Montana Department of
ENVIRONMENTAL QUALITY
Brian Schweitzer, Governor
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May 2, 2011

Mr. Scott Schuman
United Materials of Great Falls, Inc.
P.O. Box 1690
Great Falls, MT 59403

Dear Mr. Schuman:

Montana Air Quality Permit #2927-01 is deemed final as of April 30, 2011 by the Department of Environmental Quality (Department). This permit is for a hot mix asphalt batch plant and associated equipment. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

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

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

VW:DCK
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #2927-01

United Materials of Great Falls, Inc.
P.O. Box 1690
Great Falls, MT 59403

April 30, 2011

MONTANA AIR QUALITY PERMIT

Issued To: United Materials of Great Falls
P.O. Box 1690
Great Falls, MT 59403-1690

MAQP #2927-01
Administrative Amendment (AA)
Request Received: 12/15/2010
Department Decision on AA: 04/14/2011
Permit Final: 04/30/2011
AFS: #777-2927

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to United Materials of Great Falls (United Materials) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq*., as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

United Materials operates a portable hot mix asphalt batch plant and associated equipment, were initial site location has been identified as Section 7, Township 20 North, Range 3 East, in Cascade County, Montana. A list of permitted equipment is included in Section I.A of the Permit Analysis.

MAQP #2927-01 applies while operating in any location in the state of Montana, except within those areas having a Department of Environmental Quality (Department) approved permitting program, areas considered tribal lands, or areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) nonattainment areas other than the current location. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* An addendum will be required for locations in or within 10 km of certain PM_{10} nonattainment areas if United Materials moves from the current location.

B. Current Permit Action:

On December 15, 2010, the Department received a request from United Materials to change the name on MAQP #2927-00 from Missouri River Gravel Plant to United Materials. Additionally, the same correspondence indicated that the asphalt plant was permanently relocated to the United Materials Ranch Pit.

The current permit action changes the name on MAQP #2927-00, re-designates the location of origin, and updates the permit to reflect permit language and rule references used by the Department.

SECTION II: Limitations and Conditions

A. Emission Limitations

1. Asphalt plant particulate matter emissions shall be limited to 0.10 grains/dry standard cubic foot (gr/dscf) (ARM 174.8.752).

2. United Materials shall not cause or authorize to be discharged into the atmosphere from the asphalt plant stack emissions that exhibit 20% opacity or greater averaged over six consecutive minutes (ARM 17.8.304).

3. United Materials shall not cause or authorize to be discharged into the atmosphere from systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems, any visible emissions that exhibit opacity of 20% or greater averaged over six consecutive minutes (ARM 17.8.308).

4. United Materials shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308)

5. United Materials shall treat all unpaved portions of the haul roads, access roads, and the general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.4 (ARM 17.8.752).

6. A device to measure the pressure drop (magnehelic gauge, manometer, etc.) on the control device (wet scrubber) must be installed and maintained. Pressure drop must be measured in inches of water. Temperature indicators at the control device inlet and outlet must be installed and maintained (ARM 17.8.749). Pressure drop on the control device and temperature must be recorded daily and kept on site according to Section II.C.4 (ARM 17.8.749).

7. Once a stack test is performed, the asphalt production rate shall be limited to the average production rate during the last source test demonstrating compliance (ARM 17.8.749).

9. The asphalt plant hours of operation shall be limited to 1,320 hours/year (ARM 17.8.749 and ARM 17.8.1204).

10. If the permitted equipment is used in conjunction with any other equipment owned or operated by United Materials, at the same site, production shall be limited to correspond with an emission level that does not exceed 250 tons during any rolling 12-month period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).

B. Emission Testing

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 further testing (ARM 17.8.105).

C. Reporting Requirements

1. If this asphalt plant is moved to another location, a Notice of Intent to Transfer Location of Air Quality Permit must be published in a newspaper of general circulation in the area to which the transfer is to be made. This notice must be published at least fifteen (15) days prior to the move. Proof of publication and a change of location form must be submitted to the Department prior to the move. These forms are available from the department (ARM 17.8.765).

2. Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used for calculating operating fees, and/or to verify compliance with permit limitations (ARM 17.8.505). United Materials shall submit this information annually to the Department by March 1 of each year, which may be submitted with the annual emission inventory (ARM 17.8.505)

3. United Materials 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).

4. United Materials shall maintain on-site records showing daily hours of operation, daily production rates and daily pressure drop and temperature readings for the last 12 months. The records compiled in accordance with this permit shall be maintained by United Materials 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).

5. United materials shall document, by month, the production from the asphalt plant. By the 25th day of each month, United Materials shall calculate monthly production of asphalt for the previous month. The monthly information will be used to demonstrate compliance with the rolling 12-month limitation in Section II.A.9. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

6. United Materials shall annually certify that its emissions are less than those that would require the facility to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emissions inventory information (ARM 17.8.749 and ARM 17.8.1204).

SECTION III: General Conditions

A. Inspection – United Materials 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 all the terms, conditions, and matters stated herein shall be deemed accepted if United Materials fails to appeal as indicated below.

C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving United Materials 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 as specified in Section 75-2-401, *et seq*., MCA.

E. Appeals - Any person or persons who are jointly or severally adversely affected by the department's decision may request, within fifteen (15) days after the department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The department's decision on the application is not final unless fifteen (15) days have elapsed and there is no request for a hearing under this section. The filing of a request for a hearing postpones the effective date of the department's decision until the conclusion of the hearing and issuance of a final decision by the Board.

F. Permit Inspection - As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.

G. Air Quality Operation Fees - Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay by United Materials of an annual operation fee may be grounds for revocation of this permit, as required by that Section and rules adopted there under 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).

I. The department may modify the conditions of this permit based on local conditions of any future site. These factors may include, but are not limited to, local terrain, meteorological conditions, proximity to residences, etc.

J. United Materials shall comply with the conditions contained in this permit while operating in any location in Montana, except within those areas that have a Department-approved permitting program.

Montana Air Quality Permit (MAQP) Analysis
United Materials of Great Falls
MAQP #2927-01

I. Introduction/Process Description

A. Permitted Equipment

Permitted equipment at the United Materials facility consists of the following emission sources:

- A 1972 Pioneer Batch Mix Asphalt Plant (maximum capacity 300 tons per hour (TPH) with an oil fired dryer, hot screens and mixer. Emissions from the asphalt plant are controlled by a 1972 Buell cyclone dust collector, and an Asphalt Equipment and Service Company venturi scrubber.
- Asphalt heater - Diesel fuel fired
- Aggregate handling equipment
- Asphalt storage silo
- Associated equipment

B. Source Description

United Materials of Great Falls (United Materials) utilizes this asphalt plant and associated equipment to produce asphalt for use in construction, repair, and maintenance of roads and highways.

Processed aggregate is fed into a hopper out of a stockpile, were it is conveyed to a dryer and dried completely. The dried aggregate is elevated to a screen by a conveyor to remove any oversized material. After the screen, the aggregate is sent to the pugmill, where it is mixed with hot asphalt oil. From the pugmill, the asphalt product can be loaded directly into a truck or it can be stored in a storage silo to be used at a later point in time.

C. Permit History

On May 9, 1996, Missouri River Gravel Plant submitted a complete permit application to operate a 1972 Pioneer batch mix asphalt plant (300 TPH), and associated equipment. Emissions from the dryer were controlled by a cyclone and venturi scrubber.

The plants original location was established as: W½, NW¼, Section 1, and E½, NE¼, of Section 2, Township 19 North, Range 2 East, in Cascade County, Montana.

D. Current Permit Action

On December 15, 2011, the Department of Environmental Quality (Department) received a request from United Materials to change the name on MAQP #2927-00 from Missouri River Gravel Plant to United Materials. Additionally, the same correspondence indicated that the asphalt plant was permanently relocated to the United Materials Ranch Pit.

The current permit action changes the name on MAQP #2927-00, re-designates the location of origin, and updates the permit to reflect permit language and rule references used by the Department. **MAQP #2927-01** replaces MAQP #2927-00.

E. Additional information

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

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for locations 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 is 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. The Department has determined for the current permit action that testing every four years is necessary.

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).

   United Materials 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 which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an

emission of air contaminant which would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner that a public nuisance is created.

B. ARM 17.8, Subchapter 2 - Ambient Air Quality, including, but not limited to:

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 Standards for Ozone
6. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
7. ARM 17.8221 Ambient Air Quality Standard For Visibility
8. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}

United Materials must comply 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, United Materials 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 or authorize to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.

4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions.

6. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 Code of Federal Regulations (CFR) 60, Standards of Performance for New Stationary Sources (NSPS). The owner or operator of any stationary source or modification, as defined and applied in 40 CFR Part 60, shall comply with the standards and provisions of 40 CFR Part 60.

Based on the information submitted by United Materials, the portable 1972 Pioneer hot mix batch asphalt plant and associated equipment was manufactured prior to June 11, 1973, so NSPS (40 CFR Part 60, Subpart A – General Provisions, and Subpart I – Hot Mix Asphalt Facilities) does not apply.

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. A permit fee is not required for the current permit action because the permit action is considered an administrative permit change.

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.

   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 pro-rate 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 asphalt plant, crusher or screen that has the potential to emit (PTE) greater than 15 tons per year of any pollutant. United Materials has a PTE greater than 15 tons per year of a pollutant; therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. A permit application was not required for the current permit action because the permit change is considered an administrative permit change. (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. An affidavit of publication of public notice was not required for the current permit action because the permit change is considered an administrative permit change.

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 United Materials 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 United Materials, 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. (1) This rule states that an MAQP may be transferred from one location to another if the Department receives a complete notice of intent to transfer location, the facility will operate in the new location for less than 1 year, the facility will comply with the FCAA and the Clean Air Act of Montana, and the facility complies with other applicable rules. (2) 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.

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 Modification--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 it is not a listed source and the facility's PTE is less than 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 stationary 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 Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #2927-01 for United Materials, the following conclusions were made:

a. The facility's PTE is not 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 of 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.

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

United Materials requested federally-enforceable permit limitations to remain a minor source of emissions with respect to Title V. Based on these limitations, the Department determined that this facility is not subject to the Title V Operating Permit Program. However, in the event that the EPA makes minor sources that are subject to NSPS obtain a Title V Operating Permit, this source will be subject to the Title V Operating Permit Program.

i ARM 17.8.1204(3). The Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's PTE.

i. In applying for an exemption under this section the owner or operator of the facility shall certify to the Department that the source's PTE does not require the source to obtain an air quality operating permit.

ii. Any source that obtains a federally enforceable limit on PTE shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. The compliance certification submittal required by ARM 17.8.1204(3) shall contain a certification of truth, accuracy, and completeness by a responsible official. This certification and any other certification required under this subchapter shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

III. BACT Determination

A BACT determination is required for each new or modified source. United Materials 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 was not required for the current permit action because the permit change is considered an administrative permit change.

IV. Emission Inventory

	Emissions Tons/Year [Allowable]						
Emission Source	PM	PM_{10}	$PM_{2.5}$	CO	NOx	SO_2	VOC
Hot Mix Asphalt Batch Plant w/ Venturi Scrubber[(a)]	23.76	23.76	23.76	79.20	23.76	17.42	1.62
Asphalt Heater	0.02	0.01	0.01	0.05	0.19	1.39	0.01
Aggregate Handling & Storage Piles	2.41	1.14	0.17				
Aggregate Screening &Conveying	0.46	0.16	0.10				
Lime Silo transfer & Conveying	0.02	0.02	0.02				
Asphalt Load-Out	0.10	0.10	0.10	0.27			0.82
Unpaved Roadways	10.98	3.03	0.30				
TOTAL EMISSIONS ►	37.76	28.21	24.47	79.52	23.95	18.81	2.45

a. Emission Inventory reflects enforceable limits on [hours of operation] to keep allowable CO emissions below the Title V threshold AND 80 tpy.

CO, carbon monoxide
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, oxides of sulfur
TPY, tons per year
VOC, volatile organic compounds

1972 Pioneer Hot Mix Asphalt Batch Plant Dryer, Hot Screens and Mixer With Venturi Scrubber (SCC 3-05-002-46)

Production Rate: 300 Tons/Hour (Maximum) 2628000 tons/year (Maximum)
396000 tons/year (Restricted Maximum)
Operating Hours: 1320 Hours/Year (Restricted Maximum)

Dryer fuel Configuration: Used (Waste) Oil
Power Plant: Asphalt Plant Operates on Utility/Commercial Power Supply Only
Note: Generators Not Permitted To Operate Plant
Stack Test Data: [November 03, 2010]
Air Flow[Volume] 17058.2 dacfm
Stack Test Results 0.06 gr/dscf
Test Throughput Demonstrated 166 tons/hour

Particulate Emissions: Permit Limit

PM Emissions (controlled):

Emission Rate 0.10 gr/dscf [Permit Limit]
Calculations (0.1 gr/dscf) * (17058.2dscfm) * (60 min/hr) * (0.000143 lb/gr) = 14.62 lbs/hr
(14.62 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) = 9.65 TPY

PM_{10} Emissions (controlled):

Emission Rate	0.10 gr/dscf [Permit Limit]		
Calculations	(0.1 gr/dscf) * (17058.2dscfm) * (60 min/hr) * (0.000143 lb/gr) =	14.62	lbs/hr
	(14.62 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	9.65	TPY

$PM_{2.5}$ Emissions (controlled):

Emission Rate	0.10 gr/dscf [Permit Limit]		
Calculations	(0.1 gr/dscf) * (17058.2dscfm) * (60 min/hr) * (0.000143 lb/gr) =	14.62	lbs/hr
	(14.62 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	9.65	TPY

Particulate Emissions: Emission Factor Determination

PM Emissions (controlled):

Emission Factor	0.12 lbs/ton Processed [AP-42 Table 11.1-1, 3/04]		
Calculations	(0.12 lbs/ton) * (300 tons/hour) =	36.00	lbs/hr
	(36.00 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	23.76	TPY

PM_{10} Emissions (controlled):

Emission Factor	0.12 lbs/ton Processed [AP-42 Table 11.1-1, 3/04]		
Calculations	(0.12 lbs/ton) * (300 tons/hour) =	36.00	lbs/hr
	(36.00 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	23.76	TPY

$PM_{2.5}$ Emissions (controlled):

Emission Factor	0.12 lbs/ton Processed [AP-42 Table 11.1-1, 3/04]		
Calculations	(0.12 lbs/ton) * (300 tons/hour) =	36.00	lbs/hr
	(36.00 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	23.76	TPY

CO Emissions:

Emission Factor	0.40 lbs/ton processed [AP-42 Table 11.1-5, 3/04]		
Calculations	(0.4 lbs/ton) * (300 tons/hour) =	120.00	lbs/hr
	(120.00 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	79.20	TPY

NO_X Emissions:

Emission Factor	0.12 lbs/ton processed [AP-42 Table 11.1-5, 3/04]		
Calculations	(0.12 lbs/ton) * (300 tons/hour) =	36.00	lbs/hr
	(36.00 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	23.76	TPY

SO_2 Emissions:

Emission Factor	0.088 lbs/ton processed [AP-42 Table 11.1-5, 3/04]		
Calculations	(0.088 lbs/ton) * (300 tons/hour) =	26.40	lbs/hr
	(26.40 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	17.42	TPY

VOC Emissions:

Emission Factor	0.0082 lbs/ton processed [AP-42 Table 11.1-5, 3/04]		
Calculations	(0.0082 lbs/ton) * (300 tons/hour) =	2.46	lbs/hr
	(2.46 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	1.62	TPY

Asphalt Heater (SCC 3-05-002-08)

Fuel Type:	Diesel Fuel	1.0	%[wgt] Sulfur Content
Fuel Consumption Rate:		14.60	gallons/hour
		2.0	MMBtu/hr
Operating Hours:		1320	hrs/year

Particulate Emissions:

PM Emissions:

Emission Factor	0.002 lbs/gal	[AP-42 Table 1.3-1, 5/10]	
Calculations	(0.002 lbs/gal) * (14.60 gal/hr) =	0.029	lbs/hr
	(0.029 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	0.02	TPY

PM_{10} Emissions:

Emission Factor	0.001 lbs/gal	[AP-42 Table 1.3-7, 5/10]	
Calculations	(0.001 lbs/gal) * (14.60 gal/hr) =	0.016	lbs/hr
	(0.016 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	0.01	TPY

$PM_{2.5}$ Emissions:

Emission Factor	0.001 lbs/gal	[AP-42 Table 1.3-7, 5/10]	
Calculations	(0.001 lbs/gal) * (14.60 gal/hr) =	0.012	lbs/hr
	(0.012 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	0.01	TPY

CO Emissions:

Emission Factor	0.005 lbs/gal	[AP-42 Table 1.3.1, 5/10]	
Calculations	(0.005 lbs/gal) * (14.60 gal/hr) =	0.073	lbs/hr
	(0.073 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	0.05	TPY

NO_X Emissions:

Emission Factor	0.02 lbs/gal	[AP-42 Table 1.3.1, 5/10]	
Calculations	(0.02 lbs/gal) * (14.60 gal/hr) =	0.29	lbs/hr
	(0.29 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	0.19	TPY

SO_2 Emissions:

Emission Factor	0.144 * (% Sulfur Content) lbs/gal	[AP-42 Table 1.3.1, 5/10]	
Calculations	(0.144 lbs/gal) * (1) * (14.60 gal/hr) =	2.10	lbs/hr
	(2.10 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	1.39	TPY

VOC Emissions:

Emission Factor	0.00056 lbs/gal	[AP-42 Table 1.3.3, 5/10]	
Calculations	(0.00056 lbs/gal) * (14.60. gal/hr) =	0.008	lbs/hr
	(0.008 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	0.01	TPY

Aggregate Handling & Storage Piles (Pile Load-In & Load-Out to Aggregate Bins)

Process Rate:	300	tons/hour
Number of Piles:	2	piles (Load-In & Load-Out)
Operating Hours:	1320	hrs/year

Particulate Emissions:

Emission Factor EF = k (0.0032) * [(U/5)^1.3 / (M / 2)^1.4] [AP-42 13.2.4, 11/06]

where: EF, Emission Factor = lbs Emitted / ton Processed

k, Dimensionless Particle Size Multiplier PM =	0.74	[AP-42 13.2.4, 11/06]
k, Dimensionless Particle Size Multiplier PM_{10} =	0.35	[AP-42 13.2.4, 11/06]
k, Dimensionless Particle Size Multiplier $PM_{2.5}$ =	0.053	[AP-42 13.2.4, 11/06]
U, Mean Wind Speed (mph) =	10.9	[ASOS Data Great Falls, MT]
M, Material Moisture Content (%) =	2.1	[AP-42 13.2.4-1, 11/06]

PM Emissions:

Emission Factor	EF = 0.74(0.0032) * [(12.5/5)^1.3 / (2.1 / 2)^1.4] = 0.0061 lbs/ton		
Calculations	(0.0061 lbs/ton) * (300 tons/hr) * (2 pile) =	3.65	lbs/hr
	(3.65 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	2.41	TPY

PM_{10} Emissions:

Emission Factor	EF = 0.35(0.0032) * [(12.5/5)^1.3 / (2.1 / 2)^1.4] = 0.0029 lbs/ton		
Calculations	(0.0029 lbs/ton) * (300 tons/hr) * (2 pile) =	1.73	lbs/hr
	(1.73 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	1.14	TPY

$PM_{2.5}$ Emissions:

Emission Factor	EF = 0.053(0.0032) * [(12.5/5)^1.3 / (2.1 / 2)^1.4] = 0.0004 lbs/ton		
Calculations	(0.0004 lbs/ton) * (300 tons/hr) * (2 pile) =	0.26	lbs/hr
	(0.26 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	0.17	TPY

Aggregate Screening & Conveying (SCC 3-05-020-02 & 3-05-020-06)

Process Rate: 300 tons/hour
Operating Hours: 1320 hours/year

PM Emissions(controlled):

Emission Factor	0.0023 lbs/ton transferred [AP-42 Table 11.19.2-2, 8/04]		
Calculations	(0.0023 lbs/ton) * (300 tons/hr) =	0.70	lbs/hr
	(0.70 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	0.46	TPY

PM_{10} Emissions (controlled):

Emission Factor	0.0008 lbs/ton transferred [AP-42 Table 11.19.2-2, 8/04]		
Calculations	(0.0008 lbs/ton) * (300 tons/hr) =	0.24	lbs/hr
	(0.24 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	0.16	TPY

$PM_{2.5}$ Emissions (controlled):

Emission Factor	0.0005 lbs/ton transferred [AP-42 Table 11.19.2-2, 8/04]		
Calculations	(0.0005 lbs/ton) * (300 tons/hr) =	0.15	lbs/hr
	(0.15 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	0.10	TPY

Lime Silo Product transfer & Conveying (SCC 3-05-016-24)

Process Rate: 300 tons/hour
Operating Hours: 1320 hours/year

Particulate Emissions:

PM Emissions(controlled):

Emission Factor 0.000088 lbs/ton material transferred [AP-42 Table 11.17-4, 2/98]
Calculations (0.000088 lbs/ton) * (300 tons/hr) = 0.026 lbs/hr
(0.026 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) = 0.02 TPY

PM_{10} Emissions (controlled):

Emission Factor 0.000088 lbs/ton material transferred [AP-42 Table 11.17-4, 2/98]
Calculations (0.000088 lbs/ton) * (300 tons/hr) = 0.026 lbs/hr
(0.026 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) = 0.02 TPY

$PM_{2.5}$ Emissions (controlled):

Emission Factor 0.000088 lbs/ton material transferred [AP-42 Table 11.17-4, 2/98]
Calculations (0.000088 lbs/ton) * (300 tons/hr) = 0.026 lbs/hr
(0.026 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) = 0.02 TPY

Asphalt Plant Load-Out (SCC 3-05-002-14)

Process Rate: 300 tons/hour
396000 tons/yr
Operating Hours: 1320 hours/year

Particulate Emissions:

Emission Factor $EF = 0.000181+0.00141(-V)e^{((0.0251)(T+460)-20.43)}$ [AP-42 Table 11.1-14, 3/04]
where: EF, Emission Factor = lbs emitted / ton HMA produced
V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]
T, HMA temperature = 325ºF [Default value AP-42 Table 11.1-14, 3/04]

PM Emissions:

Emission Factor EF = 0.000181 + 0.00141 * (0.05) *e((0.0251) * (325 + 460) - 20.43) = 0.00052 lbs/ton HMA
Calculations (0.00052 lbs/ton) * (300 tons/hr) = 0.16 lbs/hr
(0.16 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) = 0.10 TPY

PM_{10} Emissions:

Emission Factor EF = 0.000181 + 0.00141 * (0.05) * e ((0.0251) * (325 + 460) - 20.43) = 0.00052 lbs/ton HMA
Calculations (0.00052 lbs/ton) * (300 tons/hr) = 0.16 lbs/hr
(0.16 lbs/hour) * (8760 hrs/year) * (0.0005) = 0.10 TPY

$PM_{2.5}$ Emissions:

Emission Factor EF = 0.000181 + 0.00141 * (0.05) * e ((0.0251) * (325 + 460) - 20.43) = 0.00052 lbs/ton HMA
Calculations (0.00052 lbs/ton) * (300 tons/hr) = 0.16 lbs/hr
(0.16 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) = 0.10 TPY

CO Emissions:

Emission Factor $EF = 0.00558(-V)e^{((0.0251)(T+460)-20.43)}$ [AP-42 Table 11.1-14, 3/04]

where: EF, Emission Factor = lbs Emitted / ton Processed
V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]
T, HMA temperature = 325ºF [Default value AP-42 Table 11.1-14, 3/04]

CO Emissions:

Emission Factor	EF = 0.00558 * (0.05) * *e* ((0.0251) * (325 + 460) - 20.43) =	0.00135	lbs/ton HMA produced
Calculations	(0.00135 lbs/ton) * (300 tons/hr) =	0.40	lbs/hr
	(0.40 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	0.27	TPY

VOC Emissions:

Emission Factor $EF = 0.0172(-V)e^{((0.0251)(T+460)-20.43)}$ [AP-42 Table 11.1-14, 3/04]

where: EF, Emission Factor = lbs Emitted / ton Processed
V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]
T, HMA temperature = 325ºF [Default value AP-42 Table 11.1-14, 3/04]

VOC Emissions:

Emission Factor	EF = 0.0172 * (0.05) * e ((0.0251) * (325 + 460) - 20.43) =	0.00416	lbs/ton HMA
Calculations	(0.00416 lbs/ton) * (300 tons/hr) =	1.25	lbs/hr
	(1.25 lbs/hr) * (1320 hours/year) * (0.0005 tons/lbs) =	0.82	TPY

Unpaved Roadways

Particulate Emissions:

Emission Factor $EF = k(s/12)^{a} * (W/3)^{b}$ [AP-42 13.2.2, 11/06]

where: EF, Emission Factor = lbs Emitted Per Vehicle Mile Traveled (VMT)

k,	Empirical Constant PM =	4.9	[AP-42 Table 13.2.2-2, 11/06]
k,	Empirical Constant PM_{10} =	1.5	[AP-42 Table 13.2.2-2, 11/06]
k,	Empirical Constant $PM_{2.5}$ =	0.15	[AP-42 Table 13.2.2-2, 11/06]
s,	Surface Material Silt Content (%) =	7.1	[AP-42 Table 13.2.2-1, 11/06]
W,	Mean Vehicle Weight (tons) =	50	[United Materials Provided Data]
a,	Empirical Constant PM =	0.7	[AP-42 Table 13.2.2-2, 11/06]
a,	Empirical Constant $PM_{10}/PM_{2.5}$ =	0.9	[AP-42 Table 13.2.2-2, 11/06]
b,	Empirical Constant PM - $PM_{2.5}$ =	0.45	[AP-42 Table 13.2.2-2, 11/06]

PM Emissions:

Emission Factor	EF = 4.9 * (7.1/12)^0.7 * (50/3)^0.45 =	12.04	lbs/VMT
Calculations	(12.04 lbs/VMT) * (5 miles/day) =	60.18	lbs/day
	(60.18 lbs/day) * (365 days/yr) * (0.0005 tons/lb) =	10.98	TPY

PM_{10} Emissions:

Emission Factor	EF = 1.5 * (7.1/12)^0.9 * (50/3)^0.45 =	3.32	lbs/VMT
Calculations	(3.32 lbs/VMT) * (5 miles/day) =	16.59	lbs/day
	(16.59 lbs/day) * (365 days/yr) * (0.0005 tons/lb) =	3.03	TPY

$PM_{2.5}$ Emissions:

Emission Factor	EF = 0.15 * (7.1/12)^0.9 * (50/3)^0.45 =	0.33	lbs/VMT
Calculations	(0.33 lbs/VMT) * (5 miles/day) =	1.66	lbs/day
	(1.66 lbs/day) * (365 days/yr) * (0.0005 tons/lb) =	0.30	TPY

V. Existing Air Quality

The current permit action is an administrative permit action, which will not result in increased potential emissions. Therefore, the Department has determined that no adverse air quality impacts will result as a consequence of the current permit action.

VI. Air Quality Impacts

This permit is for a portable asphalt plant. The amount of controlled particulate emissions generated by this project should not cause concentrations of PM_{10} in ambient air that exceed any set standard. Additionally, this facility is a portable source that will operate on an intermittent and seasonal basis; therefore, any impacts to air quality will be minor and short-term. Further, this permit action will not result in an increase of emissions.

VII. Ambient Air Impact Analysis

The Department determined that the impact 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.

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

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

Analysis Prepared By: Doug Kuenzli
Date: April 1, 2011