



## DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

## PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 112011-003

Project Number: 2011-02-036

Installation Number: 099-0003

Parent Company: The Doe Run Resources Corporation

Parent Company Address: 1801 Park 270 Drive, Suite 300, St. Louis, MO 63146

Installation Name: Herculaneum

Installation Address: 881 Main Street, Herculaneum, MO 63048

Location Information: Jefferson County, S29, T41N, R6E

Application for Authority to Construct was made for:

The installation of a new lead technology process which is a hydro-metallurgical-electrochemical method for separating lead metal from lead concentrate. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

NOV 14 2011

EFFECTIVE DATE

  
\_\_\_\_\_  
DIRECTOR OR DESIGNEE  
DEPARTMENT OF NATURAL RESOURCES

## STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Departments' Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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## SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."*

Herculaneum

Jefferson County, S29, T41N, R6E

### 1. Wet Scrubber

- A. Herculaneum shall operate the wet scrubbers (CD-2) associated with the new lead technology process to control process emissions. This scrubber must maintain 95 percent control efficiency. The wet scrubber system shall be in use at all times when lead is being processed. The scrubbers shall be operated and maintained within the manufacturer's specifications.
- B. A flow meter shall be installed on the wet scrubber in order to indicate the flow rate of inlet water in gallons per minute or other commonly used units. In addition, a gauge shall be installed which indicates the pressure drop across the wet scrubber, expressed in inches of water or other commonly used units. Both of these indicators shall be installed such that they can be safely and easily read by Department of Natural Resources Personnel. The setting of the flow meter and pressure drop shall be those determined during the testing that has attained the 95 percent control efficiency.
- C. Herculaneum shall monitor and record the pressure differential and flow rate reading for the scrubber at least once every day of operation. This record keeping (Attachment A) shall be indicated in the same units as reported in the test report as referenced in Special Condition 2.
- D. Herculaneum shall maintain an operating, maintenance, and inspection log for the wet scrubber which shall include the following:
  - (1) Incidents of malfunction(s) including the dates(s) and duration of the event, the probable cause, any corrective actions taken, and the impact on emissions due to the malfunction;
  - (2) Any maintenance activities conducted on the units, such as replacement of equipment, etc.: and,
  - (3) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection.

### 2. Performance Test Scrubber

- A. Within 90 days of achieving normal production, but in no case later than 180 days after initial startup, an emission test shall be conducted to

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### SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- determine the overall control efficiency of lead emissions of the wet scrubber (CD-2). These tests shall be conducted in accordance with the Stack Test Procedures outlined in Special Conditions1, A through D and 2, A through D.
- B. A completed Proposed Test Plan Form (enclosed) must be submitted to the Air Pollution Control Program 30 days prior to the proposed test date so that this program may arrange a pretest meeting, if necessary, and assure that the test date is acceptable for an observer to be present. The Proposed Test Plan must be approved by the Director of the Missouri Air Pollution Control Program prior to conducting the required emission testing.
- C. Two copies of a written report of the performance test results shall be submitted to the Director of the Air Pollution Control Program within 60 days of completion of any required testing. The report must include legible copies of the raw data sheets, analytical instrument laboratory data, and complete sample calculations from the required Environmental Protection Agency Method for at least 1 sample run.
- D. Performance testing shall be conducted under the condition of maximum process/production rate of the new lead technology process, or within ten percent of this rated capacity. The process/production rate at which performance testing is conducted shall become the maximum process/production rate at which this source of emissions is permitted to operate, under the authority granted by this permit.
3. Emergency Generator Requirements
- A. The operating hours of the emergency generators (EP-06) shall not exceed 500 hours, each, in any consecutive twelve month period. To facilitate the record keeping for this condition, the emergency equipment shall be equipped with a non-resettable running time meter.
- B. Herculaneum shall maintain an accurate record of the number of hours the emergency generators are operated. Attachment A or an equivalent form shall be used for this purpose. Herculaneum shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include the operating hours for that month and the total hours of operation for the previous twelve month period.
- C. Herculaneum shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required

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**SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

by this permit show an exceedance of a limitation imposed by this permit.

**4. Control Device Requirement-Baghouse**

- A. Herculaneum shall control emissions from the concentrate building using a baghouse CD1 as specified in the permit application.

Table 1: Baghouse emission points connected to CD-1.

Emission Point ID	Emission Point Description	SCC Code	Pollutant	Control Efficiency	Emission Factor (lbs/ton)
EP01-001	Concentrate Truck Unloading	30301011	PM	99.0	0.0000539
EP01-001	Concentrate Truck Unloading	30301011	PM10	99.0	0.0000082
EP01-001	Concentrate Truck Unloading	30301011	PM2.5	99.0	0.0001140
EP01-002	Concentrate Storage	30301011	PM	99.0	0.0000539
EP01-002	Concentrate Storage	30301011	PM10	99.0	0.0000082
EP01-002	Concentrate Storage	30301011	PM2.5	99.0	0.0001140
EP01-003	Concentrate Transfer to Slurry Conditioner	30301011	PM	99.0	0.0000539
EP01-003	Concentrate Transfer to Slurry Conditioner	30301011	PM10	99.0	0.0000082
EP01-003	Concentrate Transfer to Slurry Conditioner	30301011	PM2.5	99.0	0.0001140

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#### SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- B. The baghouse shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the Department of Natural Resources' employees may easily observe them.
  - C. Replacement filters for the baghouse shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
  - D. Herculaneum shall monitor and record the operating pressure drop across the baghouse at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
  - E. Herculaneum shall maintain an operating and maintenance log for the baghouse which shall include the following:
    - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
    - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
5. Control Measure – Capture Efficiency (100%)
- A. Process equipment EP01, Concentrate Truck Unloading shall occur with the overhead door closed. The door shall be sealed with panels, and maintained under negative pressure exhausted to the baghouse CD1.
  - B. If any openings or holes should appear on the concentrate storage building associated with emission sources EP01, EP02, and EP03 due to wear or maintenance activities these openings or holes shall maintain negative pressure. EP-02 is connected to a wet scrubber which will control the majority of the process emissions including; material handling, leaching, electrowinning and raw material storage tanks and EP03 is a boiler.
  - C. No more than one door can remain open at any time concentrate is being stored in the building. This is not to be a safety impairment or fire hazard and may include knock down or know outs or mechanical quick outs in the event of emergency.

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#### SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- D. Herculaneum shall demonstrate negative pressure at all concentrate storage building openings by using visual indicators such as streamers, talc puff test, negative pressure gauges, flags, smoke tubes, streamers or tracer gases, etc. at openings that are not closed during normal operations. All openings, when operating, must indicate the presence of negative pressure for compliance, on a daily basis.
  - E. Herculaneum shall maintain an operating and maintenance log for the concentrate storage building and process equipment which shall include the following:
    - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions.
    - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
    - 3) A record of daily inspection schedule to ensure that special requirements 5.A through 5.D are met, date and results of all inspections, including any actions or maintenance activities that include repairs to the building and dust collection equipment and the seal or set of all opening mechanisms that result from the inspections. Either paper copy or electronic formats are acceptable.
6. Record Keeping and Reporting Requirements
- A. Herculaneum shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include Material Safety Data Sheets for all materials used
  - B. Herculaneum shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (5) REVIEW

Project Number: 2011-02-036  
Installation ID Number: 099-0003  
Permit Number:

Herculaneum  
881 Main Street  
Herculaneum, MO 63048

Complete: July 06, 2011

Parent Company:  
The Doe Run Resources Corporation  
1801 Park 270 Drive, Suite 300  
St. Louis, MO 63146

Jefferson County, S29, T41N, R6E

REVIEW SUMMARY

- Herculaneum has applied for authority for the installation of a new lead technology process which is a hydro-metallurgical-electrochemical method for separating lead metal from lead concentrate.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs from this process are Antimony Compounds, Arsenic Compounds, Beryllium Compounds, Cadmium Compounds, Manganese Compounds, Nickel Compounds, Selenium Compounds, Mercury Compounds, Sulfuric Acid Mist, Fluorides, Lead Compounds, and Hydrogen Fluoride (HF).
- None of the New Source Performance Standards (NSPS) apply to the installation. 40 CFR 60 Subpart Dc, "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units" applies to the equipment. 40 CFR 60 Subpart RRR, "Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry Reactor Processes" applies to the equipment. 40 CFR 60 Subpart JJJJ, "Standards of Performance for Stationary Spark Ignition Internal Combustion Engines" applies to the equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment. Title 40 Part 63 Subpart X National Emission Standards for Hazardous Air Pollutants from Secondary Lead Smelting does not apply. Subpart X applies to chemical reduction of lead, of lead compounds to elemental lead, or lead alloys through processing in high-temperature (greater than 980 centigrade) furnaces including, but not limited to, blast furnaces, reverberatory furnaces, rotary furnaces, and electrical furnaces. Those equipment types are not being installed and Subpart X does not apply. The engine emissions are subject to 40 CFR 60 Subpart JJJJ, Emissions Standards for Stationary Spark Ignition Internal Combustion Engines. 40 CFR Part 63 - National Emission

Standards for Hazardous Air Pollutants for Source Categories (a.k.a. Maximum Achievable Control Technology (MACT)) Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines does not apply when 40 CFR 60 Subpart JJJJ applies.

