DEQ
Montana Department of Environmental Quality

October 27, 2016

Wayne Egbert
We Me Team, Inc.
P.O. 868
Plains, MT 59859

Dear Mr. Egbert:

The Department of Environmental Quality (Department) has made its decision on the Montana Air Quality Permit application for a human crematorium at the Sunset Hills Funeral Home. The application was given permit number 5166-00. The Department's decision may be appealed to the Board of Environmental Review (Board). A request for hearing must be filed by 11/14/2016. This permit shall become final on 11/15/2016, unless the Board orders a stay on the permit.

Procedures for Appeal: Any person jointly or severally adversely affected by the final action may request a hearing before the Board. Any appeal must be filed by the date stated in the Department's Decision on this permit. The request for a hearing shall contain an affidavit setting forth the grounds for the request. Any hearing will be held under the provisions of the Montana Administrative Procedures Act. Submit requests for a hearing in triplicate to: Chairman, Board of Environmental Review, P.O. Box 200901, Helena, MT 59620.

Conditions: See attached.

For the Department,

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

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

JM:LP
Enclosures

MONTANA AIR QUALITY PERMIT

Issued To: We Me Team, Inc.
Sunset Hills Funeral Home
P.O. Box 868
Plains, MT 59859

MAQP: #5166-00
Application Complete: 8/26/2016
Preliminary Determination Issued: 9/23/2016
Department's Decision Issued: 10/27/2016
Permit Final: 11/15/2016
AFS #: 089-0015

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to We Me Team, Inc. (WMT), pursuant to Sections 75-2-204, 211, and 215 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

WMT proposes to operate a 2001 All Model 1701 A, electric crematory for cremating human remains with a maximum design process rate of 100 pounds per hour (lbs/hr).

B. Plant Location

WMT is located at 300 Willis St., Plains, MT 59859. The legal description of the facility is Lot 1 of Section 27, Township 20 North, Range 26 West in Sanders County, MT. The latitude, longitude coordinates of the facility are: 47.458253°, -114.884718°.

Section II: Conditions and Limitations

A. Emission Limitations

1. WMT shall not cause or authorize to be discharged into the outdoor atmosphere from the incinerator particulate matter in excess of 0.10 grains per dry standard cubic foot adjusted to 12% carbon dioxide (ARM 17.8.752).

2. WMT shall not cause or authorize to be discharged into the atmosphere from the crematorium which exhibit an opacity of 10% or greater averaged over six consecutive minutes (ARM 17.8.752).

B. Operational Limitations

1. WMT shall not incinerate/cremate any material other than human remains and/or corresponding container unless otherwise approved by the Montana Department of Environmental Quality (Department) in writing (ARM 17.8.749).

2. WMT shall provide written notice to the Department and obtain approval from the Department if material other than what would normally be termed human remains, or its container, is to be incinerated (ARM 17.8.749).

3. WMT shall utilize only pipeline quality natural gas or propane as supplementary fuel for crematory operations (ARM 17.8.749).

4. The cremation unit shall be equipped with auxiliary fuel (afterburner) burners designed to preheat a secondary chamber to the minimum required operating temperature prior to igniting the primary chamber burner. WMT shall maintain an average temperature of at least 1500 degrees Fahrenheit and a minimum temperature of 1450 degrees Fahrenheit in the secondary chamber during cremation (ARM 17.8.752).

5. WMT shall develop operation procedures for the crematorium, print those procedures in a crematorium operation procedures manual or have them readily accessible via electronic device, and require all personnel who operate the unit to familiarize themselves with the operating procedures. The operating procedures manual shall be readily available to all personnel who operated the unit. WMT shall keep training records and supply training records and a copy of the operations manual to the Department upon request (ARM 17.8.752).

C. Testing Requirements

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

2. The Department of Environmental Quality (Department) may require further testing (ARM 17.8.105).

D. Operational Reporting Requirements

1. WMT 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. WMT 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).

3. All records compiled in accordance with this permit must be maintained by WMT 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. These records may be stored at a location other than the plant site upon approval by the Department (ARM 17.8.749).

E. Continuous Emissions Monitoring Systems

1. WMT shall install, calibrate, maintain and operate continuous monitoring and recording equipment on the permitted cremation unit to measure the secondary chamber exit gas temperature (ARM 17.8.749).

2. WMT shall record the daily quantity (mass) of material incinerated/cremated and the daily hours of operation of the crematorium (date, start time and end time) (ARM 17.8.749).

F. Notification

1. WMT shall provide the Department with written notification of the commencement of construction of the incinerator within 30 days after commencement of constructions (ARM 17.8.749).

2. WMT shall provide the Department with written notification of the actual start-up date of the incinerator within 15 days after the actual start-up date (ARM 17.8.749).

Section III: General Conditions

A. Inspection – WMT 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 such as Continuous Emission Monitoring Systems (CEMS) or Continuous Emission Rate Monitoring Systems (CERMS), or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

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

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving WMT 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 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, failure to pay the annual operation fee by WMT 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
We Me Team, Inc.
Sunset Hills Funeral Home
MAQP #5166-00

I. Introduction/Process Description

We Me Team, Inc. (WMT) owns and operates a funeral home. The facility is located at 300 Willis St., Plains, MT 59859. The legal description of the facility is Lot 1 of Section 27, Township 20 North, Range 26 West in Sanders County, MT. The latitude, longitude coordinates of the facility are: 47.458253°, -114.884718° and is known as the Sunset Hills Funeral Home.

A. Permitted Equipment

WMT proposes to operate a 2001 All Model 1701 A, electric crematory for cremating human remains with a maximum design process rate of 100 pounds per hour (lbs/hr).

B. Source Description

The crematorium has a maximum incineration design capacity of 100 lbs/hr of human remains. The crematorium will utilize natural gas for combustion in the primary chamber with a 1.25 million British thermal units per hour burner and a secondary chamber afterburner with a rating of 1.5 million British thermal units per hour. The crematorium is going into an already-constructed and operating funeral home.

C. Response to Public Comments

Person/Group Commenting	Permit Reference	Comment	Department Response

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).

