Montana Department of
ENVIRONMENTAL QUALITY
Steve Bullock, Governor
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P. O. Box 200901 Helena, MT 59620-0901 (406) 444-2544 Website: www.deq.mt.gov

August 15, 2013

Mr. Ralph Mihlfred
Creel Funeral Home, Inc.
PO Box 991
Lewistown, MT 59457

Dear Mr. Mihlfred:

Montana Air Quality Permit #4930-00 is deemed final as of August 15, 2013, by the Department of Environmental Quality (Department). This permit is for the Creel Funeral Home, Inc. Crematory Operations. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

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

Shawn Juers
Environmental Engineer
Air Resources Management Bureau
(406) 444-2049

JM:SJ
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #4930-00

Creel Funeral Home, Inc.
PO Box 991
Lewistown, MT 59457

August 15, 2013

MONTANA AIR QUALITY PERMIT

Issued To:	Creel Funeral Home, Inc. PO Box 991 Lewistown, MT 59457	MAQP: #4930-00 Application Complete: 6/10/2013 Preliminary Determination Issued: 6/28/2013 Department's Decision Issued: 7/30/2013 Permit Final: 8/15/2013 AFS #: 027-0012

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Creel Funeral Home, Inc. (Creel Funeral Home), 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

Creel Funeral Home proposes to operate a 2002 B&L Crematory rated for a maximum cremation rate of 150 pounds per hour (lb/hr), and maximum charge weight capability of 600 lb.

B. Plant Location

The physical location of the facility is 47.0269° latitude, -109.4290° longitude or 601 West Main Street, Lewistown, Montana. The legal description is Section 15, Township 15 North, Range 18 East, in Fergus County, Montana.

Section II: Conditions and Limitations

A. Operational Requirements

1. Creel Funeral Home shall not incinerate/cremate any material other than human remains and/or any corresponding container or other crematory related materials as approved in writing by the Montana Department of Environmental Quality – Air Resources Management Bureau (Department) (ARM 17.8.749).

2. Creel Funeral Home shall utilize only pipeline quality natural gas for crematory operations (ARM 17.8.749).

3. Creel Funeral Home shall not cause or authorize to be discharged into the atmosphere from the crematorium any particulate emissions in excess of 0.10 grains per dry standard cubic foot corrected to 12% carbon dioxide (ARM 17.8.752).

4. Creel Funeral Home shall not cause or authorize to be discharged into the atmosphere from the crematorium any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.752).

5. The secondary chamber burner shall be used to preheat the secondary chamber of the crematorium to the minimum required operating temperature prior to igniting the primary chamber burner. The secondary chamber operating temperature of the crematorium shall be designed to maintain a temperature of 1,600 degrees Fahrenheit (˚F) during cremation (ARM 17.8.752).

6. Creel Funeral Home shall install the crematory presented in the application, which includes a microprocessor temperature controller with digital readout, and a pollution monitoring system which monitors the stack gases to prevent visible emissions (ARM 17.8.749).

7. Creel Funeral Home shall develop operation procedures for the crematorium, print those procedures in a crematorium operation procedures manual, 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 operate the unit. Creel Funeral Home shall keep training records and supply training records and a copy of the operations manual to the Department upon request (ARM 17.8.752).

B. Monitoring Requirements

1. Creel Funeral Home shall install, calibrate, maintain, and operate continuous monitoring and recording equipment on the crematorium to measure the secondary chamber exit gas temperature. Creel Funeral Home shall also record the daily quantity of material incinerated/cremated and the daily hours of operation of the crematorium (ARM 17.8.749).

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 may require testing (ARM 17.8.105).

D. Operational Reporting Requirements

1. Creel Funeral Home 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. Creel Funeral Home 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 Creel Funeral Home 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).

SECTION III: General Conditions

A. Inspection – Creel Funeral Home shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (continuous emissions monitoring system (CEMS), continuous emissions rate monitoring system (CERMS)) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

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

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Creel Funeral Home 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 Creel Funeral Home 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 Analysis
Creel Funeral Home, Inc.
MAQP #4930-00

I. Introduction/Process Description

Creel Funeral Home, Inc. (Creel Funeral Home) owns and operates a human crematorium.

A. Permitted Equipment

Creel Funeral Home proposes to operate a 2002 B&L Crematory rated for a maximum cremation rate of 150 pounds per hour (lb/hr), and maximum charge weight capability of 600 lb.

B. Plant Location

The physical location of the facility is 47.0269° latitude, -109.4290° longitude or 601 West Main Street, Lewistown, Montana. The legal description is Section 15, Township 15 North, Range 18 East, in Fergus County, Montana.

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 Montana Department of Environmental Quality – Air Resources Management Bureau (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).

   Creel Funeral Home 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}

Creel Funeral Home must maintain compliance with the applicable ambient air quality standards.

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

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

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Creel Funeral Home 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 Creel Funeral Home is required to comply with the emission limitations specified in Section II.A of MAQP #4930-00, this particular rule does not apply to the crematorium because Creel Funeral Home 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.

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. Creel Funeral Home 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 (TPY) of any pollutant. Creel Funeral Home does not have a PTE greater than 25 TPY of any pollutant; however, in accordance with the MCA 75-2-215, an air quality permit must be obtained prior to the construction and operation of any incinerator, regardless of potential incinerator emissions. Because Creel Funeral Home must obtain an air quality permit, all normally applicable requirements apply in this case.

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. Creel Funeral Home 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. Creel Funeral Home submitted an affidavit of publication of public notice for the May 25, 2013 issue of the *Lewistown News-Argus*, a newspaper of general circulation in the Town of Lewistown in Fergus 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 Creel Funeral Home 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 TPY of any pollutant (excluding fugitive emissions).

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

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

a. PTE > 100 TPY of any pollutant;

b. PTE > 10 TPY of any one hazardous air pollutant (HAP), PTE > 25 TPY of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

c. PTE > 70 TPY 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 #4930-00 for Creel Funeral Home, the following conclusions were made:

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

b. The facility's PTE is less than 10 TPY for any one HAP and less than 25 TPY 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 standards

f. This source is not a Title IV affected source

g. This source is not a solid waste combustion unit under 129(e) of the FCAA

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

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

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

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

2. "Solid waste" means all putrescible and nonputrescible solid, semisolid, liquid, or gaseous wastes, 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 commercial solid waste incinerators; therefore, AMC must obtain an air quality permit.

2. MCA 75-2-215 requires the applicant to provide, to the Department's satisfaction, a characterization and estimate of emissions and ambient concentrations of air pollutants, including hazardous air pollutants from the incineration of solid waste. The Department determined that the information submitted in the initial MAQP application was sufficient to fulfill this requirement.

3. MCA 75-2-215 requires that the Department reach a determination that 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 the health risk assessment, the Department determined that AMC 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 the design of the incinerator and operating the incinerator according to the manufacturer-recommended operation procedures constitutes BACT.

III. BACT Determination

A BACT determination is required for each new or modified source. Creel Funeral Home 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, not just criteria pollutants. A BACT analysis was submitted by Creel Funeral Home in permit application #4930-00. The Department reviewed these methods, as well as previous BACT determinations.

A typical crematory unit contains a primary and secondary combustion chamber. The primary chamber contains the body which is usually contained in some type of combustible casket or container. This chamber has at least one burner to provide the heat which vaporizes the water content of the body and aids in combustion of the organic portion. Temperature in the primary chamber is typically between 760 to 1,150 degrees Celsius (°C) (1,400 to 2,100 degrees Fahrenheit (°F)). Higher temperatures speed cremation but consume more energy, generate more oxides of nitrogen, and accelerate spalling of the furnace's refractory lining.

The secondary chamber may be at the rear or above the primary chamber. A secondary burner(s) fires into this chamber, oxidizing any organic material which passes from the primary chamber. Proper design of this secondary chamber allows secondary combustion to act as a method of pollution control to reduce or eliminate the emission of odors, smoke, particulate matter, volatile organic compounds, and dioxins. A temperature of at least 1,500 °F with at least one second residence time is usually a part of secondary chamber design to achieve the desired control.

Most contaminants including visible emissions can be minimized through the proper operation of the crematorium in conjunction with selection of a crematory which has adequate temperature and residence time in the secondary combustion chamber. Sulphur oxides may be minimized through the use of low sulphur fuels such as natural gas.

Creel Funeral Home has proposed a crematory equipped with a secondary chamber designed for an operating temperature of 1,600 °F and a two second residence time. Creel Funeral Home proposes to fire the crematory with pipeline quality natural gas. The crematory is equipped with a pollution monitoring and control system which constantly monitors the stack gases to prevent visible emissions.

Further, the Department will require that Creel Funeral Home shall develop operation procedures for the crematorium, and require all personnel who operate the unit to be trained. The Department has determined that the design of the crematorium and proper operation of the crematorium constitutes BACT. The control options selected have controls and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

IV. Emission Inventory

Potential To Emit						
Creel Funeral Home						
MAQP #4930-00						
PM	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**CO**	**VOC**	**SO_2**
1.53	1.00	0.66	1.17	0.97	0.99	0.71

Criteria Pollutant Emission Inventory								
Maximum Capacity:		150	lbs/hr					
Operating Hours:		8760	hrs/yr					
Conversion:		150 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =				657	tons/yr	
PM Emissions								
	Emission Factor:	4.67	lbs/ton	(AP-42 Table 2.3-2, 07/93)				
	Calculations:	4.67lbs/ton*657tons/yr*0.0005 ton/lb =					1.53	tons/yr
PM10 Emissions								
	Emission Factor:	3.0355	lbs/ton	(AP-42 Table 2.3-15, PM10=65%*PM, 07/93)				
	Calculations:	3.0355lbs/ton*657tons/yr*0.0005 ton/lb =					1.00	tons/yr
PM2.5 Emissions								
	Emission Factor:	2.02211	lbs/ton	(AP-42 Table 2.3-15, PM2.5=43.3%*PM, 07/93)				
	Calculations:	2.02211lbs/ton*657tons/yr*0.0005 ton/lb =					0.66	tons/yr
NOx Emissions								
	Emission Factor:	3.56	lbs/ton	(AP-42 Table 2.3-1, 07/93)				
	Calculations:	3.56lbs/ton*657tons/yr*0.0005 ton/lb =					1.17	tons/yr
VOC Emissions								
	Emission Factor:	3	lbs/ton	(AFSSCC 5-02-005-05, 03/90)				
	Calculations:	3lbs/ton*657tons/yr*0.0005 ton/lb =					0.99	tons/yr
CO Emissions								
	Emission Factor:	2.95	lbs/ton	(AP-42 Table 2.3-1, 07/93)				
	Calculations:	2.95lbs/ton*657tons/yr*0.0005 ton/lb =					0.97	tons/yr
SOx Emissions								
	Emission Factor:	2.17	lbs/ton	(AP-42 Table 2.3-1, 07/93)				
	Calculations:	2.17lbs/ton*657tons/yr*0.0005 ton/lb =					0.71	tons/yr

Pollutant	Emissions Factor		EF Source	lb/yr
	(lb/cremation) (rate = 150 lb/hr = 1 "body")		Webfire SCC 31502101	
ORGANICS				
Acenaphthene		0.000000111	Webfire	0.000972
Acenaphthylene		0.000000122	Webfire	0.001069
Acetaldehyde		0.00013	CARB Test Report	1.1388
Anthracene		0.000000324	Webfire	0.002838
Benzo(a)anthracene	<	9.76E-09	Webfire	4.27E-05
Benzo(a)pyrene	<	2.91E-08	Webfire	0.000127
Benzo(b) fluoranthene	<	1.59E-08	Webfire	6.96E-05
Benzo (g,h,i) perylene	<	2.91E-08	Webfire	0.000127
Benzo (k) fluoranthene	<	1.42E-08	Webfire	6.22E-05
Chrysene	<	0.000000054	Webfire	0.000237
Dibenzo(a,h) anthracene	<	1.27E-08	Webfire	5.56E-05
Fluorene		0.000000417	Webfire	0.003653
Formaldehyde		0.000034	CARB Test Report	0.29784
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin		3.79E-09	Webfire	3.32E-05
Total heptachlorodibenzo-p-dioxins		8.14E-09	Webfire	
TOTAL minus 1,2,3,4,6,7,8		4.35E-09		3.81E-05
1,2,3,4,6,7,8-Heptachlorodibenzofuran	<	4.57E-09	Webfire	2E-05
1,2,3,4,7,8,9-Heptachlorodibenzofuran	<	2.78E-10	Webfire	1.22E-06
Heptachlorodibenzofurans, total	<	5.41E-09	Webfire	
Total minus 1,2,3,4,6,7,8 and 1,2,3,4,7,8,9		5.62E-10		4.92E-06
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin		2.75E-10	Webfire	2.41E-06
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin		3.97E-10	Webfire	3.48E-06
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin		4.92E-10	Webfire	4.31E-06
Hexachlorodibenzo-p-dioxins, total		5.66E-09	Webfire	
TOTAL minus others		4.496E-09		3.94E-05
1,2,3,4,7,8-Hexachlorodibenzofuran		9.53E-10	Webfire	8.35E-06
1,2,3,6,7,8-Hexachlorodibenzofuran		8.52E-10	Webfire	7.46E-06
1,2,3,7,8,9-Hexachlorodibenzofuran		1.67E-09	Webfire	1.46E-05
2,3,4,6,7,8-Hexachlorodibenzofuran		3.44E-10	Webfire	3.01E-06
Hexachlorodibenzofurans, total		1.09E-08	Webfire	
TOTAL minus others		7.081E-09		6.2E-05
Hydrogen chloride		0.072	Webfire	630.72
Hydrogen fluoride		0.000655	Webfire	5.7378
Indeno(1,2,3-cd)pyrene	<	1.54E-08	Webfire	6.75E-05
Octachlorodibenzo-p-dioxins, total		6.07E-09	Webfire	5.32E-05
Octachlorodibenzofurans, total		1.62E-09	Webfire	1.42E-05
1,2,3,7,8-Pentachlorodibenzo-p-dioxin		2.33E-10	Webfire	2.04E-06

Pollutant	Emissions Factor		EF Source	lb/yr
	(lb/cremation) (rate = 150 lb/hr = 1 "body")		Webfire SCC 31502101	
Pentachlorodibenzo-p-dioxins, total		2.17E-09	Webfire	
TOTAL minus 1,2,3,7,8		1.937E-09		1.7E-05
1,2,3,7,8-Pentachlorodibenzofuran	<	2.94E-10	Webfire	1.29E-06
2,3,4,7,8-Pentachlorodibenzofuran	<	8.85E-10	Webfire	3.88E-06
Pentachlorodibenzofurans, total		6.44E-09	Webfire	
Total minus 1,2,3,7,8 and 2,3,4,7,8		5.8505E-09		5.13E-05
Phenanthrene		0.00000229	Webfire	0.02006
Polychlorinated dibenzo-p-dioxins, total		2.35E-08	Webfire	0.000206
Polychlorinated dibenzofurans, total	<	3.53E-08	Webfire	0.000155
Polycyclic aromatic hydrocarbons (PAH)		0.00000376	Webfire	0.032938
Pyrene		0.000000162	Webfire	0.001419
2,3,7,8-Tetrachlorodibenzo-p-dioxin		7.94E-11	Webfire	6.96E-07
Tetrachlorodibenzo-p-dioxins, total		1.41E-09	Webfire	
Total minus 2,3,7,8		1.3306E-09		1.17E-05
2,3,7,8-Tetrachlorodibenzofuran		5.19E-10	Webfire	4.55E-06
Tetrachlorodibenzofurans, total		0.000000011	Webfire	
Total minus 2,3,7,8		1.0481E-08		9.18E-05
METALS				
Antimony	<	0.0000302	Webfire	0.132276
Arsenic	<	0.00003	Webfire	0.1314
Barium		0.000024	Webfire	0.21024
Beryllium		0.00000137	Webfire	0.012001
Cadmium		0.0000111	Webfire	0.097236
Chromium		0.0000299	Webfire	
Chromium (VI)		0.0000135	Webfire	0.11826
Chromium Minus Chromium VI		0.0000164		0.143664
Cobalt	<	0.00000175	Webfire	0.007665
Copper	<	0.0000274	Webfire	0.120012
Lead		0.0000662	Webfire	0.579912
Mercury		0.00329	Webfire	28.8204
Molybdenum	<	0.0000167	Webfire	0.073146
Nickel		0.0000382	Webfire	0.334632
Selenium	<	0.0000436	Webfire	0.190968
Silver		0.0000073	Webfire	0.063948
Thallium	<	0.0000852	Webfire	0.373176
Vanadium		0.0000579	Webfire	0.507204
Zinc		0.000353	Webfire	3.09228

