

STATE OF MISSOURI



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: 102013-005

Project Number: 2013-04-033

Installation Number: 093-0005

Parent Company: The Doe Run Resources Corporation

Parent Company Address: 270 Forest Road 2231, Boss, MO 65440

Installation Name: The Doe Run Company - Buick Mine/Mill

Installation Address: 270 Forest Road 2231, Boss, MO 65440

Location Information: Iron County, S26, T34N, R2W

Application for Authority to Construct was made for:

The installation of a rock crusher. 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.

OCT 10 2013

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 Department's 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.

Page No.	3
Permit No.	
Project No.	2013-04-033

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."

The Doe Run Company - Buick Mine/Mill
Iron County, S26, T34N, R2W

1. Production Limitations
 - A. The Doe Run Company - Buick Mine/Mill shall not process more than 296,296 tons per year of aggregate in the crusher (EP101) in any consecutive 12-month period.
 - B. Attachment A, or equivalent forms, such as electronic forms, shall be used to demonstrate compliance with Special Condition 1.A.
2. Lead Concentration Limitation
 - A. The Doe Run Company – Buick Mine/Mill shall not process rock with more than 3.0% lead content in the crusher (EP101).
 - B. To show compliance with Special Condition 2.A., The Doe Run Company – Buick Mine/Mill shall perform tests on the lead content of each shot of rock processed by the crusher. The results of these tests shall be kept onsite and be made available to Missouri Department of Natural Resources' personnel upon request.
3. Record Keeping and Reporting Requirements
 - A. The Doe Run Company - Buick Mine/Mill shall maintain all records required by this permit for not less than five years and shall make them available to any Missouri Department of Natural Resources' personnel upon request. These records shall include MSDS for all materials used
 - B. The Doe Run Company - Buick Mine/Mill shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 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: 2013-04-033
Installation ID Number: 093-0005
Permit Number:

The Doe Run Company - Buick Mine/Mill
270 Forest Road 2231
Boss, MO 65440

Complete: April 8, 2013

Parent Company:
The Doe Run Resources Corporation
270 Forest Road 2231
Boss, MO 65440

Iron County, S26, T34N, R2W

REVIEW SUMMARY

- The Doe Run Company - Buick Mine/Mill has applied for authority to construct a new rock crusher in its underground mine.
- HAP emissions are expected from the proposed equipment. The HAP of concern from this process is lead.
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment. 40 CFR 60, Subpart OOO, *Standards of Performance for Nonmetallic Mineral Processing Plants*, and 40 CFR 60, Subpart LL, *Standards of Performance for Metallic Mineral Processing Plants*, do not apply to the crusher because it is underground.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- No control device is being used to control the 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 Iron County, an attainment area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.

- Ambient air quality modeling was not performed since the conditioned potential emissions of lead are below the Screening Model Action Level (SMAL)
- Emissions testing is not required for the equipment.
- The facility currently has a Part 70 Operating Permit renewal application being processed by the Air Pollution Control Program (Project 2008-01-010). The equipment of this permit will be added into the application. The facility is not required to submit any paperwork to include these equipment in the current Part 70 Operating Permit renewal application.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

The Doe Run Company – Buick Mine/Mill is a metallic mineral processing plant consisting of an underground lead ore mine and a surface ore-concentrating mill. The installation is a major source for construction permits and a Part 70 source for operating permits. Currently, the facility has a Part 70 renewable application being reviewed by the Air Pollution Control Program (Project 2008-01-010)

The following New Source Review permits have been issued to the installation from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0480-007	Operating a lead-zinc-copper mine.
0394-007	Installing a new crusher.
0895-026	Installing a concrete batch plant in the underground mine.
1197-027	Installing a new concrete batch plant in the underground mine.
1297-017	Installing a portable conveyor and storage pile.
1297-017A	Correcting serial number for the portable conveyor.

PROJECT DESCRIPTION

The Doe Run Company proposes to re-start a 20-inch Rogers-Stone Jaw crusher in the underground mine. The maximum hourly design rate of the crusher is estimated to be 100 tons per hour. The crusher will be used to crush waste rock with ore content too low to be used for production, and the waste rock will be placed on the underground haul roads for maintenance. The crusher will be powered through electrical power so no diesel engine will be used. No control device will be used to control emissions from the crusher. However, the placement of the crusher in the underground mine and the high moisture content in the mine is expected to provide some control of particulate emissions.

EMISSIONS/CONTROLS EVALUATION

PM_{2.5}, PM₁₀, PM and lead emissions are expected from the crusher. PM_{2.5}, PM₁₀ and PM emissions were calculated using an emission factor developed from emissions testing data from another mine in Missouri (Westfork Mine operated by ASARCO). The test only provided emission factor for PM emissions, but for this project, it was assumed conservatively that all PM is also PM_{2.5} and PM₁₀. Lead emissions were calculated by multiplying the PM emissions by the maximum lead content in the rock. The facility estimates that the average lead content in the rock would be less than 1%. However, the cutoff for use as waste rock is approximately 3%. The higher value is used in the PTE calculations. The geologists at the mine grades each shot of rock. Doe Run Company – Buick Mine/Mill is required, as a condition in this permit, to perform the tests and to keep the results of these tests onsite to show that the lead content of the waste rock is less than 3%.

The following table provides an emissions summary for this project. Installation-wide potential emissions were calculated in Permit 0394-007, but it is not clear if the results reflect the current facility. Therefore, the existing potential emissions of the application were not listed. Instead, pollutants were either listed as greater than major source levels (>major), less than major source levels (<major), or not determined (N/D). Existing actual emissions were taken from the installation's 2012 EIQ. Potential emissions of the application represent the potential of the crusher, assuming continuous operation (8760 hours per year). The conditioned potential emission of the project is based on a limit of 0.01 tons per year of lead to avoid modeling requirements. The facility is limited to 0.01 tons per year of lead through a production limit of 296,296 tons per year (See Special Condition 1.A.)

Table 2: Emissions Summary (tons per year)

Pollutant	¹ Regulatory De Minimis/SMAL Levels	² Existing Potential Emissions	Existing Actual Emissions (2012 EIQ)	Potential Emissions of the Project	Project Conditioned Potential
PM	25.0	>Major	N/D	0.99	0.33
PM ₁₀	15.0	>Major	51.76	0.99	0.33
PM _{2.5}	10.0	N/D	7.81	0.99	0.33
SO _x	40.0	<Major	0.0	N/A	N/A
NO _x	40.0	>Major	0.0	N/A	N/A
VOC	40.0	<Major	2.29	N/A	N/A
CO	100.0	>Major	0.0	N/A	N/A
Lead	0.6/0.01	>Major	1.02	0.03	0.01
HAPs	10.0/25.0	>Major	³ 1.14	0.03	0.01

N/A – Not Applicable, N/D – Not Determined

Note 1: For lead, 0.01 tpy is the Screening Model Action Level (SMAL). All other values are the de minimis levels.

Note 2: Determined from Permit 0394-007

Note 3: In the 2012 EIQ, the HAP emissions were reported as 0.11 tpy and did not include the lead emissions, which was 1.02 tpy. The two values were added together to determine the total HAPs.

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

The Doe Run Company - Buick Mine/Mill 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
- *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

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.

Chia-Wei Young
New Source Review Unit

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated April 3, 2013, received April 8, 2013, designating The Doe Run Resources Corporation as the owner and operator of the installation.
- Letter from the Air Pollution Control Program to ASARCO, Inc. dated January 28, 1998, detailing the recommended emission factor to be used at secondary ore crushing and related operations at lead mines.

APPENDIX A

Abbreviations and Acronyms

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual cubic feet per minute	MW	megawatt
BACT	Best Available Control Technology	MHDR	maximum hourly design rate
BMPs	Best Management Practices	MMBtu	Million British thermal units
Btu	British thermal unit	MMCF	million cubic feet
CAM	Compliance Assurance Monitoring	MSDS	Material Safety Data Sheet
CAS	Chemical Abstracts Service	NAAQS ...	National Ambient Air Quality Standards
CEMS	Continuous Emission Monitor System	NESHAPs National Emissions Standards for Hazardous Air Pollutants
CFR	Code of Federal Regulations	NO_x	nitrogen oxides
CO	carbon monoxide	NSPS	New Source Performance Standards
CO₂	carbon dioxide	NSR	New Source Review
CO_{2e}	carbon dioxide equivalent	PM	particulate matter
COMS	Continuous Opacity Monitoring System	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
CSR	Code of State Regulations	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
dscf	dry standard cubic feet	ppm	parts per million
EQ	Emission Inventory Questionnaire	PSD	Prevention of Significant Deterioration
EP	Emission Point	PTE	potential to emit
EPA	Environmental Protection Agency	RACT	Reasonable Available Control Technology
EU	Emission Unit	RAL	Risk Assessment Level
fps	feet per second	SCC	Source Classification Code
ft	feet	scfm	standard cubic feet per minute
GACT	Generally Available Control Technology	SIC	Standard Industrial Classification
GHG	Greenhouse Gas	SIP	State Implementation Plan
gpm	gallons per minute	SMAL	Screening Model Action Levels
gr	grains	SO_x	sulfur oxides
GWP	Global Warming Potential	SO₂	sulfur dioxide
HAP	Hazardous Air Pollutant	tph	tons per hour
hr	hour	tpy	tons per year
hp	horsepower	VMT	vehicle miles traveled
lb	pound	VOC	Volatile Organic Compound
lbs/hr	pounds per hour		
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Ms. Genevieve Bodnar
Sr. Environmental Engineer
The Doe Run Company - Buick Mine/Mill
P.O. Box 500
Viburnum, MO 65566

RE: New Source Review Permit - Project Number: 2013-04-033

Dear Ms. Bodnar:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. 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 Young, Chia-Wei, at the Department of Natural Resources' 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

Susan Heckenkamp
New Source Review Unit Chief

SH:cyl

Enclosures

c: Southeast Regional Office
PAMS File: 2013-04-033

Permit Number: