

APPLICATION FOR AIR QUALITY PERMIT NO. 65238
Mojave Desert Minerals, LLC

I. INTRODUCTION

This Class I (Title V) permit is issued to Mojave Desert Minerals, LLC, the Permittee, for the continued operation of the Gold Road Mine, located at 10277 West Oatman Highway, (2 miles north of Oatman), Mojave County, Arizona 86433. This Mine produces gold and silver. This facility currently has an existing Class II permit. The facility is subject to National Emission Standards for Hazardous Air Pollutants: Gold Mine Ore Processing and Production Area Source Category (NESHAP EEEEEEE) requiring it to obtain a Class I Title V permit.

A. Company Information

1. Facility Name: Gold Road Mine
2. Facility Location: 10277 West Oatman Highway, Oatman, Arizona 86433
3. Mailing Address: 4891 Independence Street, Suite 270, Wheat Ridge, CO 80033

B. Attainment Classification

Unclassified

II. PROCESS DESCRIPTION

- A.** The facility near Oatman, AZ is comprised of an underground mechanized mine with truck haulage to surface stockpiles of waste rock and ore, followed by milling of the ore to produce a gold and silver alloy commonly known as doré. The facility is capable of operating continuously for 24 hours per day and 365 days per year.

The major operations at the facility include: underground mining and hauling of ore and waste rock to stockpiles above ground, primary crushing and conveying, gold and silver ore concentrating using mills and the addition of lime, water, acid, and cyanide, leaching of the ore slurry in leach tanks, and electrowinning followed by smelting.

Process sources which emit air pollutants at this facility consists of crushers, a screen, a fine ore bin, conveyor belts, a diesel emergency generator, and the Dore smelting furnace.

Other emission sources include drilling, blasting, loading/unloading, wind erosion, haul truck/front end loader/water truck/other vehicle use on unpaved roads, tailings filtering/conveying/storage, and lime delivery/handling. Process sources which do not emit air pollutants consist of milling, and leaching, as these are wet processes.

B. Control Devices

There are several control devices at this facility for the abatement of particulate matter. The Fine Ore Storage Bin (A-9a) is equipped with a baghouse (A-9b), which also controls emissions from the transfer point from the Fine Ore Storage Bin to the Grinding Mill Belt Feeder. The Lime Silo Baghouse (A11-b) controls emissions from both the transfer point to the Lime Silo (A-11a) from delivery trucks and the transfer point from the Lime Silo to



the Grinding Mill Belt Feeder (A-10). Emissions from Dore smelting furnace are controlled by the CSG scrubber (A-17).

Water sprays are also used at the facility to control particulate matter emissions from various crushing, screening, and material transfer points.

III. EMISSIONS

Table 1 list potential to emit at this facility.

Table 1: Potential to Emit

Pollutant	Emissions (tons per year)
PM₁₀	1.04
PM_{2.5}	0.33
NO_x	4.56
CO	1.05
SO₂	0.002
VOC	0.12
TOTAL HAPs	0.00277
CO_{2e}	217.61

IV. APPLICABLE REGULATIONS

Table 2 displays the applicable requirements for each permitted piece of equipment along with a explanation of why the requirement is applicable.

Table 2: Verification of Applicable Regulations

Unit	Control Device	Rule	Discussion
Rod Mill, Ball Mill, Vibrating Feeder	Water Spray	A.A.C. R18-2- 702.B.3 and -721	Standards of Performance for Existing Nonferrous Metals Industry Sources



Unit	Control Device	Rule	Discussion
Dump Hopper, Primary (Jaw) Crusher, Conveyor Belt 1 ^a , Conveyor Belt 2 ^a , Vibrating Screen, Secondary (Cone) Crusher, Ore Bin Conveyor ^a , Fine Ore Storage Bin, Grinding Mill Belt Feeder ^a	Water sprays, Baghouse	NSPS Subpart LL	Metallic mineral processing plants
Leaching Equipment ^b , Electrowinning Cell and Rectifier, Dore Smelting Furnace, Carbon Regeneration Kiln	CGS Scrubber	NESHAP Subpart EEEEEEE	Gold mine ore processing and production
Lime Silo, Leaching Equipment, Dore Smelting Furnace, Electrowinning Cell and Rectifier, Cathode Drying Oven, Carbon Regenerative Kiln, and Tailings Belt Conveyor	Baghouse, CGS Scrubber	A.A.C. R18-2-702.B.3, C, and -730	Standard of Performance for unclassified sources
Emergency Generator with 760 HP diesel engine	N/A	A.A.C. R18-2-719, and NESHAP Subpart ZZZZ	Diesel CI ICE, pre 2006 model. NESHAP Subpart ZZZZ is applicable to existing RICE located at an area source.
Fugitive dust sources	Water Trucks Dust Suppressants	A.A.C. R18-2 Article 6 A.A.C. R18-2-702	These standards are applicable to all fugitive dust sources at the facility.
Abrasive Blasting	Wet blasting; Dust collecting equipment; Other approved methods	A.A.C. R-18-2-702 A.A.C. R-18-2-726	These standards are applicable to any abrasive blasting operation.
Spray Painting	Enclosures	A.A.C. R18-2-702 A.A.C. R-18-2-727	This standard is applicable to any spray painting operation.
Demolition/renovation operations	N/A	A.A.C. R18-2-1101.A.8	This standard is applicable to any asbestos related demolition or renovation operations.
Mobile sources	None	A.A.C. R18-2-801	These are applicable to off-road mobile sources, which either move while emitting air pollutants or are frequently moved during the course of their utilization.

^a Only the transfer points associated with the conveyor belts and belt feeder are subject NSPS Subpart LL.

^b The affected facility associated with Leaching Equipment is the pregnant solution tank (i.e., preg tank) storing the pregnant solution.



V. PREVIOUS PERMIT CONDITIONS

A Class II Permit No. 59699 was issued on September 16, 2014, for the continued operation of this facility. Table 3 below illustrates if a section in Permit No. 65238 was revised or deleted.

Table 3: Permit No. 65238

Section No.	Determination		Comments
	Revised	Delete	
Att. A.	X		General Provisions - Revised to represent most recent template language and specific to Class I permit.
Att. B.	X		Revised to include Alt Method – 082 for visual emission observation, NESHAP Subpart EEEEEEE, revised all conditions and streamlined.

VI. MONITORING REQUIREMENTS

A. Facility Wide

The Permittee is required to have on site or on call a person certified in EPA Reference Method 9 unless all 6- minute Method 9 observations required by the permit are conducted as a 6-minute Alternative Method-082 (Digital Camera Operating Technique) and all instantaneous visual surveys required by the permit are conducted as an instantaneous Alt-082 camera survey.

B. Metallic Mineral Processing

The Permittee shall calibrate, maintain, and operate monitoring devices which can be used to determine daily the material throughputs to individual process sources. The weighing devices shall have an accuracy of plus or minus 5 percent over their operating range.

C. Gold Ore Processing subject to NESHAP Subpart EEEEEEE

1. The Permittee is required to monitor and measure the weight of concentrate produced by electrowinning process using weigh scales for each batch prior to being fed to the smelt furnace before drying in any ovens.
2. The Permittee is required to maintain the systems for measuring weight within ± 5 percent accuracy.
3. The Permittee shall monitor and record the water flow rate and gas stream pressure drop of the CGS Wet Scrubber once per shift.

D. Fugitive Dust

1. The Permittee is required to keep record of the dates and types of dust control measures employed.
2. The Permittee is required to show compliance with the opacity standards by having a Method 9 certified observer perform monthly survey of visible emission from fugitive dust sources. The observer is required to conduct a 6-minute Method 9 observation if the results of the initial survey appear on an instantaneous basis to



exceed the applicable standard.

3. The Permittee is required to keep records of the name of the observer, the date and location of the observation and the results of all surveys and observations.

E. Mobile Sources

The Permittee is required to keep records of all emission related maintenance performed on the mobile sources.

F. Other Periodic Activities

1. The Permittee is required to record the date, duration and pollution control measures of any abrasive blasting project.
2. The Permittee is required to record the date, duration, quantity of paint used, any applicable SDS, and pollution control measures of any spray painting project.
3. The Permittee is required to maintain records of all asbestos related demolition or renovation projects. The required records include the “NESHAP Notification for Renovation and Demolition Activities” form and all supporting documents.

VII. TESTING REQUIREMENTS

- A.** Fine Ore Storage Bin Baghouse testing is subject to testing as required by the Director.
- B.** Dore Smelting Furnace has testing requirements for initial mercury emission compliance within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after startup of the smelt furnace. Subsequent tests are required annually with no two consecutive annual tests occurring less than 3 months apart or more than 15 months apart.

VIII. COMPLIANCE HISTORY

There was one routine field inspection and one compliance certification report review since the permit renewal was issued in September of 2014.

IX. LIST OF ABBREVIATIONS

A.A.C.	Arizona Administrative Code
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
ft	Feet
g	Grams
HAP	Hazardous Air Pollutant
hp	Horsepower
hr	Hour
IC	Internal Combustion
NO _x	Nitrogen Oxide
NO ₂	Nitrogen Dioxide
PM	Particulate Matter
PM ₁₀	Particulate Matter Nominally less than 10 Micrometers



PM_{2.5}..... Particulate Matter Nominally less than 2.5 Micrometers
PTE Potential-to-Emit
SO₂..... Sulfur Dioxide
VOC..... Volatile Organic Compound
yr Year