V. Existing Air Quality

The Lewistown area is currently designated as unclassifiable for all criteria pollutants.

VI. Ambient Air Impact Analysis

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

VII. Human Health Risk Assessment

As the crematory meets the definition of an incinerator, in accordance with 75-2-215 MCA, a health risk assessment was completed for this source. 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.

Ambient air modeling was accomplished using Screen3 software; an EPA approved ambient air modeling software used for conservative modeling. Ambient air impacts were modeled for the non-criteria pollutants identified in the potential to emit calculations. A stack height of 23 feet, inside diameter of 1.5 feet, and exit gas flow rate of 2,000 actual cubic feet per minute was modeled, with the results summarized below.

Stack Parameters						
Height:	23 ft	or	7.01	m		
Stack Inside Diameter:	1.5 feet	or	0.46	m		
Stack Gas Exit Flow Rate:	2000 acfm	=	56.68	acmm =	5.76	m/sec
Stack Gas Exit Temperature:	550 F	=	287.78	C =	560.94	K

RUN SCREEN3 MODEL HERE

SCREEN3 RUN:	Enter Values From Model		
Maximum 1-hr Modeled Concentration:	2.73E+00 ug/m3	at 35 meters	Results from SCREEN3 Model
24 hour Maximum Concentration:	1.09E+00 ug/m3	MT Modeling Guidance conversion factor of 0.4 to convert to 24 hr maximum concentration	
Annual Maximum Concentration:	2.73E-01 ug/m3	MT Modeling Guidance conversion factor of 0.08 (+/- 0.02) to convert to annual maximum concentration. Conservatively, use 0.1 multiplier.	

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 natural gas, prior analyses indicate those pollutants would pass the human health risk assessment. Therefore, emission factors developed specific to crematory emissions were used. The calculated cancer risks demonstrate there is no more than a negligible risk to the public health, safety, and welfare and to the environment, as defined in ARM 17.8.740(16), for those pollutants reviewed. A summary of the calculated annual concentrations compared to the levels listed in ARM 17.8.770, and a full health risk assessment, follows.

Pollutant	CAS #	Annual Conc (ug/m3)	ARM 17.8.770		
			Table 1	Table 2	
			Cancer Annual (ug/m3)	Noncancer Chronic Annual	Noncancer Acute Annual
Acenaphthene	83329	3.94E-07			
Acenaphthylene	208968	4.33E-07			
Acetaldehyde	75070	4.62E-04	4.55E-02	9.00E-02	
Anthracene	120127	1.15E-06			
Benzo(a)anthracene	56553	1.73E-08	5.88E-05		
Benzo(a)pyrene	50328	5.17E-08	5.88E-05		
Benzo(b) fluoranthene	205992	2.82E-08	5.88E-05		
Benzo (g,h,i) perylene	191242	5.17E-08	5.88E-05		
Benzo (k) fluoranthene	207089	2.52E-08			
Chrysene	218019	9.59E-08			
Dibenzo(a,h) anthracene	53703	2.25E-08	5.88E-05		
Fluorene	86737	1.48E-06			
Formaldehyde	50000	1.21E-04	7.69E-03	3.60E-02	3.70E+00
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822469	9.78E+06			
1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562394	8.11E-09			
1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673897	4.94E-10			
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227286	9.77E-10			
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653857	1.41E-09			
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408743	1.75E-09			
1,2,3,4,7,8-Hexachlorodibenzofuran	70648269	3.38E-09			
1,2,3,6,7,8-Hexachlorodibenzofuran	57117449	3.03E-09			
1,2,3,7,8,9-Hexachlorodibenzofuran	72918219	5.93E-09			
2,3,4,6,7,8-Hexachlorodibenzofuran	60851345	1.22E-09			
Hydrogen chloride	7647010	2.56E-01		2.00E-01	3.00E+01
Hydrogen fluoride	7664393	2.33E-03		5.90E-02	5.80E+00
Indeno(1,2,3-cd)pyrene	193395	2.73E-08	5.88E-05		
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321764	8.27E-10			
1,2,3,7,8-Pentachlorodibenzofuran	57117416	5.22E-10			
2,3,4,7,8-Pentachlorodibenzofuran	57117314	1.57E-09			
Phenanthrene	85018	8.13E-06			
Pyrene	129000	5.75E-07			
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746016	2.82E-10	2.6316E-09	3.5E-08	
2,3,7,8-Tetrachlorodibenzofuran	51207319	1.84E-09			
Antimony	7440360	1.07E-04			
Arsenic	7440382	1.07E-04			
Barium	7440393	8.52E-05			
Beryllium	7440417	4.86E-06			
Cadmium	7440439	3.94E-05			
Chromium	7440473	1.06E-04			
Chromium (VI)	18540299	4.79E-05			
Cobalt	7440484	3.11E-06			
Copper	7440508	4.86E-05			
Lead	7439921	2.35E-04		1.50E-02	
Mercury	7439976	1.17E-02		3.00E-03	3.00E-01
Molybdenum	7439987	2.97E-05			
Nickel	7440020	1.36E-04		2.40E-03	1.00E-02
Selenium	7782492	7.74E-05		5.00E-03	2.00E-02
Silver	7440224	2.59E-05			
Thallium	7440280	1.51E-04			
Vanadium	7440622	2.06E-04			
Zinc	7440666	1.25E-03			

Crematory Negligible Risk Assessment					
Pollutant	**Annual Modeled HAP Concentration (ug/m^3)[a]**	**Cancer URF[b] $(ug/m^3)^{-1}$**	**Cancer Risk[c]**	**CNCREL[d] mg/m^3**	**CNCREL Quotient[e]**
Acetaldehyde	4.62E-04	2.20E-06	**1.0156E-09**	0.009	5.13E-05
Benzo(a)anthracene	1.736E-08	1.10E-04	**1.9061E-12**	-	
Benzo(a)pyrene	5.162E-08	1.10E-03	**5.6833E-11**	-	
Benzo(b) fluoranthene	2.82E-08	1.10E-04	**3.1053E-12**	-	
Benzo (k) fluoranthene	2.52E-08	1.10E-04	**2.7733E-12**	-	
Chrysene	9.58E-08	1.10E-05	**1.0546E-12**	-	
Formaldehyde	0.000120	1.30E-05	**1.5695E-09**	0.0098	1.23E-05
Hexachlorodibenzo-p-dioxins, total	2.01E-08	1.30E+00	**3.7576E-08**	-	
Hydrogen chloride	0.255	-		0.02	1.28E-02
Hydrogen fluoride	0.002	-		0.014	1.66E-04
Indeno(1,2,3-cd)pyrene	2.73E-08	1.10E-04	**3.0076E-12**	-	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	2.81E-10	3.30E+01	**9.3042E-09**	4E-08	7.05E-06
Arsenic	0.0001	4.30E-03	**4.5807E-07**	0.000015	7.10E-03
Beryllium	4.86E-06	2.40E-03	**1.1675E-08**	0.00002	2.43E-04
Cadmium	3.94E-05	1.80E-03	**7.0948E-08**	0.00001	3.94E-03
Chromium (VI)	4.79E-05	1.20E-02	**5.7525E-07**	0.0001	4.79E-04
Cobalt	3.10E-06	-		0.0001	3.11E-05
Lead	0.000235	-		0.00015	1.57E-03
Mercury	0.0116	-		0.0003	3.89E-02
Nickel	0.000135	-		0.00009	1.51E-03
Selenium	7.74E-05	-		0.02	3.87E-06
TOTAL:			**1.1655E-06**		**6.68E-02**

Notes:

a. The annual modeled concentration is determined by taking the maximum modeled SCREEN3 concentration, annualized, times the fraction of that total which each component makes up
b. Cancer Chronic Inhalation Unit Risk Factor: www.epa.gov/ttn/atw/toxsource/table1.pdf
c. Cancer Risk is unitless and is calculated by multiplying the predicted concentration by the URF
d. Chronic Noncancer Reference Exposure Level
e. CNCREL Quotient is calculated by dividing the modeled HAP concentration by the CNCREL, correcting for units.

The Crematory does not pose any more than a negligible risk to the public health, safety, and welfare and to the environment as defined in ARM 17.8.740(16) because each individual cancer risk is less than 1.0E-6, the sum of the individual cancer risks is less than 1.0E-5, and the sum of the CNCREL Quotients is less than 1.

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

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

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

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Creel Funeral Home, Inc.

Montana Air Quality Permit Number: 4930-00

Preliminary Determination Issued: 6/28/2013
Department Decision Issued: 7/30/2013
Permit Final: 8/15/2013

1. *Legal Description of Site*: The legal description is Section 15, Township 15 North, Range 18 East, in Fergus County, Montana.

2. *Description of Project*: Creel Funeral Home, Inc. (Creel Funeral Home) proposes to operate a human crematory. The crematory would be capable of incinerating 150 pounds per hour, with a maximum charge of 600 pounds.

3. *Objectives of Project*: Creel Funeral Home would like to offer cremation services to their clients.

4. *Alternatives Considered*: In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because Creel Funeral Home demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no-action" alternative was eliminated from further consideration.

5. *A Listing of Mitigation, Stipulations, and Other Controls*: A list of enforceable conditions, including a BACT analysis, would be included in MAQP #4930-00.

6. *Regulatory Effects on Private Property*: The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

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

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

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

A. Terrestrial and Aquatic Life and Habitats

The crematory is proposed to be located at an already existing funeral home operation. The extremely small amount of potential emissions of conventional pollutants would not be expected to have any discernible effects to terrestrial and aquatic life and habitats. The Department conducted a human health risk assessment for the cremation emissions. With cancer and non-cancer risks below levels the Department would consider a potential risk to the environment, any impacts to terrestrials and aquatic life and habitats would be expected to be minor, if any at all.

B. Water Quality, Quantity and Distribution

Any water usage associated with operation of the crematory would be expected to be negligible. Therefore, not more than minor effects would be expected.

C. Geology and Soil Quality, Stability and Moisture

The crematory is proposed to be located at an already existing funeral home operation. Any effects to geology or soil quality, stability, and moisture would be expected to be minor. The minute amount of emissions from operations of the crematory would not be expected to impact geology, soil quality, stability, or moisture.

D. Vegetation Cover, Quantity, and Quality

The crematory is proposed to be located at an already existing funeral home operation. The minute amount of emissions from operations of the crematory would not be expected to impact vegetation cover, quantity, and quality.

E. Aesthetics

The Montana Air Quality Permit would limit visible emissions to 10% opacity or less. Properly operated crematories of this design are not expected to have visible emissions. Any impacts to aesthetics would be expected to be minor.

F. Air Quality

The potential to emit of conventional pollutants from the crematory is extremely small. Any impacts to air quality would be expected to be minor, if any discernible amount at all.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The Department conducted a human health risk assessment for the cremation emissions. With the minute amount of conventional pollutants, and cancer and non-cancer risks that are far below levels the Department would consider a potential risk to the environment, any impacts to unique endangered, fragile, or limited environmental resources would be expected to be minor, if any discernible amount at all.

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

The energy demands of the crematory are small. The crematory would be fired on pipeline natural gas. As described in Section 7.B and 7.F above, impacts to water and air would be expected to be minimal. Demands on environmental resources would be minor, if any at all.

I. Historical and Archaeological Sites

The crematory is proposed to be located at an already existing funeral home operation. Any impacts to historical or archaeological sites would be expected to be minor.

J. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts from this project on the environment would be expected to be minor.

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

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores			XX			Yes
B	Cultural Uniqueness and Diversity			XX			Yes
C	Local and State Tax Base and Tax Revenue			XX			Yes
D	Agricultural or Industrial Production			XX			Yes
E	Human Health			XX			Yes
F	Access to and Quality of Recreational and Wilderness Activities			XX			Yes
G	Quantity and Distribution of Employment			XX			Yes
H	Distribution of Population			XX			Yes
I	Demands for Government Services			XX			Yes

		Major	Moderate	Minor	None	Unknown	Comments Included
J	Industrial and Commercial Activity			XX			Yes
K	Locally Adopted Environmental Plans and Goals			XX			Yes
L	Cumulative and Secondary Impacts			XX			Yes

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

A. Social Structures and Mores

The crematory would operate at an already existing funeral home facility. Any impacts to social structures and mores from the installation and operation of the crematory would be expected to be minor.

B. Cultural Uniqueness and Diversity

The crematory would operate at an already existing funeral home facility. Any impacts to cultural uniqueness and diversity from the installation and operation of the crematory would be expected to be minor.

C. Local and State Tax Base and Tax Revenue

The crematory would operate at an already existing funeral home facility. As an already existing business, any impacts to local and state tax base and tax revenue would be expected to be minor.

D. Agricultural or Industrial Production

The crematory would operate at an already existing funeral home facility. No discernible impacts from the operation of the crematory to agricultural or industrial production would be expected. Any impacts would be minor.

E. Human Health

The Department conducted a full human health risk assessment for the cremation emissions. With the minute amount of conventional pollutants, and cancer and non-cancer risks that are far below levels the Department would consider a potential risk, any impacts would be expected to be minor.

F. Access to and Quality of Recreational and Wilderness Activities

The crematory would operate at an already existing funeral home facility. Opacity from the operations would be limited to 10% in the Montana Air Quality Permit. Any impacts to access of or quality of recreational and wilderness activities would be expected to be minor.

G. Quantity and Distribution of Employment

Creel Funeral Home may employ one additional part time position as a result of operating a crematory. Any changes to quantity and distribution of employment would be expected to be minor.

H. Distribution of Population

The crematory would operate at an already existing funeral home facility. Creel Funeral Home may employ one additional part time position as a result of operating a crematory. Any changes to distribution of population would be expected to be minor.

I. Demands for Government Services

Installation of a crematory would require the appropriate permits, and the resources required to verify compliance with permit and regulatory conditions. The demands for government services for this operation would be expected to be minor.

J. Industrial and Commercial Activity

The crematory would operate at an already existing funeral home facility. Some short term activity to install the necessary equipment would be expected. Any impacts to industrial and commercial activity would be expected to be minor.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans and goals for this area. MAQP #4930-00 would be issued in accordance with rules designed to protect human health and the environment.

L. Cumulative and Secondary Impacts

Overall, potential economic and social effects would be expected to be minor.

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

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the construction and operation of a crematory. MAQP #4930-00 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.

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Resources Management Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program.

EA prepared by: Shawn Juers
Date: June 12, 2013