   MWT 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
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}
11. ARM 17.8.230 Fluoride in Forage

WMT must maintain compliance with the applicable ambient air quality standards. As part of the air toxics risk assessment required for issuance of the initial MAQP, the Department conducted SCREENVIEW modeling, an Environmental Protection Agency (EPA)-approved air dispersion model. Based on the permit screening analysis, demonstration the WMT facility would present negligible risk to human health from potential hazardous air pollutants (HAPs).

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, WMT 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 17.8.316 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.

   While WMT is required to comply with the emission limitation specified in Section II.B of MAQP #5166-00, this particular rule does not apply to the permitted incinerator because WMT has applied for and will operate under an MAQP in accordance with ARM 17.8.770 and MCA 75-2-215.

6. 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.

7. 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.

8. 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.

9. ARM 17.8.341 Emission Standards for Hazardous Air Pollutants. This rule incorporates, by reference, National Emission Standards for Hazardous Air Pollutants (NESHAP). This facility is not a NESHAP affected source because it does not meet any definition of any subpart defined in 40 CFR Part 61.

10. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. This rule incorporates, by reference, National Emission Standards for Hazardous Air Pollutants for Source Categories. This facility is not an affected source because it does not meet any of the source category definitions in any subpart defined in 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 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. WMT 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 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 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. WMT does not have a PTE greater than 25 tons per year for any pollutant. However, in accordance with the MCA 75-2-215, an air permit must be obtained prior to the construction and operation of any incinerator, regardless of potential incinerator emissions. Because WMT must obtain an air quality permit, all normally applicable requirements, apply to WMT.

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. WMT 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. WNT submitted an affidavit of publication of public notice for the August 24, 2016 issue of the *Clark Fork Valley Press*, a newspaper of general circulation in the Town of Plains in Sanders 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 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 WMT 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 air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

15. 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 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).

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 particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #5166-00 for WMT, the following conclusions were made:

   a. The facility's PTE is less than 100 tons/year for any pollutant.

   b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.

   c. This source is not located in a serious PM_{10} nonattainment area.

   d. This facility is not subject to any current NSPS.

   e. This facility is not subject to any current NESHAP.

   f. This source is not a Title IV affected source, or a solid waste combustion unit.

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

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

H. MCA 75-2-103, Definitions provided, in part, as follows:

1. "Incinerator" means any single or multiple chamber combustion device that burns combustible material, alone or with a supplemental fuel or catalytic combustion assistance, primarily for the purpose of removal, destructions, disposal, or volume reduction of all or any portion of the input material.

2. "Solid waste" means all putrescible and not putrescible solid, semisolid, liquid or gaseous waste, including but not limited to air pollution control facilities.

I. MCA 75-2-215, Solid or Hazardous Waste Incineration-Additional Permit Requirements

1. MCA 75-2-215 requires air quality permits for all new solid waste incinerators; therefore, SGVS must obtain an air quality permit.

2. MCA 75-2-215 requires the applicant to provide, to the Department's satisfaction, a characterization an estimate of emissions and ambient concentrations of air pollutants, including hazardous air pollutants, from the incineration of solid waste. The information in the initial permit application fulfilled this requirement.

3. MCA 75-2-215 requires that the Department reach a determination the projected emissions and ambient concentrations constitute a negligible risk to public health, safety, and welfare. The Department completed a health risk assessment, based on an emissions inventory and ambient air quality modeling, for this MAQP application. Based on the results of the emission inventory, modeling, and health risk assessment, the Department determined that WMT complies with this requirement.

4. MCA 75-2-215 requires the application of pollution control equipment or procedures that meet or exceed BACT. The Department determined that operating the incinerator (crematorium) according to the manufacturer-recommended operation procedures constitutes BACT.

III. BACT Determination

A BACT determination is required for each new or modified source. WMT 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 determination is required for each new or modified source. WMT 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. In addition, MCA 75-2-215 requires a BACT determination for all pollutants resulting from the crematory operations, not only criteria pollutants.

WMT proposes to install and operate a crematorium equipped with a secondary chamber designed specifically to reduce the amount of pollutants, including HAPs, emitted from the incinerator. Previous research conducted by the Department indicates crematoriums of this size have not been required to install additional air pollution control equipment beyond that provided by the controlled air design of the incinerator, which maintains an appropriate and

stable unit temperature and retention of combustion gases within the secondary chamber to maximize pollutant destruction. With the estimated particulate matter emissions being less than 1 ton per year (tpy), the incremental cost per ton of additional control would be very high and not in line with control costs of other similar sources. In addition, the incinerator is limited by its MAQP to 0.10 grains per dry standard cubic foot for particulate matter and to 10% opacity (visible emissions). Furthermore, the health risk assessment shows negligible risks from the small amount of HAP emissions from this incinerator as proposed.

BACT for products of combustion/incineration (carbon monoxide (CO), oxides of nitrogen (NO_x), volatile organic compounds (VOC), and sulfur dioxide (SO_2) and HAPs) resulting from crematorium operations is proper crematorium design and operation. Proper design includes relying on good turbulence, high temperature and the residence time within the secondary chamber. Turbulence is achieved with proper introduction of air into the combustion chambers. Temperature is achieved by including the requirement that the secondary chamber must be maintained at an operating temperature of 1,500 degrees Fahrenheit (°F) with no single reading less than 1,450 °F. Residence time is achieved by sizing the secondary chamber large enough to support final combustion within the secondary combustion chamber. This design incorporates no heat recovery from the secondary combustion chamber and therefore, the stack volume operates effectively as an extension of the secondary combustion chamber volume. When the volume of the secondary combustion chamber and stack are combined the average residence time is over 1 second. Furthermore, natural gas or propane combustion inherently results in low emissions of air pollutants due to characteristics of the fuel fired. Potential PM_{10}, $PM_{2.5}$, NO_x, CO, VOC, and SO_2 emissions from the combustion of natural gas or propane to operate the crematorium are less than 1 tpy. Because potential emissions of all regulated pollutants resulting from natural gas or propane combustion are low, incorporation of available pollutant-specific control technologies would result in high cost per ton removed values thereby making pollutant-specific add-on controls for PM_{10}, $PM_{2.5}$, NO_x, CO, VOC, and SO_2 economically infeasible in this case.

Based on these conclusions, the Department determined that proper unit design, along with the combustion of natural gas or propane as fuel, and proper operation and maintenance of the crematorium with no additional control constitutes BACT. The BACT conclusions prescribed under MAQP #5166-00 provide comparable controls and control cost to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

IV. Emission Inventory

Total Criteria Pollutant Emissions			
Pollutant	Nat. Gas	Cremation	Annual
unit	(ton/yr)	(ton/yr)	(TPY)
PM_{10} & $PM_{2.5}$	0.04	0.25	0.29
NO_x	0.54	0.75	1.29
CO	0.45	0.65	1.10
SO_2	0.003	0.48	0.48
VOC	0.03	0.65	0.68

PTE from Natural Gas Combustion			
Pollutant	Emission Factor (lb/MMft^3)	Annual (lb/yr)	Annual (Ton/yr)
PM_{10} & $PM_{2.5}$ (including condensable)	7.6	81.59	0.04
NO_x	100	1073.53	0.54
CO	84	901.76	0.45
SO_2	0.6	6.44	0.003
VOC	5.5	59.04	0.03

* Emission factors are from Ap-42 for uncontrolled natural gas combustion in boilers <100 MMBTU/hr AP-42 Chapter 1.4 (Tables 1.4-1 and 1.4-2)

PTE from Cremation of Body (including case wrappings)			
Pollutant	Emission Factor (lb/150 lb body)	Annual (lb/yr)	Annual (Ton/yr)
PM_{10} &$PM_{2.5}$ (including condensable)	8.50E-02	496.40	0.25
NO_x	2.57E-01	1500.88	0.75
CO	2.21E-01	1290.64	0.65
SO_2	1.63E-01	951.92	0.48
VOC	2.24E-01	1308.16	0.65

* PM10 emission factor from EPAs FIRE program
** Emissions factors used for all other pollutants are from Ap-42 for uncontrolled medical waste incineration. AP-42 Chapter 2.3 Table2.3-1 and 2.3-2

Toxic Emissions from Crematory Retort (including fuel and case wrappings)				
HAP Category / Pollutant Name	Emission Factor (lb/150 lb body) - or - (lb/MMscf natural gas from AP-42 where not tested/reported in crematory emissions)	CAS #	lb/yr	Fraction of all HAPS
Heavy Metals				
Antimony (less than)	1.51E-05	7440360	8.82E-02	1.88E-04
Arsenic (less than)	1.50E-05	7440382	8.76E-02	1.87E-04
Beryllium	1.37E-06	7440417	8.00E-03	1.71E-05
Cadmium	1.10E-05	7440439	6.42E-02	1.37E-04
Chromium	2.99E-05	7440473	1.75E-01	3.73E-04
Chromium, hx	1.35E-05	18540299	7.88E-02	1.68E-04
Cobalt (less than)	8.75E-07	7440484	5.11E-03	1.09E-05
Lead	6.62E-05	7439921	3.87E-01	8.26E-04
Mercury	3.40E-03	7439976	1.99E+01	4.24E-02
Nickel	3.82E-05	7440020	2.23E-01	4.77E-04
Selenium	4.36E-05	7782492	2.55E-01	5.44E-04
Zinc	3.53E-04	7440666	2.06E+00	4.40E-03
Polycyclic Organic Matter (POM)				
2-methylnaphthalene	2.40E-05	91576	2.58E-04	5.51E-07
3-methylchloranthrene (less than)	9.00E-07	56495	9.66E-06	2.06E-08
7,12 Dibenz(a)anthracene (less than)	8.00E-06		8.59E-05	1.84E-07
Anthracene (less than)	1.20E-06	120127	1.29E-05	2.75E-08
Benzene	2.10E-03	71432	2.25E-02	4.82E-05
Dichlorobenzene	1.20E-03	25321226	1.29E-02	2.75E-05
Hexane	1.80E+00	110543	1.93E+01	4.13E-02
Napthalene	6.10E-04	91203	6.55E-03	1.40E-05

Toxic Emissions from Crematory Retort (including fuel and case wrappings)				
HAP Category / Pollutant Name	Emission Factor (lb/150 lb body) - or - (lb/MMscf natural gas from AP-42 where not tested/reported in crematory emissions)	CAS #	lb/yr	Fraction of all HAPS
Phenanathrene	1.70E-05	85018	1.83E-04	3.90E-07
Toluene	3.40E-03	108883	3.65E-02	7.80E-05
Acenaphthene	1.11E-07	83329	6.48E-04	1.39E-06
Acenaphthylene	1.22E-07	208968	7.12E-04	1.52E-06
Benzo(a)anthracene (less than)	4.88E-09	56553	2.85E-05	6.09E-08
Benzo(a)pyrene (less than)	1.46E-08	50328	8.50E-05	1.82E-07
Benzo(b)fluoranthene (less than)	7.95E-09	205992	4.64E-05	9.92E-08
Benzo(g,h,i)perylene (less than)	1.46E-08	191242	8.50E-05	1.82E-07
Benzo(k)fluoranthene (less than)	7.10E-09	207089	4.15E-05	8.86E-08
Chrysene (less than)	2.70E-08	218019	1.58E-04	3.37E-07
Dibenzo(a,h)anthracene (less than)	6.35E-09	53703	3.71E-05	7.92E-08
Fluorene	4.17E-07	86737	2.44E-03	5.20E-06
Fluoranthene	2.05E-07	206440	1.20E-03	2.56E-06
Indeno(1,2,3-cd)pyrene (less than)	7.70E-09	193395	4.50E-05	9.61E-08
Phenanthrene	2.29E-06	85018	1.34E-02	2.86E-05
Pyrene	1.62E-07	129000	9.46E-04	2.02E-06
Dibenzofurans				
1,2,3,4,6,7,8-Heptachlorodebenzofuran (less than)	2.29E-09	67562394	1.33E-05	2.85E-08
1,2,3,4,7,8,9-Heptachlofodibenzofuran (less than)	1.39E-10	55673897	8.12E-07	1.73E-09
1,2,3,4,7,8-Hexachlorodibenzofuran	9.53E-10	70648269	5.57E-06	1.19E-08
1,2,3,6,7,8-Hexachlorodibenzofuran	8.52E-10	57117449	4.98E-06	1.06E-08
1,2,3,7,8,9-Hexachlorodibenzofuran	1.67E-09	72918219	9.75E-06	2.08E-08
2,3,4,6,7,8-Hexachlorodibenzofuran	3.44E-10	60851345	2.01E-06	4.29E-09
1,2,3,7,8-Pentachlorodibenzofuran (less than)	1.47E-10	57117416	8.58E-07	1.83E-09
2,3,4,7,8-Pentachlorodibenzofuran (less than)	4.43E-10	57117314	2.58E-06	5.52E-09
2,3,7,8-Tetrachlorodibenzofuran	5.19E-10	51207319	3.03E-06	6.48E-09
Listed Non-POM Organic HAPs				
Acetaldehyde	1.30E-04	75070	7.59E-01	1.62E-03
Formaldehyde	3.40E-05	50000	1.99E-01	4.24E-04
Listed Acids				
Hydrogen chloride	7.20E-02	7647010	4.20E+02	8.98E-01
Hydrogen fluoride	6.60E-04	7664393	3.85E+00	8.24E-03
Dioxins				
2,3,7,8-tetrachlorodibenzo-p-dioxin	7.94E-11	1746016	4.64E-07	9.91E-10
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	3.79E-09	35822469	2.21E-05	4.73E-08
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	2.75E-10	39227286	1.61E-06	3.43E-09
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	3.97E-10	57653857	2.32E-06	4.95E-09
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	4.92E-10	19408743	2.87E-06	6.14E-09
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	2.33E-10	40321764	1.36E-06	2.91E-09
SUM:			4.68E+02	1.00E+00

