



Montana Department of  
**ENVIRONMENTAL QUALITY**

Steve Bullock, Governor  
Tracy Stone-Manning, Director

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August 4, 2014

Amanda Mitchell  
AM Dirtworks & Construction, LLC  
PO Box 404  
Fairview, MT 59221

Dear Ms. Mitchell:

Montana Air Quality Permit #5042-00 is deemed final as of August 2, 2014, by the Department of Environmental Quality (Department). This permit is for a portable non-metallic crushing/screening operation. 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

Deanne Fischer, P.E.  
Environmental Engineer  
Air Resources Management Bureau  
(406) 444-3403

JM:DF  
Enclosures:

Montana Department of Environmental Quality  
Permitting and Compliance Division

Montana Air Quality Permit #5042-00

Lucy's Sandbox  
AM Dirtworks & Construction, LLC  
PO Box 404  
Fairview, MT 59221

August 2, 2014





2. All visible emissions from any other NSPS-affected equipment (such as screens and conveyors) shall not exhibit an opacity in excess of the following averaged over six consecutive minutes (ARM 17.8.340 and 40 CFR 60, Subpart OOO):
  - For equipment that commence construction, modification, or reconstruction on or after April 22, 2008: 7% opacity
  - For equipment that commence construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008: 10% opacity
3. All visible emissions from any non-NSPS affected equipment shall not exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).
4. Water and spray bars shall be available on-site at all times and operated as necessary to maintain compliance with the opacity limitations in Sections II.A.1, II.A.2, and II.A.3 (ARM 17.8.749).
5. Lucy's Sandbox shall not cause or authorize the use of any street, road or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
6. Lucy's Sandbox shall treat all unpaved portions of the haul roads, access roads, parking lots, or 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.5 (ARM 17.8.749).
7. Lucy's Sandbox shall not operate more than one crusher at any given time and the total combined maximum rated design capacity of the crusher shall not exceed 400 tons per hour (TPH) (ARM 17.8.749).
8. Lucy's Sandbox shall not operate more than one screen at any given time and the total combined maximum rated design capacity of the screen shall not exceed 400 TPH (ARM 17.8.749).
9. Lucy's Sandbox shall not operate or have on-site more than one diesel engine/generator. The maximum capacity of the engine that drives the generator shall not exceed 300 horsepower (hp) (ARM 17.8.749).
10. If the permitted equipment is used in conjunction with any other equipment owned or operated by Lucy's Sandbox, 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).
11. Lucy's Sandbox shall comply with all applicable standards and limitations, monitoring, reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart OOO, *Standards of Performance for Nonmetallic Mineral Processing Plants* and 40 CFR 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* (ARM 17.8.340 and 40 CFR 60, Subpart OOO and 40 CFR 60, Subpart IIII).

12. Lucy's Sandbox shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in and 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable diesel engine (ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Testing Requirements

1. Within 60 days after achieving maximum production, but no later than 180 days after initial start-up, an Environmental Protection Agency (EPA) Method 9 opacity test and/or other methods and procedures as specified in 40 CFR 60.675 must be performed on all NSPS-affected equipment to demonstrate compliance with the emission limitations contained in Section II.A.1 and II.A.2. Additional testing may be required by 40 CFR 60, Subpart OOO (ARM 17.8.340 and 40 CFR 60, Subpart OOO).
2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
3. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. If this crushing/screening plant is moved to another location, an Intent to Transfer form must be sent to the Department and a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).
2. Lucy's Sandbox 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 not be 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 for calculating operating fees, and/or to verify compliance with permit limitations (ARM 17.8.505).

3. Lucy's Sandbox 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. Lucy's Sandbox shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. The records compiled in accordance with this permit shall be maintained by Lucy's Sandbox as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

D. Notification

Lucy's Sandbox shall provide the Department with written notification of the actual start-up date of the Lucy's Sandbox facility postmarked within 15 days after the actual start-up date (ARM 17.8.749).

SECTION III: General Conditions

- A. Inspection – Lucy's Sandbox 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) or 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 Lucy's Sandbox fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Lucy's Sandbox of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided for 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 permitted source.

- G. Air Quality Operation Fees – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Lucy’s Sandbox 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).
- 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. Lucy’s Sandbox 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 or areas considered tribal lands.

Montana Air Quality Permit (MAQP) Analysis  
AM Dirtworks & Construction, LLC -Lucy's Sandbox  
MAQP #5042-00

I. Introduction/Process Description

AM Dirtworks & Construction, LLC (Lucy's Sandbox) owns and operates a portable screening and crushing plant.

