Nevada Department of Conservation and Natural Resources • Division of Environmental Protection

NDEP

Bureau of Air Pollution Control

901 South Stewart Street, Suite 4001 • Carson City, NV 89701-5249
phone: 775-687-9349 • www.ndep.nv.gov/air

Facility ID No. A0005 ***Permit No. AP1041-2221***

MERCURY OPERATING PERMIT TO CONSTRUCT: PHASE 2

Issued to: NEVADA GOLD MINES, LLC – GOLDSTRIKE MINE (HEREAFTER CALLED THE PERMITTEE)
Mailing Address: 1655 MOUNTAIN CITY HIGHWAY, ELKO, NV 89801
General Facility Location: 27 MILES NORTH OF CARLIN, NV, OFF STATE ROUTE 766
General Facility Location:

SECTIONS 1 – 4, TOWNSHIP 35N, RANGE 49E,
SECTIONS 12 – 15, 21 – 28, AND 33 – 36, TOWNSHIP 36N, RANGE 49E,
SECTIONS 7 – 9, 16 – 21, AND 28 – 32, TOWNSHIP 36N, RANGE 50E MDB&M
HA 061U – BOULDER FLAT UPPER AREA/ EUREKA COUNTY
NORTH 4,538,500 M, EAST 552,100 M, UTM Zone 11, NAD 83

Emission Unit List:		
A. System 15 – Mill #1 Dry Grinding Process		
TU	4.001	Mill #1 Dry Grinding Process (S2.205 in Air Quality Operating Permit AP1041-0739.04)
B. System 16 – Mill #2 Dry Grinding Process		
TU	4.002	Mill #2 Dry Grinding Process (S2.207 in Air Quality Operating Permit AP1041-0739.04)
C. System 18 – Roaster Circuit: Ore Roasting Process		
TU	4.003	Roaster #1 (S2.209.1 in Air Quality Operating Permit AP1041-0739.04)
TU	4.004	Roaster #2 (S2.209.2 in Air Quality Operating Permit AP1041-0739.04)
D. System 19A – Roaster Circuit: Quenching Process Roaster #1 Quench Tank		
TU	4.005	Roaster #1 Quench Tank (S2.210 in Air Quality Operating Permit AP1041-0739.04)
E. System 19B – Roaster Circuit: Quenching Process Roaster #2 Quench Tank		
TU	4.006	Roaster #2 Quench Tank (S2.211 in Air Quality Operating Permit AP1041-0739.04)
F. System 61A – Carbon Reactivation Kiln #2: Kiln Throughput and PB Tanks		
TU	4.008	Carbon Kiln #2 Drum (S2.004.1 in Air Quality Operating Permit AP1041-0739.04)
TU	4.009	Pregnant Solution Tank A-Side (S2.004.3 in Air Quality Operating Permit AP1041-0739.04)
TU	4.010	Pregnant Solution Tank B-Side (S2.004.4 in Air Quality Operating Permit AP1041-0739.04)
TU	4.011	Barren Solution Tank A-Side (S2.004.5 in Air Quality Operating Permit AP1041-0739.04)
TU	4.012	Barren Solution Tank B-Side (S2.004.6 in Air Quality Operating Permit AP1041-0739.04)
G. System 66B – Autoclave Circuit – Autoclave #2 and Autoclave #3		
TU	4.014	Autoclave #2 (S2.016 in Air Quality Operating Permit AP1041-0739.04)
TU	4.015	Autoclave #3 (S2.017 in Air Quality Operating Permit AP1041-0739.04)

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H. System 66C – Autoclave Circuit – Autoclave #4, Autoclave #5, and Autoclave #6		
TU	4.016	Autoclave #4 (S2.018 in Air Quality Operating Permit AP1041-0739.04)
TU	4.017	Autoclave #5 (S2.019 in Air Quality Operating Permit AP1041-0739.04)
TU	4.018	Autoclave #6 (S2.020 in Air Quality Operating Permit AP1041-0739.04)
I. System 67 – Mercury Retorts		
TU	4.019	Mercury Retort #1 (S2.009 in Air Quality Operating Permit AP1041-0739.04)
TU	4.020	Mercury Retort #2 (S2.010 in Air Quality Operating Permit AP1041-0739.04)
TU	4.021	Mercury Retort #3 (S2.011 in Air Quality Operating Permit AP1041-0739.04)
TU	4.025	Mercury Retort #4 (S2.341 in Air Quality Operating Permit AP1041-0739.04)
J. System 68 – Furnaces		
TU	4.022	West Melting Furnace (S2.013 in Air Quality Operating Permit AP1041-0739.04)
TU	4.023	East Melting Furnace (S2.014 in Air Quality Operating Permit AP1041-0739.04)
TU	4.024	Electrowinning Cells (S2.344 in Air Quality Operating Permit AP1041-0739.04)
K. System 70 – Analytical Laboratory – Fire Assay Facility		
TU	4.007.1	Assay Furnace (S2.051.1 in Air Quality Operating Permit AP1041-0739.04)
TU	4.007.2	Assay Furnace (S2.051.1 in Air Quality Operating Permit AP1041-0739.04)
TU	4.007.3	Assay Furnace (S2.051.1 in Air Quality Operating Permit AP1041-0739.04)
TU	4.007.4	Assay Furnace (S2.051.1 in Air Quality Operating Permit AP1041-0739.04)
TU	4.007.5	Assay Furnace (S2.051.1 in Air Quality Operating Permit AP1041-0739.04)
TU	4.007.6	Assay Furnace (S2.051.1 in Air Quality Operating Permit AP1041-0739.04)
TU	4.007.7	Assay Furnace (S2.051.1 in Air Quality Operating Permit AP1041-0739.04)
L. System 128 – Elution Circuit Process Tanks		
TU	4.026	Train A Resin Regeneration Tank (18,900 gallons) (S2.333.1 in Air Quality Operating Permit AP1041-0739.04)
TU	4.027	Train B Resin Regeneration Tank (18,900 gallons) (S2.333.2 in Air Quality Operating Permit AP1041-0739.04)
M. System 131 – Carbon in Leach (CIL) Electrowinning Cells and Pregnant and Barren Tanks A and B		
TU	4.030	Electrowinning Cells (S2.342.1 in Air Quality Operating Permit AP1041-0739.04)
TU	4.031	Pregnant and Barren Solution Tank A (S2.342.2 in Air Quality Operating Permit AP1041-0739.04)
TU	4.032	Pregnant and Barren Solution Tank B (S2.342.3 in Air Quality Operating Permit AP1041-0739.04)

Facility ID No. A0005 Permit No. AP1041-2221
MERCURY OPERATING PERMIT TO CONSTRUCT: PHASE 2

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section I. General Conditions

The Permittee must comply with, but is not limited to, all conditions of Nevada Administrative Code (NAC) 445B.3611-3689 *"Nevada Mercury Air Emissions Control Program"*, inclusive.

A. Records Retention NAC 445B.3679.2(a) and NAC 445B.3685.2(b)
The Permittee of a Mercury Operating Permit to Construct shall retain records of all required monitoring data and support information for (5) years after the date of the sample collection, measurement, report or analysis. Supporting information includes, without limitation, all records regarding calibration and maintenance of the monitoring equipment and all original strip-chart recordings for continuous monitoring instrumentation.

B. Severability NAC 445B.3679.2(b) and NAC 445B.3685.2(c)
Each of the conditions and requirements of the Mercury Operating Permit to Construct is severable and, if any are held invalid, the remaining conditions and requirements continue in effect.

C. Compliance/Noncompliance NAC 445B.3679.2(c) and NAC 445B.3685.2(d)
The Permittee must comply with all conditions of the Mercury Operating Permit to Construct. Any noncompliance constitutes a violation and is grounds for:
1. An action for noncompliance;
2. The revoking and reissuing, or the terminating of the Mercury Operating Permit to Construct by the Director; or
3. The reopening or revising of the Mercury Operating Permit to Construct by the holder of the Mercury Operating Permit to Construct as directed by the Director.

D. Defense to Noncompliance NAC 445B.3679.2(d) and NAC 445B.3685.2(e)
The need to halt or reduce activity to maintain compliance with the conditions of the Mercury Operating Permit to Construct is not a defense to noncompliance with any conditions of the Mercury Operating Permit to Construct.

E. Cause NAC 445B.3679.2(e) and NAC 445B.3685.2(f)
The Director may revise, revoke and reissue, reopen and revise, or terminate the Mercury Operating Permit to Construct for cause.

F. Property Rights/Exclusive Privilege NAC 445B.3679.2(f) and NAC 445B.3685.2(g)
The Mercury Operating Permit to Construct does not convey any property rights or any exclusive privilege.

G. Information Request from Director NAC 445B.3679.2(g) and NAC 445B.3685.2(h)
The Permittee shall provide the Director, in writing and within a reasonable time, with any information that the Director requests to determine whether cause exists for revoking or terminating the Mercury Operating Permit to Construct or to determine compliance with the conditions of this Mercury Operating Permit to Construct.

H. Right to Entry NAC 445B.3679.2(h) and NAC 445B.3685.2(i)
The Permittee shall allow the Director or any authorized representative of the Director, upon the presentation of credentials, to:
1. Enter upon the premises of ***the Permittee*** where:
   a. The thermal unit that emits mercury is located;
   b. Activity related to mercury emissions is conducted; or
   c. Records are kept pursuant to the conditions of the Mercury Operating Permit to Construct.
2. Have access to and copy, during normal business hours, any records that are kept pursuant to the conditions of the Mercury Operating Permit to Construct;
3. Inspect, at reasonable times, any facilities, practices, operations, or equipment, including any equipment for monitoring or controlling air pollution, that are regulated or required pursuant to the Mercury Operating Permit to Construct; and
4. Sample or monitor, at reasonable times, substances or parameters to determine compliance with the conditions of the Mercury Operating Permit to Construct or applicable requirements.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section I. General Conditions (continued)

I. Certify True and Accurate NAC 445B.3679.2(i) and NAC 445B.3685.2(j)
A responsible official of the stationary source shall certify that, based on information and belief formed after reasonable inquiry, the statements made in any document required to be submitted by any condition of the Mercury Operating Permit to Construct are true, accurate and complete.

J. Yearly Reporting NAC 445B.3679.3(b)(c)(d) and NAC 445B.3685.3(b)(c)I(e)
The Permittee will submit yearly reports including, but not limited to, throughput, production, fuel consumption, hours of operation, emissions and mercury co-product. These reports and supporting documentation (if applicable) will be submitted via the State and Local Emissions Inventory System (SLEIS) maintained by the Bureau of Air Quality Planning for all emission units/systems specified. The completed report must be submitted to the Bureau of Air Quality Planning no later than March 1 annually for the preceding calendar year.

K. Facilities Operation NAC 445B.227
The Permittee may not:
1. Operate a stationary source of air pollution unless the control equipment for air pollution that is required by applicable requirements or conditions of the Mercury Operating Permit to Construct are installed and operating.
2. Disconnect, alter, modify or remove any of the control equipment for air pollution or modify any procedure required by an applicable requirement or condition of the Mercury Operating Permit to Construct.

L. Excess Emissions NAC 445B.232
1. Scheduled maintenance or testing or scheduled repairs which may result in excess emissions of regulated air pollutants prohibited by NAC 445B.001 to 445B.3689, inclusive, must be approved by the Director and performed during a time designated by the Director as being favorable for atmospheric ventilation.
2. The Director must be notified in writing of the time and expected duration at least 24 hours in advance of any scheduled maintenance which may result in excess emissions of regulated air pollutants prohibited by NAC 445B.001 to 445B.3689, inclusive.
3. The Director must be notified in writing or by telephone of the time and expected duration at least 24 hours in advance of any scheduled repairs which may result in excess emissions of regulated air pollutants prohibited by NAC 445B.001 to 445B.3689, inclusive.
4. The Director must be notified of any excess emissions within 24 hours after any malfunction or upset of the process equipment or equipment for controlling pollution or during startup or shutdown of such equipment. E-mail to: aircompliance@ndep.nv.gov
5. ***The Permittee***, as the owner or operator of an affected facility, shall provide the Director, within 15 days after any malfunction, upset, startup, shutdown, or human error which results in excess emissions, sufficient information to enable the Director to determine the seriousness of the excess emissions. The information must include at least the following:
   a. The identity of the stack or other point of emission, or both, where the excess emissions occurred.
   b. The estimated magnitude of the excess emissions expressed in units of the applicable limitation on emission and the operating data and methods used in estimating the magnitude of the excess emissions.
   c. The time and duration of the excess emissions.
   d. The identity of the equipment causing the excess emissions.
   e. If the excess emissions were the result of a malfunction, the steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of the malfunction.
   f. The steps taken to limit the excess emissions.
   g. Documentation that the equipment for controlling air pollution, process equipment, or processes were at all times maintained and operated, to a maximum extent practicable, in a manner consistent with good practice for minimizing emissions.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section I. General Conditions (continued)

M. Construction Requirements NAC 445B.250
The Permittee shall provide the Director written notification of:
1. The date that construction or reconstruction of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form.
2. The anticipated date of initial startup of an affected facility, postmarked not more than 60 days and not less than 30 days prior to such date.
3. The actual date of initial startup of an affected facility, postmarked within 15 days after such date.

N. Testing and Sampling NAC 445B.252
1. To determine compliance with NAC 445B.001 to 445B.3689, inclusive, before the approval or the continuance of an operating permit or similar class of permits, the director may either conduct or order the owner of any stationary source to conduct or have conducted such testing and sampling as the director determines necessary. Testing and sampling or either of them must be conducted and the results submitted to the director within 60 days after achieving the maximum rate of production at which the affected facility will be operated, but not later than 180 days after initial startup of the facility and at such times as may be required by the director.
2. Tests of performance must be conducted and data reduced in accordance with the methods and procedures of the test contained in each applicable subsection of this section unless the director:
   a. Specifies or approves, in specific cases, the use of a method of reference with minor changes in methodology;
   b. Approves the use of an equivalent method;
   c. Approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific stationary source is in compliance; or
   d. Waives the requirement for tests of performance because the owner or operator of a stationary source has demonstrated by other means to the director's satisfaction that the affected facility is in compliance with the standard.
3. Tests of performance must be conducted under such conditions as the director specifies to the operator of the plant based on representative performance of the affected facility. The owner or operator shall make available to the director such records as may be necessary to determine the conditions of the performance test. Operations during periods of startup, shutdown and malfunction must not constitute representative conditions of a performance test unless otherwise specified in the applicable standard.
4. ***The Permittee*** shall give notice to the director 30 days before the test of performance to allow the director to have an observer present. A written testing procedure for the test of performance must be submitted to the director at least 30 days before the test of performance to allow the director to review the proposed testing procedures.
5. Each test of performance must consist of at least three separate runs using the applicable method for that test. Each run must be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the runs apply. In the event of forced shutdown, failure of an irreplaceable portion of the sampling train, extreme meteorological conditions or other circumstances with less than three valid samples being obtained, compliance may be determined using the arithmetic mean of the results of the other two runs upon the director's approval.
6 All testing and sampling will be performed in accordance with recognized methods and as specified by the director.
7. The cost of all testing and sampling and the cost of all sampling holes, scaffolding, electric power and other pertinent allied facilities as may be required and specified in writing by the director must be provided and paid for by the owner of the stationary source.
8. All information and analytical results of testing and sampling must be certified as to their truth and accuracy and as to their compliance with all provisions of NAC 445B.001 to 445B.3689, inclusive, and copies of these results must be provided to the director no later than 60 days after the testing or sampling, or both.

O. SIP Article 2.5.4 *Federally Enforceable SIP Requirement*
Breakdown or upset, determined by the Director to be unavoidable and not the result of careless or marginal operations, shall not be considered a violation of these regulations.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section I. General Conditions (continued)

P. Expiration and Extension NAC 445B.3687

1. If construction will occur in one phase, a mercury operating permit to construct for a new or modified thermal unit that emits mercury expires if construction is not commenced within 18 months after the date of issuance thereof or construction of the thermal unit that emits mercury is delayed for 18 months after initiated. The Director may extend the date on which the construction may be commenced upon a showing that the extension is justified.
2. If construction will occur in more than one phase, the projected date of the commencement of construction of each phase of construction must be approved by the Director. A mercury operating permit to construct expires if the initial phase of construction is not commenced within 18 months after the projected date of the commencement of construction approved by the Director. The Director may extend only the date on which the initial phase of construction may be commenced upon a showing that the extension is justified.

Q. Nevada Mercury Control Program Implementation NAC 445B.3679 and NAC 445B.3685

1. The NvMACT for **Systems 15, 16, 18, 19A, 19B, 61A, 66B, 66C, 67 (TU4.019 through TU4.021), 68** and **70,** each, must be implemented not later than 24 months after the issuance date of this Mercury Operating Permit to Construct (NAC 445B.3679.3(a)(2)(I)).
   a. The issuance date for **System 66C** is **September 29, 2010.**
   b. The issuance date for **Systems 61A, 67 (TU4.019 through TU4.021)** and **68** is **August 16, 2010**
   c. The issuance date for **Systems 15, 16, 18, 66B,** and **70** is **February 26, 2020**.
   d. The issuance date for **Systems 19A** and **19B** is **MONTH DAY, 2025**.
2. Construction on **Systems 128, 131,** and **TU4.025** must commence within 18 months after the issuance date of this permit. The issuance date for **Systems 128, 131,** and **TU4.025** is **January 10, 2012.** The NvMACT for **Systems 128, 131,** and **TU4.025,** each, must be implemented upon startup. (NAC 445B.3685)
3. ***The Permittee*** shall provide the Director written notification of:
   a. The date of implementation of NvMACT for **Systems 61, 67 (TU4.019 through TU4.021)** and **68,** each, pursuant to NAC 445B.3679.3(a)(2)(I) postmarked within 15 days after such date (NAC 445B.3679.2(g)).
   b. The date of implementation of NvMACT for **Systems 15, 16, 18, 19A, 19B, 66B,** and **70**, each, pursuant to NAC 445B.3679.3(a)(2)(I) postmarked within 15 days after such date (NAC 445B.3679.2(g)).

R. Annual Reporting NAC 445B.3679 and NAC 445B.3685

The Permittee shall:

1. Report mercury co-product on an annual basis (NAC 445B.3679.3(d)).
2. Report the level of mercury emissions on an annual basis which must be based on mercury emissions test data (NAC 445B.3679.3(c)).

********** End of General Conditions **********

Facility ID No. A0005 Permit No. AP1041-2221
MERCURY OPERATING PERMIT TO CONSTRUCT: PHASE 2

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions

A. Emission Unit #TU4.001 location North 4,538,507 m, East 552,190 m, UTM (Zone 11)

A. System 15 – Mill#1 Dry Grinding Process		
TU	4.001	Mill #1 Dry Grind Process

1. Air Pollution Equipment

a. Exhaust gases from **TU4.001** shall be ducted to a control system with 100% capture consisting of:
   1. **Baghouse DC-204.1**
   2. **Baghouse DC-204.2**
   3. **Baghouse DC-205**

b. Descriptive Stack Parameters
Height: 230 feet
Diameter: 9.5 feet
Temperature: 180°F
Exhaust gases from **TU4.001** shall have a maximum volume flow rate of 183,680 dry standard cubic feet per minute (DSCFM).
Exhaust gases from **TU4.001** is ducted to 1 stack.

2. Operating Requirements (NAC 445B.3679.3)

a. Limitations of Operation
   1. The maximum allowable throughput rate of **ore** for **TU4.001** shall not exceed **500.0** tons per any one-hour period.
   2. Mercury emissions from **System 15** shall not exceed **1.8 x 10^{-5}** grains per dry standard cubic foot (gr/dscf).
   3. **TU4.001** may operate **24** hours per day.

b. Work Practices
   1. Inspect the **Baghouses** on **TU4.001** for leaks on a semi-annual basis.
   2. The pressure drop across **Baghouse DC-204.1 and DC-204.2** shall be maintained between 1.5 and 11.0 inches of water, based on a 1-hour period.
   3. The pressure drop across **Baghouse DC-205** shall be maintained between 1.5 and 6.5 inches of water, based on a 1-hour period.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions (continued)

A. Emission Unit #TU4.001 (continued)

3. Compliance Testing, Monitoring, