atmosphere from the 2000 Therm-Tec S-18 Incinerator any particulate emissions in excess of 0.10 gr/dscf corrected to 12% CO₂ (ARM 17.8.752).

C. Monitoring Requirements

1. Bitterroot shall install, calibrate, maintain and operate continuous monitoring and recording equipment on the 2000 Therm-Tec S-18 Incinerator for the secondary chamber temperature, or another monitoring/recording method as may be approved by the Department (ARM 17.8.749).
2. Bitterroot shall record the daily quantity of material incinerated/cremated and daily hours of operation for the 2000 Therm-Tec S-18 Incinerator (ARM 17.8.749).

D. Operational Reporting Requirements

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

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

2. Bitterroot shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a 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 or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up 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).
3. All records compiled in accordance with this permit must be maintained by Bitterroot 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).

E. Testing Requirements

1. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures manual (ARM 17.8.106).
2. The Department may require testing (ARM 17.8.105).

SECTION III: General Conditions

- A. Inspection – Bitterroot 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 (CEMS, 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 Bitterroot fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Bitterroot 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 Department’s decision on the application is not final unless 15 days have elapsed and there is no request for a hearing under this section. The filing of a request for a hearing postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Bitterroot may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

Permit Analysis
Bitterroot Pet Crematorium
Permit #3117-01

I. Introduction/Process Description

A. Permitted Equipment

Bitterroot Pet Crematorium (Bitterroot) owns and operates a 2000 Therm-Tec S-18 Incinerator with a capacity of 60 pounds per hour (lb/hr) of animal remains.

B. Source Description

The Bitterroot facility consists of a pathological incinerator used for the incineration/cremation of animal remains. The facility is located in the East ½ of the East ½ of the Northeast ¼ of the Northeast ¼ of Section 17, Township 5 North, Range 20 West, Ravalli County, Montana.

C. Permit History

On May 30, 2000, the Department of Environmental Quality (Department) received an application from Bitterroot requesting a permit for the operation of an incinerator/crematorium in the above location. Bitterroot proposed to construct a pathological incinerator to be used as an animal crematorium. The incinerator/crematorium has a capacity of 60 lb/hr of animal remains. Bitterroot was issued **Permit #3117-00** on July 26, 2000.

D. Current Permit Action

On September 9, 2003, the Department received a letter from Bitterroot. Bitterroot requested an administrative amendment to Permit #3117-00 to allow operational flexibility pertaining to the monitoring/recording requirements contained in Section II.C. Bitterroot requested that Section II.C.1 be modified to allow for the consideration of another acceptable method of monitoring temperature.

The current permit action modifies Section II.C.1 of the permit to allow for the consideration of other temperature monitoring methods. In addition, Permit # 3117-00 was updated to reflect current Department permit format and permit language. **Permit #3117-01** replaces Permit #3117-00.

E. Additional Information

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

II. Applicable Rules and Regulations

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

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

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

Bitterroot shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited, 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 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
4. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
5. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
6. ARM 17.8.223 Ambient Air Quality Standard for PM₁₀

Bitterroot 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 17.8.308 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. 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.

3. 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.
 4. ARM 17.8.316 Incinerators. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any incinerator, particulate matter in excess of 0.10 grains per standard cubic foot of dry flue gas, adjusted to 12% carbon dioxide and calculated as if no auxiliary fuel had been used. Further, no person shall cause or authorize to be discharged into the outdoor atmosphere from any incinerator emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes. This rule does not apply to the 2000 Therm-Tec S-18 Incinerator because Bitterroot has applied for and received an air quality permit in accordance with ARM 17.8.706(5) and MCA 75-2-215.
 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 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR 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 60.
- D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation and Open Burning Fees, including, but not limited to:
1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Bitterroot was not required to submit an application fee for the current permit action because the current permit action is considered an administrative action.
 2. ARM 17.8.505 When Permit Required--Exclusions. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.
- An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.
- E. ARM 17.8, Subchapter 7 – Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:
1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter or use any air contaminant sources that have the Potential to Emit (PTE) greater than 25 tons per year of any pollutant. Although Bitterroot does not have the potential to emit more than 25 tons per year of any pollutant, Bitterroot was required to obtain an air quality permit under the requirements of MCA 75-2-215. Since Bitterroot was required to obtain an air quality permit, all normally applicable requirements shall apply.
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, alteration or use of a source. Bitterroot was not required to submit a permit application because the current permit application is considered an administrative amendment. (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. Bitterroot was not required to submit a permit application because the current permit action is considered an administrative amendment. Therefore, publication was not required.
6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Bitterroot 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 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.

12. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered 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.
13. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
14. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
15. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.
16. ARM 17.8.770 Additional Requirements for Incinerators. This rule specifies the additional information that must be submitted to the Department for incineration facilities subject to 75-2-215, Montana Code Annotated (MCA).

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 since this facility is not a listed source and the facility's potential to emit is below 250 tons per year of any pollutant (excluding fugitive emissions).

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

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
 - a. PTE > 100 tons/year of any pollutant;

- b. PTE > 10 tons/year of any one Hazardous Air Pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
 - c. PTE > 70 tons/year of PM₁₀ in a serious PM₁₀ nonattainment area.
2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #3117-01 for Bitterroot, the following conclusions were made.
- a. The facility's PTE is less than 100 tons/year for any pollutant.
 - b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.
 - c. This source is not located in a serious PM₁₀ nonattainment area.
 - d. This facility is not subject to any current NSPS.
 - e. This facility is not subject to any current NESHAP standards.
 - f. This source is not a Title IV affected source, nor a solid waste combustion unit.
 - g. This source is not an EPA designated Title V source.

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

III. BACT Determination

A BACT determination is required for each new or altered source. A BACT analysis was not required for the current permit action because the permit action is considered administrative and no new or altered sources are being added.

IV. Emission Inventory

Source	Tons/Year					
	PM	PM ₁₀	NO _x	VOC	CO	SO _x
Therm-Tec S-18 Incinerator	1.14	0.84	0.43	0.43	0.00	1.14
Propane Fuel	0.01	0.01	0.34	0.01	0.09	2.41
Totals	1.15	0.85	0.77	0.44	0.09	3.55

Therm Tec S-18 Incinerator

TSP Emissions

Emission Factor: 8.00 lbs/ton {AFSSCC 5-02-005-05, pg 227}
 Control Efficiency: 0.0%
 Fuel Consumption: 284.70 tons/year (Maximum Rated Design)
 Calculations: 284.70 tons/year*8.00 lbs/ton*0.0005 ton/lb = 1.14 tons/year

PM-10 Emissions:

Emission Factor: 5.92 lbs/ton {AFSSCC 5-02-005-05, pg 227}
Control Efficiency: 0.0%
Fuel Consumption: 284.70 tons/year (Maximum Rated Design)
Calculations: $284.70 \text{ tons/year} * 5.92 \text{ lbs/ton} * 0.0005 \text{ ton/lb} = 0.84 \text{ tons/year}$

SOx Emissions:

Emission Factor: 8.00 lbs/ton {AFSSCC 5-02-005-05, pg 227}
Control Efficiency: 0.0%
Fuel Consumption: 284.70 tons/year (Maximum Rated Design)
Calculations: $284.70 \text{ tons/year} * 8.00 \text{ lbs/ton} * 0.0005 \text{ ton/lb} = 1.14 \text{ tons/year}$

NOx Emissions:

Emission Factor: 3.00 lbs/ton {AFSSCC 5-02-005-05, pg 227}
Control Efficiency: 0.0%
Fuel Consumption: 284.70 tons/year (Maximum Rated Design)
Calculations: $284.70 \text{ tons/year} * 3.00 \text{ lbs/ton} * 0.0005 \text{ ton/lb} = 0.43 \text{ tons/year}$

VOC Emissions:

Emission Factor: 3.00 lbs/ton {AFSSCC 5-02-005-05, pg 227}
Control Efficiency: 0.0%
Fuel Consumption: 284.70 tons/year (Maximum Rated Design)
Calculations: $284.70 \text{ tons/year} * 3.00 \text{ lbs/ton} * 0.0005 \text{ ton/lb} = 0.43 \text{ tons/year}$

CO Emissions:

Emission Factor: 0.00 lbs/ton {AFSSCC 5-02-005-05, pg 227}
Control Efficiency: 0.0%
Fuel Consumption: 284.70 tons/year (Maximum Rated Design)
Calculations: $284.70 \text{ tons/year} * 0.00 \text{ lbs/ton} * 0.0005 \text{ ton/lb} = 0.00 \text{ tons/year}$

Propane Fuel

TSP Emissions

Emission Factor: 0.26 lb/10³ gal {AFSSCC 1-02-010-02, pg 24}
Control Efficiency: 0.0%
Fuel Consumption: 55.626 10³ gal/yr (Maximum Rated Design)
Calculations: $55.626 \times 10^3 \text{ gal/yr} * 0.26 \text{ lb/10}^3 \text{ gal} * 0.0005 \text{ ton/lb} = 0.01 \text{ ton/yr}$

PM-10 Emissions:

Emission Factor: 0.26 lb/10³ gal {AFSSCC 1-02-010-02, pg 24}
Control Efficiency: 0.0%
Fuel Consumption: 55.626 10³ gal/yr (Maximum Rated Design)
Calculations: $55.626 \times 10^3 \text{ gal/yr} * 0.26 \text{ lbs/10}^3 \text{ gal} * 0.0005 \text{ ton/lb} = 0.01 \text{ ton/yr}$

SOx Emissions:

Emission Factor: 86.50 lb/10³ gal {AFSSCC 1-02-010-02, pg 24}
Control Efficiency: 0.0%
Fuel Consumption: 55.626 10³ gal/yr (Maximum Rated Design)
Calculations: $55.626 \times 10^3 \text{ gal/yr} * 86.50 \text{ lb/10}^3 \text{ gal} * 0.0005 \text{ ton/lb} = 2.41 \text{ ton/yr}$

NOx Emissions:

Emission Factor: 12.40 lb/10³ gal {AFSSCC 1-02-010-02, pg 24}
Control Efficiency: 0.0%
Fuel Consumption: 55.626 10³ gal/yr (Maximum Rated Design)
Calculations: 55.626x10³ gal/yr*12.40 lb/10³ gal *0.0005 ton/lb =0.34 ton/yr

VOC Emissions:

Emission Factor: 0.25 lb/10³ gal {AFSSCC 1-02-010-02, pg 24}
Control Efficiency: 0.0%
Fuel Consumption: 55.626 10³ gal/yr (Maximum Rated Design)
Calculations: 55.626x10³ gal/yr *0.25 lb/10³ gal *0.0005 ton/lb = 0.01 ton/yr

CO Emissions:

Emission Factor: 3.10 lb/10³ gal {{AFSSCC 1-02-010-02, pg 24}
Control Efficiency: 0.0%
Fuel Consumption: 55.626 10³ gal/yr (Maximum Rated Design)
Calculations: 55.626x10³ gal/yr *3.10 lb/10³ gal *0.0005 ton/lb = 0.09 ton/yr

HAZARDOUS AIR POLLUTANTS

Bromoform

Emission Factor: 2.90e-05 lbs/ton {FIRE SCC Code 50200505}
Control Efficiency: 0.0%
Fuel Consumption: 284.70 ton/yr (Maximum Rated Design)
Calculations: 284.70 ton/yr*0.00003 lbs/ton*0.0005 ton/lb = 4.13e-06 ton/yr

Carbon Tetrachloride

Emission Factor: 5.74e-05 lbs/ton {FIRE SCC Code 50200505}
Control Efficiency: 0.0%
Fuel Consumption: 284.70 ton/yr (Maximum Rated Design)
Calculations: 284.70 ton/yr*0.00006 lbs/ton*0.0005 ton/lb = 8.17e-06 ton/yr

Chloroform

Emission Factor: 5.45e-05 lbs/ton {FIRE SCC Code 50200505}
Control Efficiency: 0.0%
Fuel Consumption: 284.70 ton/yr (Maximum Rated Design)
Calculations: 284.70 ton/yr*5.45x10⁻⁵ lbs/ton*0.0005 ton/lb = 7.76e-06 ton/yr

1,3-Dichloropropene

Emission Factor: 1.32e-03 lbs/ton {FIRE SCC Code 50200505}
Control Efficiency: 0.0%
Fuel Consumption: 284.70 ton/yr (Maximum Rated Design)
Calculations: 284.70 ton/yr*1.32x10⁻³ lbs/ton*0.0005 ton/lb = 1.88e-04 ton/yr

Ethyl Benzene

Emission Factor: 1.61e-03 lbs/ton {FIRE SCC Code 50200505}
Control Efficiency: 0.0%
Fuel Consumption: 284.70 ton/yr (Maximum Rated Design)
Calculations: 284.70 ton/yr*1.61x10⁻³ lbs/ton*0.0005 ton/lb = 2.29e-04 ton/yr

Naphthalene

Emission Factor: 1.16e-02 lbs/ton {FIRE SCC Code 50200505}
Control Efficiency: 0.0%
Fuel Consumption: 284.70 ton/yr (Maximum Rated Design)
Calculations: 284.70 ton/yr*1.16x10⁻² lbs/ton*0.0005 ton/lb = 1.65e-03 ton/yr

Tetrachloroethylene

Emission Factor: 4.03e-05 lbs/ton {FIRE SCC Code 50200505}
Control Efficiency: 0.0%
Fuel Consumption: 284.70 ton/yr (Maximum Rated Design)
Calculations: 284.70 ton/yr*4.03x10⁻⁵ lbs/ton*0.0005 ton/lb = 5.74e-06 ton/yr

1,1,2,2-Tetrachloroethane

Emission Factor: 1.10e-04 lbs/ton {FIRE SCC Code 50200505}
Control Efficiency: 0.0%
Fuel Consumption: 284.70 ton/yr (Maximum Rated Design)
Calculations: 284.70 ton/yr*0.0001 lbs/ton*0.0005 ton/lb = 1.57e-05 ton/yr

Toluene

Emission Factor: 4.62e-03 lbs/ton {FIRE SCC Code 50200505}
Control Efficiency: 0.0%
Fuel Consumption: 284.70 ton/yr (Maximum Rated Design)
Calculations: 284.70 ton/yr*4.62x10⁻³ lbs/ton*0.0005 ton/lb = 6.58e-04 ton/yr

Vinylidene Chloride

Emission Factor: 7.10e-05 lbs/ton {FIRE SCC Code 50200505}
Control Efficiency: 0.0%
Fuel Consumption: 284.70 ton/yr (Maximum Rated Design)
Calculations: 284.70 ton/yr*7.10x10⁻⁵ lbs/ton*0.0005 ton/lb = 1.01e-05 ton/yr

Xylene

Emission Factor: 2.20e-03 lbs/ton {FIRE SCC Code 50200505}
Control Efficiency: 0.0%
Fuel Consumption: 284.70 ton/yr (Maximum Rated Design)
Calculations: 284.70 ton/yr*2.20x10⁻³ lbs/ton*0.0005 ton/lb = 3.13e-04 ton/yr

V. Existing Air Quality

Bitterroot is located in Hamilton, MT. The legal location is the East ½ of the East ½ of the Northeast ¼ of the Northeast ¼ of Section 17, Township 5 North, Range 20 West, Ravalli County, Montana. The air quality of the area is classified as either Better than National Standards or unclassified/attainment for the National Ambient Air Quality Standards (NAAQS) for criteria pollutants.

VI. Ambient Air Impact Analysis

The current permit action will not affect emissions from the facility and is considered an administrative action; therefore, there will be no adverse effects on the ambient air quality.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

VIII. Environmental Assessment

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

Analysis Prepared By: Carson Coate

Date: 9/29/03