A. Permitted Equipment

Equipment used at the facility includes the following:

- 400 ton per hour (TPH) Crushing and Screening plant (feeder, 3-deck screen, crusher, conveyors)
- 300 horsepower (hp) diesel fueled engine generator
- Associated equipment

Although the above list specifies the equipment installed at the facility at the time of the current permit action, MAQP #5042-00 was written in a de minimis friendly manner to allow operational flexibility so that alternate equipment may be utilized provided the maximum capacities listed in Section II of the MAQP are not exceeded.

B. Source Description

Lucy's Sandbox operates a portable non-metallic mineral crushing and screening plant, which will initially be located at Section 12, township 24 North, Range 59 East, Richland County, Montana.

For a typical operational set-up, material will be loaded into crushing and screening plant from a loader or haul truck. The material will move to the 3-deck screen with some material going to stockpile and the remaining material passing through the crusher. Material from the crusher will move through the screen prior to being stockpiled.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations 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).

Lucy's Sandbox 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:

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<sub>10</sub>
11. ARM 17.8.230 Fluoride in Forage

Lucy's Sandbox 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, Lucy's Sandbox 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 Processes. 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. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this section.
  6. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). Lucy's Sandbox is considered an NSPS affected facility under 40 CFR Part 60 and is subject to the requirements of the following subparts.
    - a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:
    - b. 40 CFR 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants. In order for a crushing plant to be subject to this subpart, the facility must meet the definition of an affected facility and, the affected equipment must have been constructed, reconstructed, or modified after August 31, 1983. Based on the information submitted by Lucy's Sandbox, the portable crushing equipment to be used under MAQP #5042-00 is subject to this subpart because it meets the definition of an affected facility and was constructed or modified after August 31, 1983.
    - c. 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE). Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump engines, and owners and operators of stationary CI ICE

that modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this subpart. Since the RICE to be used under MAQP #5042-00 is intended to be portable, Lucy's Sandbox is not required to comply with the applicable emission limitations and operating limitations of 40 CFR 60, Subpart IIII. However, this subpart would become applicable if Lucy's Sandbox constructed and operated a CI ICE that remains in a location for more than 12 months.

7. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. This rule incorporates, by reference, 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories. Lucy's Sandbox may be considered a NESHAP-affected facility under 40 CFR Part 63 and would be subject to the requirements of the following subparts:
  - a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to a NESHAPs Subpart as listed below.
  - b. 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants (HAPs) for Stationary Reciprocating Internal Combustion Engines (RICE). An owner or operator of a stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. An area source of HAP emissions is a source that is not a major source. Since the RICE to be used under MAQP #5042-00 is intended to be portable, Lucy's Sandbox is not required to comply with the applicable emission limitations and operating limitations of 40 CFR 63, Subpart ZZZZ. However, this subpart would become applicable if Lucy's Sandbox constructed and operated a RICE that remains in a location for more than 12 months.

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. Lucy's Sandbox 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.

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. Lucy's Sandbox has a PTE greater than 15 tons per year of particulate matter (PM) and oxides of nitrogen (NO<sub>x</sub>) 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. Lucy's Sandbox 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. Lucy's Sandbox submitted an affidavit of publication of public notice for the May 7, 2014 issue of the *Sidney Herald*, a newspaper of general circulation in the Town of Sidney in Richland County, as proof of compliance with the public notice requirements.
  6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
  7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
  8. ARM 17.8.755 Inspection of Permit. This rule requires that 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 Lucy's Sandbox 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. (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 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 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<sub>10</sub>) in a serious PM<sub>10</sub> 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 #5042-00 for Lucy's Sandbox, the following conclusions were made:
  - a. The facility's PTE is less than 100 tons/year for any pollutant.
  - b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year of all HAPs.
  - c. This source is not located in a serious PM<sub>10</sub> nonattainment area.
  - d. This facility is subject to a current NSPS (40 CFR 60, Subpart OOO and potentially, 40 CFR 60, Subpart IIII).
  - e. This facility is potentially subject to a current NESHAP standard (40 CFR 63, Subpart ZZZZ).
  - 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.

Based on these facts, the Department has determined that Lucy's Sandbox will be a minor source of emissions as defined under Title V. However, if minor sources subject to NSPS are required to obtain a Title V Operating Permit, Lucy's Sandbox may be required to obtain a Title V Operating Permit.

### III. BACT Determination

A BACT determination is required for each new or modified source. Lucy's Sandbox shall install on the new or modified source the maximum air pollution control capability which is technologically practicable and economically feasible, except that BACT shall be utilized.

#### A. Crushing/Screening Particulate Emissions

Two types of emissions controls are readily available and used for dust suppression of fugitive emissions at the site, fugitive emissions for the surrounding area of operations, and for equipment emissions from the crushing operation. These two control methods are water and/or chemical dust suppressant. Chemical dust suppressant could be used for dust suppression on the area surrounding the crushing operation and for emissions from the crushing operation. However, because water is more readily available, is more cost effective, is equally effective as chemical dust suppressant, and is more environmentally friendly, water has been identified as the most appropriate method of pollution control of particulate emissions for the general plant area. In addition, water suppression has been required of recently permitted similar sources. Individual circumstances may, however, necessitate the use of chemical dust suppressant to assist in controlling particulate emissions from the surrounding plant area.

Lucy's Sandbox must also take reasonable precautions to limit the fugitive emissions of airborne particulate matter from haul roads, access roads, parking areas, and the general area of operation. Lucy's Sandbox is required to have water spray bars and water available on site (at all times) and to apply the water, as necessary, to maintain compliance with the opacity and reasonable precaution limitations. Lucy's Sandbox may also use chemical dust suppression, in order to maintain compliance with emission limitations in Section II.A of MAQP #5042-00. The Department determined that using water spray bars, water, and chemical dust suppressant to maintain compliance with the opacity requirements and reasonable precaution limitations constitutes BACT for the crushing/screening operation.

#### B. Diesel Engines

Due to the limited amount of emissions produced by diesel engines and the lack of readily available cost effective add-on controls, add-on controls would be cost prohibitive. Generally, any new diesel engines would likely be required to comply with the federal engine emission limitations including, for example, EPA Tier emission standards for non-road engines (40 CFR Part 1039), New Source Performance Standard emission limitations for stationary compression ignition engines (40 CFR 60, Subpart IIII), or National Emissions Standards for Hazardous Air Pollutant Sources for Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ).

Therefore, the Department has determined that compliance with applicable federal standards and proper operation and maintenance constitutes BACT for these engines.

The control options selected contain control equipment and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

IV. Emission Inventory

Emission Source	tons/year						
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>
300 hp Diesel Engine Generator	2.89	2.89	2.89	40.73	8.78	3.30	2.69
Crushing Plant	2.10	0.95	0.18				
3 deck Screen	6.31	3.85	0.09				
Haul Roads	5.68	1.57	0.16				
Conveyor Transfer Points	3.92	1.29	0.36				
Feeder	0.03	0.03	0.03				
Pile Forming	16.64	3.19	0.48				
<b>Total Emissions</b>	<b>37.58</b>	<b>13.77</b>	<b>4.19</b>	<b>40.73</b>	<b>8.78</b>	<b>3.30</b>	<b>2.69</b>

Footnotes:

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

CO = carbon monoxide  
HAPs = hazardous air pollutants  
hp = brake horsepower  
lb = pound  
N/A = not applicable  
ND = no data available  
NO<sub>x</sub> = oxides of nitrogen  
PM = particulate matter

PM<sub>10</sub> = particulate matter with an aerodynamic diameter of 10 microns or less  
PM<sub>2.5</sub> = particulate matter with an aerodynamic diameter of 2.5 microns or less  
SO<sub>2</sub> = sulfur dioxide  
TPH = tons per hour  
TPY = tons per year  
VOC = volatile organic compounds  
yr = year

**300 bhp Diesel Engine Generator**

Operational Capacity of Engine = 300 hp  
Hours of Operation = 8,760 hours/yr

300 hp  
8,760 hours/yr

**PM Emissions:**

Emission Factor [AP-42 3.3-1, 10/96 ]= 0.0022 lb/hp-hr  
Calculation: (5,781.60 lbs/yr) \* (ton/2000 lb) = **2.89** ton/yr  
Calculation: (300 hp) \* (8,760 hours/yr) \* (0.002 lb/hp-hr ) = 5,781.60 lbs/yr

**PM10 Emissions:**

Emission Factor [AP-42 3.3-1, 10/96 ]= 0.0022 lb/hp-hr  
Calculation: (5,781.60 lbs/yr) \* (ton/2000 lb) = **2.89** ton/yr  
Calculation: (300 hp) \* (8,760 hours/yr) \* (0.002 lb/hp-hr ) = 5,781.60 lbs/yr

**PM2.5 Emissions:**

Emission Factor [AP-42 3.3-1, 10/96 ]= 0.0022 lb/hp-hr  
Calculation: (5,781.60 lbs/yr) \* (ton/2000 lb) = **2.89** ton/yr  
Calculation: (300 hp) \* (8,760 hours/yr) \* (0.002 lb/hp-hr ) = 5,781.60 lbs/yr

**NO<sub>x</sub> Emissions:**

Emission Factor [AP-42 3.3-1, 10/96 ]= 0.03 lb/hp-hr  
Calculation: (81,468.00 lbs/yr) \* (ton/2000 lb) = **40.73** ton/yr  
Calculation: (300 hp) \* (8,760 hours/yr) \* (0.031 lb/hp-hr ) = 81,468.00 lbs/yr

**CO Emissions:**

Emission Factor [AP-42 3.3-1, 10/96 ]= 0.01 lb/hp-hr  
Calculation: (17,555.04 lbs/yr) \* (ton/2000 lb) = **8.78** ton/yr

Calculation:  $(300 \text{ hp}) * (8,760 \text{ hours/yr}) * (0.007 \text{ lb/hp-hr}) = 17,555.04 \text{ lbs/yr}$

**VOC Emissions:**

Emission Factor [AP-42 3.3-1, TOC, Exhaust + Crankcase,10/96] =  $2.51\text{E-}03 \text{ lbs/hp-hr}$

Calculation:  $(6,607.05 \text{ lbs/yr}) * (\text{ton}/2000 \text{ lb}) = 3.30 \text{ ton/yr}$

Calculation:  $(300 \text{ hp}) * (8,760 \text{ hours/yr}) * (0.003 \text{ lbs/hp-hr}) = 6,607.05 \text{ lbs/yr}$

**SO<sub>2</sub> Emissions:**

Emission Factor [AP-42 3.3-1, 10/96] =  $2.05\text{E-}03 \text{ lbs/hp-hr}$

Calculation:  $(5,387.40 \text{ lbs/yr}) * (\text{ton}/2000 \text{ lb}) = 2.69 \text{ ton/yr}$

Calculation:  $(300 \text{ hp}) * (8,760 \text{ hours/yr}) * (0.002 \text{ lbs/hp-hr}) = 5,387.40 \text{ lbs/yr}$

**Crushing Plant**

Process Rate 400 ton/hr

Hours of Operation 8,760 hrs/yr

**PM Emissions:**

Emission Factor (AP 42, Table 11.19.2-2, 8/04, controlled) 0.0012 lb/ton

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0012 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 2.10 \text{ ton/yr}$

**PM<sub>10</sub> Emissions:**

Emission Factor (AP 42, Table 11.19.2-2, 8/04, controlled) 0.00054 lb/ton

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00054 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.95 \text{ ton/yr}$

**PM<sub>2.5</sub> Emissions:**

Emission Factor (AP 42, Table 11.19.2-2, 8/04, controlled) 0.0001 lb/ton

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0001 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.18 \text{ ton/yr}$

**3 deck Screen**

Hours of Operation 8,760 hrs/yr

Process Rate 400 ton/hr

**Total PM Emissions:**

Emission Factor (AP 42, Table 11.19.2-2, 8/04) 0.0036 lb/ton

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0036 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 6.31 \text{ ton/yr}$

**Total PM<sub>10</sub> Emissions:**

Emission Factor (AP 42, Table 11.19.2-2, 8/04) 0.0022 lb/ton

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0022 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 3.85 \text{ ton/yr}$

**Total PM<sub>2.5</sub> Emissions:**

Emission Factor (AP 42, Table 11.19.2-2, 8/04) 0.00005 lb/ton

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00005 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.09 \text{ ton/yr}$

## Haul Roads

Vehicle Miles Traveled	5	VMT/day
VMT per Hour	0.21	VMT/hr
Hours of Operation	8,760	hrs/yr

### PM Emissions:

Emission Factor = $k * (s / 12)^a * (W / 3)^b = 12.46$ lb/VMT (AP 42, Chapter 13, 11/06)	12.46	lb/VMT
Where: k = constant (Value for PM30/TSP, Table 13.2.2-2)	4.9	lbs/VMT
s = surface silt content (Mean value, sand/gravel processing, material storage area, Table 13.2.2-1)	7.1	%
W = mean vehicle weight (1994 average loaded/unloaded or a 40 ton truck)	54	tons
a = constant (Value for PM30/TSP, Table 13.2.2-2)	0.7	
b = constant (Value for PM30/TSP, Table 13.2.2-2)	0.45	
Control Efficiency (Water spray or chemical dust suppressant)	50	%
Calculation: $(8760 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (12.46 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) =$	11.37	tons/yr
Calculation: $(8760 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (12.46 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) * (1-50/100) =$	<b>5.68</b>	tons/yr

### PM<sub>10</sub> Emissions:

Emission Factor = $k * (s / 12)^a * (W / 3)^b = 3.43$ lb/VMT (AP 42, Chapter 13, 11/06)	3.43	lb/VMT
Where: k = constant (Value for PM10/TSP, AP 42, Table 13.2.2-2, 11/06)	1.5	lbs/VMT
s = surface silt content (Mean value, sand/gravel processing, material storage area, Table 13.2.2-1)	7.1	%
W = mean vehicle weight (1994 average loaded/unloaded or a 40 ton truck)	54	tons
a = constant (Value for PM10/TSP, Table 13.2.2-2)	0.9	
b = constant (Value for PM10/TSP, Table 13.2.2-2)	0.45	
Control Efficiency	50	%
Calculation: $(8760 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (3.43 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) =$	3.13	tons/yr
Calculation: $(8760 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (3.43 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) * (1-50/100) =$	<b>1.57</b>	tons/yr

### PM<sub>2.5</sub> Emissions:

Emission Factor = $k * (s / 12)^a * (W / 3)^b = 0.34$ lb/VMT	0.34	lb/VMT
Where: k = constant (Value for PM2.5/TSP, AP 42, Table 13.2.2-2, 11/06)	0.15	lbs/VMT
s = surface silt content (Mean value, sand/gravel processing, material storage area, Table 13.2.2-1)	7.1	%
W = mean vehicle weight (1994 average loaded/unloaded or a 40 ton truck)	54	tons
a = constant (Value for PM2.5/TSP, Table 13.2.2-2)	0.9	
b = constant (Value for PM2.5/TSP, Table 13.2.2-2)	0.45	
Control Efficiency	50	%
Calculation: $(8760 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (0.34 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) =$	0.31	tons/yr
Calculation: $(8760 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (0.34 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) * (1-50/100) =$	<b>0.16</b>	tons/yr

## Conveyor Transfer Points

Process Rate	400 ton/hr
Hours of Operation	8,760 hrs/yr
Number of Transfers (assuming eight conveyors- two transfers/conveyor	16 transfer

### Total PM Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04)	0.00014 lb/ton
Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00014 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (16 \text{ transfer}) =$	<b>3.92 ton/yr</b>

### Total PM<sub>10</sub> Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04)	4.60E-05 lb/ton
Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.000046 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (16 \text{ transfer}) =$	<b>1.29 ton/yr</b>

### Total PM<sub>2.5</sub> Emissions:

Emission Factor (AP 42, Table 11.19.2-2, 8/04)	1.30E-05 lb/ton
Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.000013 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (16 \text{ transfer}) =$	<b>0.36 ton/yr</b>

## Feeder

Process Rate	400 ton/hr
Hours of Operation	8,760 hrs/yr

### PM Emissions:

Emission Factor (assume PM=PM <sub>10</sub> )(AP 42, Sec. 11.19.2-2, 8/2004)	1.60E-05 lb/ton
Control Efficiency (Water or chemical spray)	0 %
Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.000016 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) =$	<b>0.03 ton/yr</b>

### PM<sub>10</sub> Emissions:

Emission Factor (assume PM=PM <sub>10</sub> )(AP 42, Sec. 11.19.2-2, 8/2004)	1.60E-05 lb/ton
Control Efficiency (Water or chemical spray)	0 %
Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.000016 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) =$	<b>0.03 ton/yr</b>

### PM<sub>2.5</sub> Emissions:

Emission Factor (assume PM=PM <sub>10</sub> )(AP 42, Sec. 11.19.2-2, 8/2004)	1.60E-05 lb/ton
Control Efficiency (Water or chemical spray)	0 %
Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.000016 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) =$	<b>0.03 ton/yr</b>

## Pile Forming

Process Rate	400 ton/hr
Hours of Operation	8,760 hrs/yr
Number of Piles	2 piles

### PM Emissions:

Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4}$ (AP 42, Sec. 13.2.4.3, 11/06) =	0.00475 lb/ton
Where: k = particle size multiplier (Value for PM < 30 microns, AP 42, Sec. 13.2.4.3, 11/06)=	0.74

U = mean wind speed (Average: Sidney Airport, MT: www.wrcc.dri.edu)	9 mph
M = material moisture content (Mean, AP42, 13.2.4.1, 11/06)	2.10 %
Control Efficiency	0 %
Calculation: (2 piles) * (8760 hrs/yr) * (0.00475) * (ton/2000 lb) * (400 ton/hr) =	<b>16.64</b> ton/yr

**PM<sub>10</sub> Emissions:**

Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4}$ (AP 42, Sec. 13.2.4.3, 11/06) =	0.00091 lb/ton
Where: k = particle size multiplier (Value for PM < 10 microns, AP 42, Sec. 13.2.4.3, 11/06)=	0.35
U = mean wind speed (Average: Sidney Airport, MT: www.wrcc.dri.edu)	9 mph
M = material moisture content (Mean, AP42, 13.2.4.1, 11/06)	4.00 %
Control Efficiency	0 %
Calculation: (2 piles) * (8760 hrs/yr) * (0.00091) * (ton/2000 lb) * (400 ton/hr) =	<b>3.19</b> ton/yr

**PM<sub>2.5</sub> Emissions:**

Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4}$ (AP 42, Sec. 13.2.4.3, 11/06) =	0.00014 lb/ton
Where: k = particle size multiplier (Value for PM < 2.5 microns, AP 42, Sec. 13.2.4.3, 11/06)=	0.053
U = mean wind speed (Average: Sidney Airport, MT: www.wrcc.dri.edu)	9 mph
M = material moisture content (Mean, AP42, 13.2.4.1, 11/06)	4.00 %
Control Efficiency	0 %
Calculation: (2 piles) * (8760 hrs/yr) * (0.00014) * (ton/2000 lb) * (400 ton/hr) =	<b>0.48</b> ton/yr

V. Existing Air Quality

This permit is for a portable facility to be located in Section 12, township 24 North, Range 59 East, Richland County, and in those areas for which this facility is permitted to operate, have been designated unclassified/attainment with all ambient air quality standards, and where there are no major air pollution sources in the surrounding area.

VI. Air Quality Impacts

This permit contains conditions and limitations that would protect air quality for the site and surrounding area. Furthermore, this facility is a portable source that would operate on an intermittent and temporary basis, so any effects to air quality will be minor and of limited duration.

VII. Ambient Air Impact Analysis

Based on the information provided and the conditions established in MAQP #5042-00, the Department determined that the impact from this permitting action will be minor.

VIII. Taking or Damaging Implication Analysis

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

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

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

#### IX. Environmental Assessment

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

**DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**Permitting and Compliance Division**  
**Air Resources Management Bureau**  
**P.O. Box 200901, Helena, MT 59620**  
**(406) 444-3490**

**FINAL ENVIRONMENTAL ASSESSMENT (EA)**

Issued To: **AM Dirtworks & Construction, LLC -Lucy's Sandbox**

*Montana Air Quality Permit number (MAQP):* **5042-00**

*Preliminary Determination Issued:* **July 1, 2014**

*Department Decision Issued:* **July 17, 2014**

*Permit Final:* **August 2, 2014**

1. **Legal Description of Site:** AM Dirtworks & Construction, LLC -Lucy's Sandbox (Lucy's Sandbox) proposes to operate a crushing and screening facility to be initially located in Section 12, township 24 North, Range 59 East, Richland County, Montana. MAQP #5042-00 would apply while operating at any location in Montana except 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<sub>10</sub>) nonattainment area. An addendum would be required for locations in or within 10 km of certain PM<sub>10</sub> nonattainment areas.
2. *Description of Project:* Lucy's Sandbox proposes to operate a portable rock crushing and screening facility with a maximum potential production capacity of 400 tph at various locations throughout Montana. The plant would run on electricity provided by a diesel engine/generator with a maximum rated design capacity of 300 horsepower (hp). The proposed action is to issue MAQP #5042-00 allowing the construction and operation of the plant in Hill County, Montana, and other locations across the state.
3. *Objectives of Project:* The objective of the construction and operation of the rock crushing and screening facility is to produce business and revenue by selling aggregate to support construction projects. The issuance of MAQP #5042-00 would allow Lucy's Sandbox to operate the permitted equipment at various locations throughout Montana, including the home pit location.
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 Lucy's Sandbox has 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 #5042-00.

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			X			Yes
B	Water Quality, Quantity, and Distribution			X			Yes
C	Geology and Soil Quality, Stability and Moisture			X			Yes
D	Vegetation Cover, Quantity, and Quality			X			Yes
E	Aesthetics			X			Yes
F	Air Quality			X			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			X			Yes
H	Demands on Environmental Resource of Water, Air and Energy			X			Yes
I	Historical and Archaeological Sites				X		Yes
J	Cumulative and Secondary Impacts			X			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**  
This permitting action would be expected to have a minor effect on terrestrial and aquatic life and habitats because facility emissions would be well dispersed in the area of the operations (see Section 7.F of this EA) and would have intermittent and seasonal operations. Any impacts to aquatic life would be minimized through conditions within the open cut mine permit. Therefore, only minor and temporary effects to terrestrial and aquatic life and habitat would be expected from the proposed project.
- B. **Water Quality, Quantity and Distribution**  
Water would be required for dust suppression on the mineral processing equipment and surrounding facility area, including haul roads. This water use would be expected to only cause minor, if any, impacts to water resources because the facility is small and only a small volume of water would be required to be used. In addition, the facility would emit air pollutants, and corresponding deposition of pollutants would occur, as described in Section 7.F. of this EA. The site will be in an open-cut mine area where water runoff would be more readily controlled. However, the Department determined that, due to

dispersion characteristics of pollutants and conditions that would be placed in MAQP #5042-00, any impacts from deposition of pollutants on water quality, quantity, and distribution from the project would expect to be minor.

C. Geology and Soil Quality, Stability and Moisture

Only minor impacts from deposition of air pollutants on soils would likely result (as described in Section 7.F of this EA) and only minor amounts of water would be used for pollution control, and only as necessary, in controlling particulate emissions. Thus, only minimal water runoff would likely occur. Since only minor amounts of pollution would be expected and corresponding emissions would be widely dispersed before settling upon surrounding soils and vegetation (as described in Section 7.D of this EA), impacts would be minor. Therefore, any effects upon geology and soil quality, stability, and moisture from air pollutant emissions from equipment operations would likely be minor and short-lived.

D. Vegetation Cover, Quantity, and Quality

The application states that the permit area is in an undeveloped natural grass rangeland. During operations, the facility would be a minor source of emissions and the pollutants widely dispersed (as described in Section 7.F of this EA); therefore, deposition on vegetation from the proposed project would expect to be minor. Also, due to limited water usage (as described in Section 7.B of this EA) and minimal associated soil disturbance from the application of water and water runoff (as described in Section 7.C of this EA), corresponding vegetative impacts would likely be minor.

E. Aesthetics

The facility would be visible and would create noise while operating the proposed equipment at the site. Further, MAQP #5042-00 would include conditions to control emissions, including visible emissions, from the plant. The diesel-fired equipment would be moderately sized by industrial standards and would be used to power permitted equipment operated by Lucy's Sandbox. The facility would operate on an intermittent and seasonal basis, and would be a small industrial source. Therefore, any visual aesthetic impacts would be short-lived and are expected to be minor.

F. Air Quality

The air quality impacts from the equipment would be minor because the facility is relatively small and would be used on a temporary and intermittent basis. Additionally, the small and intermittent amounts of deposition generated from the crushing/screening operation would be minimal because the pollutants emitted would be well controlled, widely dispersed (from such factors as wind speed and wind direction) and would have minimal deposition on the surrounding area. . MAQP #5041-00 would include conditions limiting the opacity from the plant, as well as requiring water spray bars and other means to control emissions from haul roads, access roads, parking lots, or the general work area. In addition, MAQP #5041-00 would limit total emissions from the crushing and screening operation and any additional equipment operated at the same site to 250 tons/year or less, excluding fugitive emissions. Further, because the crushing and screening facility has less than 100 tons per year of potential emissions for any pollutant generated, the Department determined that the crushing and screening facility is a minor source of emissions as defined under Title V.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The Department, in an effort to assess any potential impacts to any unique endangered, fragile, or limited environmental resources in the initial proposed area of operation (Section 12, township 24 North, Range 59 East, Richland County) contacted the Natural Resource Information System –Montana Natural Heritage Program (MNHP) for a review of species of special concern. The search area, in this case, is defined by the section, township, and range of the proposed site, with an additional one (1) mile buffer. One species of concern was identified within the area where the crushing and screening facility is proposed. Species identified was the Whooping Crane (endangered). While this species may be found within the search area, the impact from operation of the crushing/screening facility in this area would be minor since the facility is relatively small in size and will have only seasonal and intermittent operations in the area. Therefore, the Department determined that any effects upon these species would likely be minor and short-lived.

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

Due to the relatively small size of the project, only small demands on environmental resources would likely be required for proper operation. Only small quantities of water are required for dust suppression of particulate emissions being generated at the site. In addition, impacts to air resources would be expected to be minor because the source would be considered a minor industrial source of emissions, with intermittent and seasonal operations, and because air pollutants generated by the facility would be widely dispersed as described in Section 7.F of this EA. Energy requirements would also be small, as the diesel engine would use small amounts of fuel. Overall, any impacts to water, air, and energy resources would likely be minor.

I. Historical and Archaeological Sites

The Department contacted the Montana Historical Society - State Historical Preservation Office (SHPO) in an effort to identify any historical and/or archaeological sites that may be present in the location of the facility. According to correspondence from the Montana State Historic Preservation Office, there are no previously recorded sites within the designated search areas. Therefore, it is unlikely that the crushing/screening operation would have an effect on any known historic or archaeological sites.

J. Cumulative and Secondary Impacts

The operation of the crushing and screening equipment would likely cause minor cumulative and secondary impacts to the physical and biological aspects of the human environment because the facility would be limited in the amount of emissions allowed to be released to the atmosphere. Emissions and noise generated from the equipment would likely result in only minor impacts to the area, as the facility would be seasonal and temporary. The proposed project would be short-term in nature, and likely have minor cumulative effects upon resources within the area. These resources include water, terrestrial and aquatic life, soils, and vegetation. Overall, cumulative and secondary impacts to the physical and biological aspects of the human environment would likely 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				X		Yes
B	Cultural Uniqueness and Diversity				X		Yes
C	Local and State Tax Base and Tax Revenue			X			Yes
D	Agricultural or Industrial Production			X			Yes
E	Human Health			X			Yes
F	Access to and Quality of Recreational and Wilderness Activities				X		Yes
G	Quantity and Distribution of Employment			X			Yes
H	Distribution of Population				X		Yes
I	Demands for Government Services			X			Yes
J	Industrial and Commercial Activity				X		Yes
K	Locally Adopted Environmental Plans and Goals			X			Yes
L	Cumulative and Secondary Impacts			X			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 proposed project would cause minor, if any, impacts or disruptions to native or traditional lifestyles or communities (social structures or mores) in the area because the proposed project would take place in a relatively remote location, and because the source is a minor source of emissions (by industrial standards) and would only have intermittent operations. Further, the facility would be required to operate according to the conditions that would be placed in MAQP #5042-00. Therefore, the existing social structures and mores would not be affected as a result of this permitting action.

B. Cultural Uniqueness and Diversity

The operation of crushing and screening equipment would have no impact on the cultural uniqueness and diversity because the equipment operations would be intermittent and temporary and located in an area of non-producing grassland with neighboring gravel pits, and trucking transport yard. Additionally, the facility would be considered a portable/temporary source with seasonal and intermittent operations. The predominant use of the surrounding area would not change as a result of this project. Therefore, there would not be any expected impacts to the cultural uniqueness and diversity of the project location.

C. Local and State Tax Base and Tax Revenue

The crushing/screening operation would have little, if any, impact on the local and state tax base and tax revenue because the facility would be a temporary source and small by industrial standards. The facility would employ only 5-6 operators on site. Thus, only minor impacts to the local and state tax base and revenue could be expected from the employees and facility production. Furthermore, the impacts to local tax base and revenue would be expected to be minor because the source would be portable and the money generated for taxes would be widespread. Therefore, the Department determined that there would be minor effects to local and state tax base and tax revenue.

D. Agricultural or Industrial Production

The operation of the mineral processing facility would only have a minor impact on local industrial production since the facility would be relatively small by industrial standards. Because minimal deposition of air pollutants would occur on the surrounding land (as described in Section 7.F of this EA), only minor and temporary effects on the surrounding vegetation (i.e. agricultural production) would occur. In addition, the facility operations would be small and temporary in nature and would be permitted with operational conditions and limitations that would minimize impacts upon surrounding vegetation, as described in Section 7.D of this EA.

E. Human Health

MAQP #5042-00 would incorporate conditions to ensure that the crushing facility would operate in compliance with all applicable air quality rules and standards. These rules and standards are designed to be protective of human health. As described in Section 7.F. of this EA, the air emissions from this facility would be minimized by the use of water spray and other conditions that would be established in MAQP #5042-00. Therefore, only minor impacts would be expected upon human health from the proposed crushing/screening facility.

F. Access to and Quality of Recreational and Wilderness Activities

Based on information received from Lucy's Sandbox, no recreational activities or wilderness areas were identified near the proposed project site. Therefore, no impacts to the access to and quality of recreational and wilderness activities would be expected.

G. Quantity and Distribution of Employment

The application states that the operation of the Lucy's Sandbox plant would require 5-6 operators and employment would occur only seasonally and intermittent. No individuals would be expected to permanently relocate to this area of operation as a result of proposed operations. Therefore, minor effects upon the quantity and distribution of employment in this area would be expected.

H. Distribution of Population

The portable crushing and screening operation would be considered small by industrial standards and would only require a few additional employees to operate. Also, no individuals would be expected to permanently relocate to a given area of operation as a result of operating the crushing facility, which would have only intermittent and seasonal operations. Therefore, the crushing facility would not disrupt the normal population distribution in the initial area of operation or any future operating site.

I. Demands for Government Services

Minor increases would be seen in traffic on existing roadways in the area while the crushing/screening operates. In addition, government services may be required for acquiring the appropriate permits and ensuring compliance with the permits that are issued; however, the government services required would be minor.

J. Industrial and Commercial Activity

The crushing/screening operations would represent only a minor increase in the industrial activity in the given area because of the small size of the operations and the portable and temporary nature of the facility. No additional industrial or commercial activity would be expected as a result of the proposed operation.

K. Locally Adopted Environmental Plans and Goals

Lucy's Sandbox would be allowed, by MAQP #5042-00, to operate in areas designated by the United States Environmental Protection Agency as attainment or unclassified for ambient air quality. The Department is not aware of any locally adopted environmental plans and goal within this area. Because the proposed equipment would be a portable source and would likely have intermittent and seasonal operations with only minor emissions, any impacts to any locally adopted environmental plans from the project would be expected to be minor and temporary.

L. Cumulative and Secondary Impacts

The crushing and screening operation would cause minor cumulative and secondary impacts to the social and economic aspects of the human environment in the immediate areas of operation because the source would be a portable and temporary source. Small increases in traffic would have minor effects on local traffic in the immediate area. Because the source would be relatively small, temporary source, only minor economic impacts to the local economy could be expected from the operation of the plant. The Department believes that this plant could be expected to operate in compliance with all applicable rules and regulations as would be outlined in MAQP #5042-00.

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

The current permitting action is for the construction and operation of a portable crushing and screening operation. MAQP #5042-00 includes conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

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

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