Toxic Emissions from Crematory Retort (including fuel and case wrappings)				
HAP Category / Pollutant Name	Emission Factor (lb/150 lb body) - or - (lb/MMscf natural gas from AP-42 where not tested/reported in crematory emissions)	CAS #	lb/yr	Fraction of all HAPS

*** Mercury, Formaldehyde, and Acetaldehyde emissions factors are from CARB's Test Report No. C-90-004, October, 1992**

** All other pollutants determined from Webfire, using SCC 31502101 for Crematoriums. Factors derived from Emissions Testing of a Crematorium, October 29, 1992

*** Pursuant to ARM 17.8.770(1)(a)and (c), only pollutants regulated as a Hazardous Air Pollutant, and which have a chronic inhalation health risk, are required

**** In cases where an emissions factor is listed as 'less than', a multiplier of 0.5 was used for the emissions factor

** CO = carbon monoxide
(fil) = filterable
HAPs = hazardous air pollutants
hp = horsepower
lb = pound
N/A = not applicable
ND = no data available
NO_X = oxides of nitrogen
PM = particulate matter
PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less
$PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 microns or less
SO_2 = sulfur dioxide
TPH = tons per hour
TPY = tons per year
VOC = volatile organic compounds
yr = year

Inventory reflects maximum allowable emissions for all pollutants based on maximum production and year-round operation (8,760 hours). The facility did not take limits on production or hours of operation.

V. Existing Air Quality

WMT- Sunset Funeral home is located in an attainment/unclassified air for all regulated pollutants. The screening analysis performed during the MAQP process demonstrated that the facility poses a negligible risk to human health as required for permit issuance. Additionally, MAQP#5166-00 contains operating and monitoring requirements to ensure that proper operation of the facility would not result in air emissions that violate any ambient air quality standards.

VI. Ambient Air Impact Analysis

Potential emissions from the proposed facility are significantly less than the Department's regulatory permitting threshold; therefore a comprehensive impact analysis is not required to ensure associated emissions do not negatively affect the unclassified/attainment area. WMT applied for this MAQP in accordance with ARM 17.8.770 and MCA 75-2-215 for this unit.

The Department conducted SCREEN3 Modeling, an EPA-approved screening model, using the indicated inputs obtained from the emission inventory and a HAP emission rate of 0.00673 grams per second (g/s), which is the sum of all toxic pollutant and/or HAP emissions from the proposed crematorium. The maximum 1-hour modeled concentration was then converted to an annual average and used in the risk assessment. The individual one-hour results for each pollutant were calculated by multiplying the maximum modeled annual concentration of toxic and/or HAP's in micrograms per cubic meter ($\mu g/m^3$), by the percentage of each individual pollutant identified within the emission inventory. The emission factors employed in development of the emission inventory were derived from stack test data; as such include pollutant contributions of fuel utilized in firing the crematory.

As shown by the Health Risk Assessment of the following Section VII, the Department determined that there is a negligible human health risk associated with the proposed project. With consideration of the modeling accomplished for the Health Risk Assessment, and the small potential to emit of criteria pollutants, the Department determined that the impacts from this permitting action will be minor. Further, that the proposed action will not cause or contribute to a violation of any ambient air quality standard.

VII. Human Health Risk Assessment

A health risk assessment was conducted to determine if the proposed crematorium complies with the negligible risk requirement of MCA 75-2-215. The environmental effects unrelated to human health were not considered in determining compliance with the negligible risk standard, but were evaluated as required by the Montana Environmental Policy Act, in determining compliance with all applicable rules or other requirements requiring protection of public health, safety, and welfare and the environment.

Pursuant to ARM 17.8.770(1)(c), pollutants may be excluded from the human health risk assessment if the Department determines that exposure from inhalation is the only appropriate pathway to consider in the human health risk assessment and if the ambient concentrations of the pollutants (calculated using the potential to emit; enforceable limits or controls may be considered) are less than the levels specified in Table 1 or Table 2 of ARM 17.8.770.

The proposed WMT incinerator has a stack height of 5.4864 meter (m) with vertical discharge, a stack exit temperature of ~900 °F, and a flow rate of 2,000 actual cubic feet per minute (ACFM) with a 0.4572 m diameter stack. Ambient air modeling was accomplished using SCREEN3 software; an EPA approved ambient air dispersion. The SCREEN3 Modeling results, extrapolation of individual pollutant concentrations, and comparisons of Table 1 and Table 2 of ARM 17.8.770 are provided below:

Hazardous & Toxic Air Pollutant Dispersion Screen Model Run Summary

Stack Parameters

Stack Height:	5.4864	m
Inside Diameter:	0.4572	m
Exit Velocity:	5.7494	m/s
Gas Exit Temperature:	900	ºF
Emission Rate	0.0534	lbs/hr
	.0071	g/sec

Screen Model Run Results

Maximum 1-hour Concentration:	2.381	$\mu g/m^3$
Distance from Maximum 1-hour Concentration:	28	m
Maximum Annual Concentration:	0.18136	$\mu g/m^3$

HAP Category / Pollutant Name	CAS #	Fraction of all HAPS	Calculated HAP Concentration (ug/m3)	ARM 17.8.770 De Minimis Levels

				Table 1 Cancer Annual (ug/m3)	Table 2 Noncancer Chronic Annual (ug/m3)	Table 2 Noncancer Acute Annual (ug/m3)
Heavy Metals						
Antimony (less than)	7440360	1.88E-04	3.42E-05	N/A	2.00E-03	N/A
Arsenic (less than)	7440382	1.87E-04	3.39E-05	2.33E-05	5.00E-03	N/A
Beryllium	7440417	1.71E-05	3.10E-06	4.17E-05	N/A	N/A
Cadmium	7440439	1.37E-04	2.49E-05	5.56E-05	N/A	N/A
Chromium	7440473	3.73E-04	6.77E-05	8.33E-06	N/A	N/A
Chromium, hx	18540299	1.68E-04	3.06E-05	N/A	N/A	N/A
Cobalt (less than)	7440484	1.09E-05	1.98E-06	N/A	N/A	N/A
Lead	7439921	8.26E-04	1.50E-04	N/A	1.50E-02	N/A
Mercury	7439976	4.24E-02	7.69E-03	N/A	3.00E-03	3.00E-01
Nickel	7440020	4.77E-04	8.65E-05	0.000385	2.40E-03	1.00E-02
Selenium	7782492	5.44E-04	9.87E-05	N/A	5.00E-03	2.00E-02
Zinc	7440666	4.40E-03	7.99E-04	N/A	N/A	N/A
Polycyclic Organic Matter (POM)						
2-methylnaphthalene	91576	5.51E-07	9.98E-08	N/A	N/A	N/A
3-methylchloranthrene (less than)	56495	2.06E-08	3.74E-09	N/A	N/A	N/A
7,12 Dibenz(a)anthracene (less than)		1.84E-07	3.33E-08	N/A	N/A	N/A
Anthracene (less than)	120127	2.75E-08	4.99E-09	N/A	N/A	N/A
Benzene	71432	4.82E-05	8.74E-06	1.20E-02	7.10E-01	N/A
Dichlorobenzene	25321226	2.75E-05	4.99E-06	0.009091	8.00E+00	N/A
Hexane	110543	4.13E-02	7.49E-03	N/A	2.00E+00	N/A
Napthalene	91203	1.40E-05	2.54E-06	N/A	0.14	N/A
Phenanthrene	85018	3.90E-07	7.07E-08	N/A	N/A	N/A
Toluene	108883	7.80E-05	1.41E-05	N/A	4	N/A
Acenaphthene	83329	1.39E-06	2.51E-07	N/A	N/A	N/A
Acenaphthylene	208968	1.52E-06	2.76E-07	N/A	N/A	N/A
Benz(a)anthracene (less than)	56553	6.09E-08	1.10E-08	5.88E-05	N/A	N/A
Benzo(a)pyrene (less than)	50328	1.82E-07	3.29E-08	5.88E-05	N/A	N/A
Benzo(b)fluoranthene (less than)	205992	9.92E-08	1.80E-08	5.88E-05	N/A	N/A
Benzo(g,h,i)perylene (less than)	191242	1.82E-07	3.29E-08	N/A	N/A	N/A
Benzo(k)fluoranthene (less than)	207089	8.86E-08	1.61E-08	5.88E-05	N/A	N/A
Chrysene (less than)	218019	3.37E-07	6.11E-08	N/A	N/A	N/A
Dibenz(a,h)anthracene (less than)	53703	7.92E-08	1.44E-08	5.88E-05	N/A	N/A
Fluorene	86737	5.20E-06	9.44E-07	N/A	N/A	N/A
Fluoranthene	206440	2.56E-06	4.64E-07	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene (less than)	193395	9.61E-08	1.74E-08	5.88E-05	N/A	N/A
Phenanthrene	85018	2.86E-05	5.18E-06	N/A	N/A	N/A
Pyrene	129000	2.02E-06	3.67E-07	N/A	N/A	N/A

Dibenzofurans			1.66E-08	2.63E-09	3.5E-08	N/A
1,2,3,4,6,7,8-Heptachlorodebenzofuran (less than)	67562394	2.85E-08	5.17E-09	N/A	N/A	N/A
1,2,3,4,7,8,9-Heptachlofodibenzofuran (less than)	55673897	1.73E-09	3.15E-10	N/A	N/A	N/A
1,2,3,4,7,8-Hexachlorodibenzofuran	70648269	1.19E-08	2.16E-09	N/A	N/A	N/A
1,2,3,6,7,8-Hexachlorodibenzofuran	57117449	1.06E-08	1.93E-09	N/A	N/A	N/A
1,2,3,7,8,9-Hexachlorodibenzofuran	72918219	2.08E-08	3.78E-09	N/A	N/A	N/A
2,3,4,6,7,8-Hexachlorodibenzofuran	60851345	4.29E-09	7.79E-10	N/A	N/A	N/A
1,2,3,7,8-Pentachlorodibenzofuran (less than)	57117416	1.83E-09	3.33E-10	N/A	N/A	N/A
2,3,4,7,8-Pentachlorodibenzofuran (less than)	57117314	5.52E-09	1.00E-09	N/A	N/A	N/A
2,3,7,8-Tetrachlorodibenzofuran	51207319	6.48E-09	1.17E-09	N/A	N/A	N/A
Listed Non-POM Organic HAPs						
Acetaldehyde	75070	1.62E-03	2.94E-04	4.55E-02	9.00E-02	N/A
Formaldehyde	50000	4.24E-04	7.69E-05	0.007692	0.036	3.7
Listed Acids						
Hydrogen chloride (hydrochloric acid)	7647010	8.98E-01	1.63E-01	N/A	2.00E-01	3.00E+01
Hydrogen fluoride (hydrofluoric acid)	7664393	8.24E-03	1.49E-03	N/A	0.059	5.8
Dioxins						
2,3,7,8-tetrachlorodibenzo-p-dioxin	1746016	9.91E-10	1.80E-10	N/A	N/A	N/A
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822469	4.73E-08	8.58E-09	N/A	N/A	N/A
SUM of Hexachlorodibenzo-p-dioxin		1.45E-08	2.63E-09	N/A	N/A	N/A
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227286	3.43E-09	6.22E-10	N/A	N/A	N/A
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653857	4.95E-09	8.98E-10	N/A	N/A	N/A
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408743	6.14E-09	1.11E-09	N/A	N/A	N/A
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321764	2.91E-09	5.27E-10	N/A	N/A	N/A

Although not all pollutants exceeded the levels specified in Table 1 or Table 2 of ARM 17.8.770, the Department conducted a full risk assessment. The Department included those pollutants for which emissions factors are available for crematory operations. Although additional species of pollutants have been identified in documented emission factors for the combustion of natural gas and/or propane, prior analyses indicate those pollutants would pass the human health risk assessment. Therefore, emission factors based on stack test data specific to crematory emissions were used. For those pollutants reviewed, the calculated cancer risks demonstrate there is not more than a negligible health, safety, and welfare risk to the public and to the environment, as defined in ARM 17.8.740(16). The negligible risk assessment is provided below:

HAP Category / Pollutant Name	Exceed ARM 17.8.770 Table 1?	Exceed ARM 17.8.770 Table 2 Chronic?	Exceed ARM 17.8.770 Table 2 Acute?	Negligible Risk Assessment (1)			
				Cancer URF (2)	Cancer Risk (3)	CNCREL (4) (ug/m3)	CNCREL Quotient (5)
Heavy Metals							
Antimony (less than)	No	No	No	N/A	N/A	N/A	N/A
Arsenic (less than)	Yes	No	No	0.0043	1.46E-07	0.015	2.26E-03
Beryllium	No	No	No	0.0024	7.44E-09	0.02	1.55E-04
Cadmium	No	No	No	0.0018	4.48E-08	0.01	2.49E-03
Chromium	Yes	No	No	N/A	N/A	N/A	N/A
Chromium, hx	No	No	No	0.012	3.67E-07	0.1	3.06E-04
Cobalt (less than)	No	No	No	N/A	N/A	0.1	1.98E-05
Lead	No	No	No	N/A	N/A	0.15	9.99E-04
Mercury	No	Yes	No	N/A	N/A	0.3	2.56E-02
Nickel	No	No	No	N/A	N/A	0.09	9.61E-04
Selenium	No	No	No	N/A	N/A	20	4.93E-06
Zinc	No	No	No	N/A	N/A	N/A	N/A
Polycyclic Organic Matter (POM)							
2-methylnaphthalene	No	No	No	N/A	N/A	N/A	N/A
3-methylchloranthrene (less than)	No	No	No	0.0063	2.36E-11	N/A	N/A
7,12 Dibenz(a)anthracene (less than)	No	No	No	0.071	2.36E-09	N/A	N/A
Anthracene (less than)	No	No	No	N/A	N/A	N/A	N/A
Benzene	No	No	No	7.8E-06	6.81E-11	30	2.91E-07
Dichlorobenzene	No	No	No	0.000011	5.49E-11	800	6.24E-09
Hexane	No	No	No			700	1.07E-05
Napthalene	No	No	No	0.000034		3	8.46E-07
Phenanthrene	No	No	No	N/A	N/A	N/A	N/A
Toluene	No	No	No			5000	2.83E-09
Acenaphthene	No	No	No	N/A	N/A	N/A	N/A
Acenaphthylene	No	No	No	N/A	N/A	N/A	N/A
Benz(a)anthracene (less than)	No	No	No	N/A	N/A	N/A	N/A
Benzo(a)pyrene (less than)	No	No	No	0.0011	3.62E-11	N/A	N/A
Benzo(b)fluoranthene (less than)	No	No	No	0.00011	1.98E-12	N/A	N/A
Benzo(g,h,i)perylene (less than)	No	No	No	N/A	N/A	N/A	N/A

HAP Category / Pollutant Name	Exceed ARM 17.8.770 Table 1?	Exceed ARM 17.8.770 Table 2 Chronic?	Exceed ARM 17.8.770 Table 2 Acute?	Negligible Risk Assessment (1)			
				Cancer URF (2)	Cancer Risk (3)	CNCREL (4) (ug/m3)	CNCREL Quotient (5)
Benzo(k)fluoranthene (less than)	No	No	No	0.00011	1.77E-12	N/A	N/A
Chrysene (less than)	No	No	No	0.000011	6.72E-13	N/A	N/A
Dibenz(a,h)anthracene (less than)	No	No	No	0.00011	1.58E-12	N/A	N/A
Fluorene	No	No	No	N/A	N/A	N/A	N/A
Fluoranthene	No	No	No	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene (less than)	No	No	No	0.00011	1.92E-12	N/A	N/A
Phenanthrene	No	No	No	N/A	N/A	N/A	N/A
Pyrene	No	No	No	N/A	N/A	N/A	N/A
Dibenzofurans	Yes	No	No	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodebenzofuran (less than)	No	No	No	NA	NA	NA	NA
1,2,3,4,7,8,9-Heptachlofodibenzofuran (less than)	No	No	No	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	No	No	No	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	No	No	No	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	No	No	No	NA	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	No	No	No	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran (less than)	No	No	No	NA	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran (less than)	No	No	No	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	No	No	No	NA	NA	NA	NA
Listed Non-POM Organic HAPs							
Acetaldehyde	No	No	No	N/A	N/A	9	3.27E-05
Formaldehyde	No	No	No	0.000013	1.00E-09	9.8	7.85E-06
Listed Acids							
Hydrogen chloride (hydrochloric acid)	No	No	No	N/A	N/A	20	8.15E-03
Hydrogen fluoride (hydrofluoric acid)	No	No	No	N/A	N/A	14	1.07E-04
Dioxins							
2,3,7,8-tetrachlorodibenzo-p-dioxin	No	No	No	33	5.93E-09	0.00004	4.49E-06
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	No	No	No				

HAP Category / Pollutant Name	Exceed ARM 17.8.770 Table 1?	Exceed ARM 17.8.770 Table 2 Chronic?	Exceed ARM 17.8.770 Table 2 Acute?	Negligible Risk Assessment (1)			
				Cancer URF (2)	Cancer Risk (3)	CNCREL (4) (ug/m3)	CNCREL Quotient (5)
SUM of Hexachlorodibenzo-p-dioxin	No	No	No	1.3	3.42E-09	N/A	N/A
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	No	No	No				
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	No	No	No				
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	No	No	No				
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	No	No	No				
	SUM --->				5.7775E-07		0.041157

(1) Source of chronic dose-response values is from USEPA Table 1: Prioritized Chronic Dose-Response Values for Screening Risk Assessments

(2) Cancer Chronic Inhalation Unit Risk Factor, units 1/µg/m3

(3) Cancer Risk is unit less and is calculated by multiplying the predicted concentration by the URF.

(4) Chronic Noncancer Reference Exposure Level

(5) CNCREL Quotient Value is calculated by dividing the modeled HAP concentration by the CNCREL.

if no individual pollutant concentration exceeds the Cancer Risk threshold of 1.00E-06 and the sum of all Cancer Risks concentrations do not exceed 1.00E-05, and further, the sum of the Chronic Non-cancer Reference Exposure Level (CNCREL) hazard quotients is less than 1.0, compliance with the negligible risk requirement is demonstrated.

As documented in the Negligible Risk Assessment table and in accordance with the Department's negligible risk requirement, as defined in ARM 17.8.740(16), no individual pollutant concentration exceeds the Cancer Risk threshold of 1.00E-06 and the sum of all Cancer Risks concentrations do not exceed 1.00E-05. Further, the sum of the Chronic Non-cancer Reference Exposure Level (CNCREL) hazard quotients is less than 1.0 as required to demonstrate compliance with the negligible risk requirement.

VIII. Taking or Damaging Implication Analysis

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

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

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

IX. Environmental Assessment

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

DEPARTMENT OF ENVIRONMENTAL QUALITY
Air, Energy & Mining Division
Air Quality Bureau
P.O. Box 200901, Helena, Montana 59620
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DRAFT ENVIRONMENTAL ASSESSMENT (EA)

Issued To: We Me Team, Inc.
Sunset Hills Funeral Home
P.O. Box 868
Plains, MT 59859

Montana Air Quality Permit number (MAQP): 5166-00

Preliminary Determination Issued: 9/23/2016
Department Decision Issued: 10/27/2016
Permit Final: 11/15/2016

1. Legal Description of Site: The legal description of the facility is Lot 1 of Section 27, Township 20 North, Range 26 West in Sanders County, MT. The immediate surrounding area is urban development with a mix of residents and businesses. The town of Plains less than a mile from Clark Fork River and less than ten miles from the Flathead Indian Reservation.

2. Description of Project: We Me Team, Inc. (WMT) owns and operates a funeral home. WMT is proposing to install and operate a natural gas or liquid petroleum gas fired multiple chamber crematorium unit with a maximum design capacity of 100 pounds per hour (lbs/hr) of human remains. The facility is located at 300 Willis St., Plains, MT, 59859 and is known as Sunset Hills Funeral Home. The surrounding area is residential and urban developed land.

3. Objectives of Project: WMT seeks to provide human crematorium services to the community of Plains, MT.

4. Alternatives Considered: In addition to the proposed action, the Department also considered the "no-action" alternative. The no action alternative would mean that either human remains would be buried in a local cemetery or the clients would take the remains to a local business that already has the ability to cremate the remains. The facility could possibly lose out on a business opportunity and potential revenue for the existing funeral home providing a variety of funeral services. Therefore, the "no-action" alternative was eliminated from further consideration. Other alternatives considered were discussed in the BACT analysis, Section III in the MAQP Analysis.

5. A Listing of Mitigation, Stipulations, and Other Controls: A list of enforceable conditions, including a BACT analysis, would be included in MAQP #5166-00.

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. 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

      Emissions from the proposed project would potentially affect terrestrial and aquatic life and habitats in the proposed project area. However, as detailed in Section V and Section VI of the permit analysis, any emissions and resulting impacts from the project would be minor due to the low concentration of those pollutants emitted.

      Further, the proposed crematorium would operate within an existing building located in an area zoned as commercial and no additional construction or ground disturbance to the area would be required. Overall, any impact to the terrestrial and aquatic life and habitats of the proposed project area would be expected to be minor.

   B. Water Quality, Quantity and Distribution

      The project would not be expected to affect water quantity or distribution in the project area. The crematorium operates within a building and does not discharge or use water during operation. Additionally, the prevailing winds would blow the effluent away from the surface water nearby which would limit the deposition of pollutants that may affect the Clark Fork River.

      Emissions from the project may potentially affect water quality in the project area due to air pollutant deposition. However, any emissions and resulting deposition impacts from the project would likely be very minor due to the low concentration of those pollutants emitted.

   C. Geology and Soil Quality, Stability and Moisture

      The project would not be expected to affect the geology, stability, and moisture of the project area. The crematorium operates within a building located in an area zoned as commercial and no new construction or ground disturbance to the area is required.

      Proper crematorium operation would result in minor air pollution emissions to the ambient environment. These pollutants would deposit on the soils in the surrounding area. However, any impact from deposition of these pollutants would likely be very minor due to dispersion characteristics and the low concentration of those pollutants emitted.

D. Vegetation Cover, Quantity, and Quality

Air emissions from the project may potentially affect vegetation cover, quantity, and quality in the project area. However, any emissions and resulting impacts from the project would be expected to be minor due to the dispersion characteristics and the low concentration of those pollutants emitted.

Further, the crematorium would operate an existing building located in an area zoned as commercial and no new construction or ground disturbance is required. Overall, any impact to the vegetation cover, quantity, and quality of the proposed project area would likely be minor.

E. Aesthetics

The project would result in a minor impact to the aesthetic nature of the project area because the crematorium operates within a building located in an area zoned as commercial and a no new construction or site disturbance is required. Because the facility location area is currently designated for commercial use, the project would not change the aesthetic nature of the area. Further, visible emissions from the source would be limited to 10% opacity. Therefore, the project would expect to result in only a minor impact to aesthetics of the area.

F. Air Quality

The project would result in the emissions of various criteria pollutants and HAPs to the ambient air in the project area. However, it has been demonstrated by air dispersion modeling that any air quality impacts due to HAPs from the project would be minor and would constitute negligible risk to human health and the environment. Maximum potential emissions of criteria pollutants are very low by industrial standards and not expected to cause or contribute to any violation of an ambient air standard.

The Department conducted air dispersion modeling to determine the ambient air quality impacts from HAPs that would be generated by the crematorium. The SCREEN3 model was selected for the air dispersion modeling. The full meteorology option was selected to provide a conservative result. Receptors were placed from 1 to 1,000 meters in a simple terrain array. The simple terrain option was chosen because it was the more conservative option.

Stack parameters and emission rates used in the SCREEN3 model are contained in Section V of the permit analysis and are on file with the Department. Stack velocity and gas temperature were taken from data provided by the manufacturer of the crematorium. Due to the dispersion characteristics and low levels of pollutants that would be emitted from the proposed project the Department determined that any impacts to air quality would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The current permit action would result in negligible impacts to any existing unique endangered, fragile, or limited environmental resource in the proposed area of operation. The proposed crematorium would require only a limited amount of construction inside an already existing building and would operate within a building located in an area zoned as commercial thereby limiting the potential for impact to any unique endangered, fragile, or limited environmental resource in the proposed location.

The Department, in an effort to assess any potential impacts to any unique endangered, fragile, or limited environmental resources in the initial proposed area of operations, contacted the Montana Natural Heritage Program (MNHP) to identify any species of concern associated with the proposed site location. Search results concluded there are 5 species of special concern within the defined area; the Great Blue Heron, the Golden Lewis's Woodpecker, the Westslope Cutthroat Trout and the Bull Trout.

The identified species of concern are peripatetic in nature and not likely associated with the immediate location of the proposed project, as the site is zone commercial as is the general surrounding site area. Further, as detailed in Section VI of the permit analysis, any emissions and resulting impacts from the project would be minor due to the low concentration of those pollutants emitted. Overall, any impact to this unique endangered, fragile, or limited environmental resource of the proposed project area would expect to be negligible.

H. Sage Grouse Executive Order

The Department recognizes that the site location is not within a Greater Sage Grouse Habitat Area as defined by Executive Order No. 12-2015.

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

The proposed project would result in minor demands on environmental resources of water and air as discussed in Section 7.B and 7.F, respectively, of this EA. Further, as detailed in Section V and Section VI of the permit analysis, project impacts on air resources in the proposed project area would be minor due to dispersion characteristics and the low concentration of those pollutants emitted. Finally, because the project is small by industrial standards, relatively little energy would be required for operation and the resulting impact on energy resources would likely be minor.

J. Historical and Archaeological Sites

The Department contacted the Montana Historical Society - State Historical Preservation Office (SHPO) in an effort to identify any historical and/or archaeological sites that may be present in the proposed area of construction/operation. Search results concluded that there are no previously recorded sites within the area proposed for the project. According to correspondence from SHPO, there is a low likelihood cultural properties will be impacted. Therefore, a recommendation for a cultural resource inventory is unwarranted at this time. However, should cultural materials be inadvertently discovered during this project, the SHPO office must be contacted and the site investigated.

K. Cumulative and Secondary Impacts

The cumulative and secondary impacts from this project on the environment in the immediate are expected to be minor. This facility is within an urban area and the air pollution emissions from this facility are negligible. The Department believes that this facility would be expected to operate in compliance with all applicable rules and regulations as outlined in MAQP #5166-00.

8. SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS:

The following comments have been prepared by the Department.

A. Social Structures and Mores

WMT owns and operates a funeral home. WMT is proposing to operate a natural gas or liquid petroleum (LP) gas fired multiple chambered cremation unit with a maximum design capacity of 100 pounds per hour (lbs/hr) of animal remains. The incinerator emissions would be extremely low on an industrial scale and opacity limitations of MAQP #5166-00 would require 10% or less opacity while operating. Any change to social structures or mores would be expected to be negligible.

B. Cultural Uniqueness and Diversity

The proposed project would not cause any change in the cultural uniqueness and diversity of the area as the incinerator will be constructed and installed in an existing funeral home.

C. Local and State Tax Base and Tax Revenue

The proposed project may provide additional revenue for WMT. The impact to local and state tax base and tax revenue would be minor because the project would not require any additional employees.

D. Agricultural or Industrial Production

No effects to agricultural or industrial production would occur as a result of the project. The proposed project is to provide cremation services for deceased humans who reside in the Plains, MT area.

E. Human Health

As described in Section VI of the MAQP Analysis, modeling and analysis of hazardous air pollutants showed negligible risk to human health. Furthermore, the potential to emit of conventional air pollutants would be negligible. Impacts to human health would be minor.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed project is to operate a human crematorium. Access to recreational opportunities would not be limited or modified by this facility. The incinerator would be located within an existing building site that has already been established for similar use. All recreational opportunities, if available in the area, would still be accessible. Permit conditions would require opacity of the emissions to be 10% or less while operating. The potential to emit of the proposed incinerator would be very small. Therefore, minor, if any impact to the quality of recreational and wilderness activities would be expected as a result of this project.

G. Quantity and Distribution of Employment

The proposed project will not require any new employees for the operation of the crematory. Any impact to the quantity and distribution of employment would not be expected.

H. Distribution of Population

The proposed project will not employ any new employees in the operation of the crematory, therefore, no impact to the distribution of population due to the project.

I. Demands for Government Services

Government services would be required for acquiring the appropriate permits from government agencies. In addition, the permitted source of emissions would be subject to periodic inspections by government personnel. Overall, demands for government services would be minor.

J. Industrial and Commercial Activity

The proposed project would result in only a minor impact on local industrial and commercial activity because the crematorium would require only a limited amount of new construction, would operate within a building and would not result in additional industrial production. Overall, any impacts to industrial and commercial activity in the proposed area of operation would likely be minor.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans and goals this project may impact. The State standards would be protective of the proposed project area.

L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from this project would expect result in minor impacts to the economic and social environment in the immediate area due to the relatively small size of the operation. The Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in MAQP #5166-00.

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

The current permitting action is for the construction and operation of a human crematorium. MAQP #5166-00 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 Quality Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: Loni Patterson
Date: 9/19/2016