



MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT

14306 Park Avenue Victorville, CA 92392-2310
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

AUTHORITY TO CONSTRUCT

B013383

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

EXPIRES LAST DAY OF: JUNE 2026

OWNER OF OPERATOR (Co.#2502)

Castle Mountain Venture
980 American Pacific Dr., Suite 102
Henderson, NV 89014

EQUIPMENT LOCATION (Fac.#3896)

Castle Mountain Mine
115575 Hart Mine Road
Ivanpah, CA 92364

Description:

ADSORPTION, DESORPTION, AND REFINING (ADR) PLANT consisting of: The ADR Plant contains equipment to recover gold from pregnant solution. Equipment includes: Carbon Regeneration Kiln Furnace Carbon Scrubber Furnace Exhaust Scrubber Hot Water Heater Kiln Exhaust Scrubber Mercury Retort Adsorption Columns Kiln Carbon Scrubber Induction Furnace This facility is an area source of air toxic emissions. Fees based on equipment horsepower.

EQUIPMENT

Capacity	Equipment Description
0	28-SA-005 Pregnant Solution Sampler
0	28-TK-010 Adsorption Feed Head Tank, 125 CU.FT.
0	28-CC-011 thru 015 Carbon Columns #1-5, 611.6 CU.FT. each
10	28-PP-150 Carbon Columns Area Sump Pump, 10 HP
0	28-PP-025 Carbon Advance Pump
0	28-SA-020 Barren Solution Sampler
0	28-SN-030 Carbon Safety Screen
0	28-BN-042 Carbon Tote Bin
0	28-TK-050 Loaded Carbon Storage Tank, 1900.7 CU.FT.
0	28-TK-060 Barren Carbon Storage Tank, 1900.7 CU.FT.
0	29-PV-010 Elution Column, 287 CU.FT.

Fee Schedule: 1 (c)

Rating: 253.41 bhp

SIC: 1041

SCC: 30301301

Location/UTM(Km):
672E/3905N

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

Castle Mountain Venture
980 American Pacific Dr.

Henderson, NV 89014

By: **COPY**
Eldon Heaston
Air Pollution Control Officer

Capacity	Equipment Description
3	29-PP-015 Elution Column Drain Pump, 3 HP
0	29-ST-025 and 026 Strip Solution Strainers
0	29-HX-031 Primary Heat Exchanger
0	29-HX-032 Heat Recovery Heat Exchanger
0	29-HX-033 Cooling Heat Exchanger
0.25	29-FN-180 Elution Exhaust Fan, 0.25 HP
0	29-SA-022 Strip Solution Sampler
15	29-PP-021 Strip Solution Pump, 15 HP
0	29-TK-020 Strip Solution Tank, 482 CU.FT.
0.19	34-MP-124 Antiscalant Dosing Pump, 0.19 HP
15	29-PP-042 Boiler Soft Water Pump, 15 HP
0	29-TK-050 Acid Mix Tank, 44 CU.FT.
3	29-PP-051 Acid Wash Pump, 3 HP
0	29-TK-060 Acid Wash Tank, 287 CU.FT.
0	29-PP-062 Acid Wash Carbon Transfer Pump
0	29-PP-150 Acid Area Sump Pump
5.36	29-SN-065 Carbon Dewatering Screen, 5.36 HP
0	29-TK-090 Carbon Fines Storage Tank, 2825 CU.FT
15	29-PP-160 Carbon Area Sump Pump, 15 HP
0.5	29-HS-082 Carbon Chain Hoist, 0.5 HP
3	29-AG-081 Attritioning Agitator, 3 HP
0	29-TK-070 Carbon Storage Tank
0	29-TK-080 Carbon Attritioning Tank, 60 CU.FT.
30	29-PP-085 and 086 Carbon Feed Pumps (2 @ 15 HP)
30	29-PP-095 Carbon Fines Filter Feed Pump, 30 HP
0	29-FL-100 Carbon Fines Filter Press
5.36	29-SN-110 Regeneration Feed Dewatering Screen, 5.36 HP
0	29-BN-115 Kiln Feed Hopper
0	29-TK-130 Quench Tank, 402 CU.FT.
10	29-PP-140 Regenerated Carbon Transfer Pump, 10 HP
0	29-GD-175 Instrument Air Dryer
40	29-GC-170 Instrument Air Compressor w/Receiver, 40 HP
10	31-FN-035 E-Cell Exhaust Blower, 10 HP
0	31-SA-010 E-Cell Feed Sampler
0	31-EC-021 and 022 Electrowinning Cells
0	31-RF-031 and 032 Rectifiers, 12.5 kW each
0	31-SA-045 E-Cell Discharge Sampler
3	31-PP-041 E-Cell Discharge Pump, 3 HP
0	31-TK-040 E-Cell Discharge Tank, 98 CU.FT
10	31-PP-050 Sludge Press Feed Pump, 10 HP
0	31-FL-060 Sludge Filter
0	31-TK-065 Filtrate Holding Tank, 44 CU.FT.
0	31-AR-140 Instrument Air Receiver
0	31-GD-135 Instrument Air Dryer
40	31-GC-130 Blowdown Air Compressor, 40 HP
10	31-PP-120 Electrowinning Area Sump Pump, 10 HP
0	31-FU-090 Smelting Furnace Fume Hood
0.75	31-HP-081 Smelting Furnace Hydraulic Unit, 0.75 HP
168	31-FR-080 Induction Furnace (Smelting Furnace), Mfg by Inductotherm, 750 lb steel equivalent O/L Furnace, 168 HP (125 kW)

Capacity	Equipment Description
0	31-XX-XXX Cascade Molds
0	31-MR-175 Mercury Retort System
1	34-PP-085 Caustic Delivery Pump, 1 HP
0	34-TK-080 Caustic Mix/Storage Tank, 668 CU.FT.
1	34-MP-095 Hydrochloric Acid Metering Pump, 1 HP
1	34-MP-096 Hydrochloric Acid Metering Pump, 1 HP
0	Hydrochloric Acid Storage Tote
0	29-EY-500 (Elution Area Eyewash/Safety Shower Station)
0	22-EY-220 (Acid Wash Area Eyewash/Safety Shower Station)
0	22-EY-210 (Carbon Handling Area Eyewash/Safety Shower Station)
0	34-EY-150 (Reagents Area Eyewash/Safety Shower Area)

CONDITIONS:

1. At all times, you must operate and maintain this equipment, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.
[District Rule 204; 40 CFR 63.11646(b)]

2. This facility is subject to and shall comply upon startup with 40 CFR 63 Subpart EEEEEEE - Gold Mine Ore Processing and Production NESHAP.
[40 CFR 63.11641(c)]

3. This facility is subject to and shall comply with 40 CFR Part 60 Subpart LL - Standards of Performance for Metallic Mineral Processing Plants.

4. At all times this source (e.g. carbon kilns, preg tanks, electrowinning, mercury retorts, and melt furnaces) shall emit no more than 0.8 pounds of mercury per ton of concentrate processed. Verified by compliance test and in accordance with procedures specified in 40 CFR 63.11646.
[40 CFR 63.11645(f)]

5. The owner/operator must conduct a mercury compliance emission test within 180 days of startup according to the requirements in paragraphs (a)(1) through (a)(13) of section 63.11646. This compliance testing must be repeated annually thereafter (at least once in each twelve month period).

The MDAQMD shall be notified in writing at least ten days prior to the compliance test date. A compliance test shall be performed in accord with an MDAQMD-approved test plan or protocol. The MDAQMD shall be provided a written compliance test plan or protocol at least thirty days prior to the test date. Compliance tests shall be performed, and compliance test reports shall be prepared, in accordance with the MDAQMD Compliance Test Procedural Manual (available at the MDAQMD website www.mdaqmd.ca.gov). Compliance test reports shall be submitted to the MDAQMD and EPA (into EPA WebFire database via ERT) not later than 45 days after the compliance test date.

Any written documentation (including but not limited to notification, test plan/protocol and test reports) may be submitted in hard copy form, by facsimile, or by email to reporting@mdaqmd.ca.gov (all digital attachments shall be in portable document format (pdf)).

[District Rule 1302; 40 CFR 63.11646; 40 CFR 63.11648(g)]

6. The owner/operator shall monitor and record the number of one-hour periods each process unit operates during each month.
[40 CFR 63.11646(a)(5)]

7. The owner/operator shall measure the weight of concentrate produced by electrowinning using weigh scales for each batch prior to processing in mercury retorts. The concentrate must be weighed in the same state and condition as it is when fed to the mercury retort. For facilities that ship concentrate offsite, measure the weight of concentrate as shipped offsite. You must keep accurate records of the weights of each batch of concentrate processed, and calculate and record the total weight of concentrate processed each month.
[40 CFR 63.11646(a)(9)]

8. The owner/operator shall maintain the systems for measuring weight within 5 percent accuracy. The owner/operator shall describe the specific equipment used to make measurements at this facility and how that equipment is periodically calibrated. The owner/operator shall also explain, document, and maintain written procedures for determining the accuracy of the measurements and make these written procedures available to the District upon request. The owner/operator shall determine, record, and maintain a record of the accuracy of the measuring system(s) before the beginning of your initial compliance test and during each subsequent quarter of affected source operation.
[40 CFR 63.11646(a)(10)]

9. The owner/operator shall record the weight in tons of concentrate on a daily and monthly basis.
[40 CFR 63.11646(a)(11)]

10. The owner/operator shall maintain an operating log (in hardcopy or electronic format) for this equipment, current and on-site for five (5) years. This log shall be provided to District, state or federal personnel upon request:

- Operating hours for each process as required by 63.11646(a)(5),
- Records of the daily and monthly quantity of concentrate processed or produced as required by 63.11646(a)(11), and
- Annual record of the pounds of mercury emitted per ton of concentrate processed.

[40 CFR 63.11648(e)(3)]

11. The amount of concentrate processed shall not exceed 5.5 ton per year (rolling 12 month sum).
[District Rule 1302; Facility Requested Limit]

12. The induction furnace (smelting furnace) shall only vent to the Furnace Exhaust Scrubber (District Permit C013388).
[District Rule 1302]

13. The elution exhaust and e-cell exhaust shall only vent to the Kiln Carbon Scrubber (District Permit C013389).
[District Rule 1302]

14. The mercury retort (condenser portion) shall only vent to the Retort Adsorption Columns (District Permit C013390).
[District Rule 1302]

15. The mercury retort furnace shall have a fume hood installed such that all fugitive emissions associated with the operation of the mercury retort are captured by the fume hood.
[District Rule 1302]

16. Fugitive emissions shall not exceed 10 percent opacity from each product packaging station (pouring of product into cascade molds) and truck loading station (loading of carbon to trucks) at this facility.
[40 CFR 60.382(a)(3)]

17. The owner/operator shall demonstrate compliance with Condition 16 sixty days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup using EPA Method 9 and in accordance with procedures specified in 40 CFR 60.386.

The MDAQMD shall be notified in writing at least ten days prior to the compliance test date. A compliance test shall be performed in accord with an MDAQMD-approved test plan or protocol. The MDAQMD shall be provided a written compliance test plan or protocol at least thirty days prior to the test date. Compliance tests shall be performed, and compliance test reports shall be prepared, in

accordance with the MDAQMD Compliance Test Procedural Manual (available at the MDAQMD website www.mdaqmd.ca.gov). Compliance test reports shall be submitted to the MDAQMD and EPA (into EPA WebFire database via ERT) not later than 45 days after the compliance test date.

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[40 CFR 60.382; District Rule 204]

18. The owner/operator shall submit an application to the MDAQMD for a Federal Operating Permit no later than 12 months after commencing operations of affected sources. Specifically, "affected source" refers to the following equipment under permit B013383 (Adsorption, Desorption, and Refining (ADR) Plant): electrowinning cells, carbon regeneration kiln (B013385), smelting furnace, mercury retort system, and supporting equipment.

[40 CFR 63.11640(d); District Rule 1202(B)(3)(c)]

19. The owner/operator must submit the Initial Notification required by 40 CFR 63.9(b)(2) within 120 days after the source becomes subject to the standard. The Initial Notification must include the information specified in 63.9(b)(2)(i) through (b)(2)(iv).

[40 CFR 63.11648(a)]

20. The owner/operator must submit all Notification of Compliance Status, Deviations Reports, and Semiannual Reports in accordance with 40 CFR 63.11648 or as otherwise specified in this facilities Federal Operating Permit.

[40 CFR 63.11648; District Rule 1203]

21. A facility wide Comprehensive Emission Inventory (CEI) for all emitted criteria and toxic air pollutants must be submitted to the District, in a format approved by the District, upon District request.

[District Rule 107(b), H&S Code 39607 & 44341-44342, and 40 CFR 51, Subpart A]