- Low nitrogen oxide (NO<sub>x</sub>) boilers, wet scrubber, and a baghouse is being used to control the particulate matter (PM), particulate matter less than 10 microns in aerodynamic diameter (PM<sub>10</sub>) and particulate matter less than 2.5 microns in aerodynamic diameter (PM<sub>2.5</sub>), HF, Lead Compounds emissions from the equipment in this permit.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of all pollutants are below de minimis levels.
- This installation is located in Jefferson County, a nonattainment area for the 8-hour ozone standard and the PM-2.5 standard and an attainment area for all other criteria pollutants. Part Jefferson County is a nonattainment area for lead. The installation is located in the Jefferson County lead nonattainment area.
- Ambient air quality modeling was performed to determine the ambient impact of HF.
- Emissions testing are required for the scrubber CD1.
- A revision to the existing Operating Permit application is required for this installation within 1 year of equipment startup
- Approval of this permit is recommended with special conditions.
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#### INSTALLATION DESCRIPTION

Doe Run Company – Herculaneum, a major source under air regulations, is installing a new lead refining process. The new lead technology process is a non thermal technology that can be applied to both raw materials and to waste materials from existing lead smelting and concentrating processes. The new lead technology plant will be able to process [REDACTED] of concentrate (80 percent lead) per hour, which equates to approximately [REDACTED] tons per year of plated lead.

This technology can be applied to lead minerals and their derivatives as bullion as well as to lead scrap. The ideal feed to the plant is metallic lead and lead concentrates based on the mineral galena (PbS). Fluoboric leaching, residue separation, and electrolysis unit are the three general process steps of the new lead technology process. The lead concentrate is fed to the reactor in which it is contacted with a solution of Ferric Fluoborate that dissolves the lead, oxidizing the sulfide. The sulfide is bonded to the lead as elemental sulfur. The process is flexible and can process elemental lead. When elemental lead bullion is fed into the process, it is dissolved by ferric fluoborate. The ferric fluoborate is reduced to ferrous fluoborate.

The residue separation starts with the slurry leaving the leaching reactor. It is filtered and carefully washed to avoid wasting electrolyte in the filter cake. If precious metals are contained in the slurry they will be concentrated in the residue. The sulfur can be removed from the residue or the de-sulfured residue may both be commercially viable byproducts of the process.

In the electrolysis unit, the electrolytic cell is a diaphragm divided cell. The diaphragm is a porous material that allows for the separation of catholyte from anolyte. In the cathodic compartment, lead is plated on a cathode sheet. The electrolyte then reaches the anodic compartment flowing through the porous diaphragm. In the anodic compartment, the ferrous fluoborate is oxidized, at a graphite electrode to ferric fluoborate regenerating the leaching solution. The leaching solution is recycled back to the leaching reactor to dissolve other lead concentrate or lead metal bullion. The following permits have been issued to Herculanium from the Air Pollution Control Program.

Table 2: Permit History for 099-0003.

Permit Number	Description
092001-012	Barge Unloading
102000-028	Modify Silver plant
1099-004	Barge Unloading Facility
1098-018	High Purity Lead Process
OP2006-011B	Part 70 Operating Permit
1192-011	Concrete Batch Plant
0386-006	Return Center Roll Crusher
0781-004	Two hot water boilers

## PROJECT DESCRIPTION

The Doe Run Resources Corporation is proposing to build a hydrometallurgical lead processing plant at the site where the Herculanium primary lead smelter is currently operating. The primary smelter will be shut down in 2013. The Doe Run Resources Corporation will utilize some of the existing roadways and buildings as well as portions of the existing melting, alloying and casting area.

The proposed project consists of a lead concentrate unloading operations and material transfer, EP-01, which will be conducted in an enclosed building and vented to a baghouse, CD-1. Emission Point EP-02, is connected to a wet scrubber which will control the majority of the process emissions including; material handling, leaching, electrowinning and raw material storage tanks. EP-03 is a natural gas boiler, with low NOx burners. This boiler is used for process heat and for process steam. EP-04 are the process heaters. The natural gas heaters are to provide that the process does not freeze. Emission Point, EP-05 is the emissions from the haul roads. The haul roads are paved and will be controlled using water sprays and a street sweeping machine. EP-06 is a three megawatt per hour diesel fueled emergency generator that will run less than the 500 hours per year. EP-07 is the 5000 gallon diesel fuel tank for the generator. EP-08 through EP-14 is the emissions from raw materials and co product handling and shipping. These materials are stored in super sacks and will be transferred via a closed screw conveyor.

Table 3: Raw Material and Co-Product Handling Emission Points

<b>Emission Point</b>	<b>Description</b>	<b>SCC CODE</b>	<b>Maximum Hourly Design Rate</b>
EP-08	KBF4* Precoat	30104006	████████
EP-09	Lead Sulfates Supersack filling	30104006	████████
EP-10	Metal Sulfates Supersack filling	30104006	████████
EP-11	Cellulose Precoat	30104006	████████
EP-12	Lignin	30104006	████████
EP-13	Boric Acid Storage/Handling	30104006	████████
EP-14	Iron Oxide handling	30102124	████████

\*Potassium Fluoroborate

### EMISSIONS/CONTROLS EVALUATION

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year.) The following table provides an emissions summary for this project. Material handling and fuel combustion emissions are based on AP-42 emission factors. The PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission factors used in the haul road analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, 13.2.1 (1/11), equation 1. A 50 percent control included for wet sweeping and washing of the haul roads. Electrowinning and Leaching emissions are based on stack testing data from stack tests conducted by Barr Engineering Company at the Westfork Pilot Plant. Capture efficiency facility wide was assumed to be 100 percent. Control efficiencies are based on EPA and industry published guidance. Wet Scrubber control efficiency of 95 percent is based on EPA guidance and manufacturer's performance guarantee. Lead Sulfate, Metal Sulfate, and cellulose products are 20-40 percent water by weight. These products will be heavily washed due to the requirements of the receiving entity. A control efficiency of 99 percent was assigned due to the moisture content and building enclosure. The leached ore co-product is being shipped as a slurry and is assumed to not generate air emissions. Solid (non-lead bearing) raw material emissions were estimated using sodium carbonate as a surrogate. A 50 percent control included for wet sweeping and washing of the haul roads. The concentrate building baghouse was given a 99 percent efficiency. AP-42 factor for Urea is used as surrogate for glue preparation.

Table 4: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2010 EIQ)	Potential Emissions of the Application
PM <sub>2.5</sub>	10.0	Major	8.54	4.14
PM <sub>10</sub>	15.0	Major	13.30	4.17
PM	15.0	Major	13.30	4.36
SO <sub>x</sub>	40.0	Major	19,852.78	2.06
NO <sub>x</sub>	40.0	Major	9.90	33.43
VOC	40.0	Major	1.62	13.21
CO	100.0	Major	16.58	29.06
HAPs	10.0/25.0	Major	0.13	0.02
Lead	0.6	Major	15.02	0.01
Sulfuric Acid Mist	7.0	N/D	N/D	0.01
Fluorides	3.0	N/D	N/D	2.21
HF	0.1*	N/D	N/D	1.53

N/D = Not Determined

Existing potential emissions taken from Permit 092001-012.

\* Screen Modeling Action Level

#### PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels.

#### APPLICABLE REQUIREMENTS

Herculaneum shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

#### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110  
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- *Operating Permits*, 10 CSR 10-6.065

- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

### AMBIENT AIR QUALITY IMPACT ANALYSIS

Ambient air quality modeling was performed to determine the ambient impact of the HAP Hydrogen Fluoride. Hydrogen Fluoride exceeded the Screen Modeling Action Level (SMAL) of 0.1 tons per year. This value is the Potential to Emit of Hydrogen Fluoride for the project. It is compared against the Risk Assessment values and the values were not exceeded.

Table 5: Risk Assessment Values

Pollutant	Modeled Impact	Risk Assessment Level	Time Period
HF	23.53 $\mu\text{g}/\text{m}^3$	820 $\mu\text{g}/\text{m}^3$	1 hour
HF	9.41 $\mu\text{g}/\text{m}^3$	16 $\mu\text{g}/\text{m}^3$	24 hour
HF	1.88 $\mu\text{g}/\text{m}^3$	14 $\mu\text{g}/\text{m}^3$	Annual

### STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

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Timothy Paul Hines  
Environmental Engineer

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Date

### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated February 24, 2011, received February 24, 2011, designating The Doe Run Resources Corporation as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- St. Louis Regional Office Site Survey, dated March 15, 2011.



Mr. Aaron Miller  
Environmental Management Coordinator  
Herculaneum  
881 Main Street  
Herculaneum, MO 63048

RE: New Source Review Permit - Project Number: 2011-02-036

Dear Mr. Miller:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Timothy Paul Hines, at the Department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale  
New Source Review Unit Chief

KBH:thl

Enclosures

c: St. Louis Regional Office  
PAMS File: 2011-02-036

Permit Number: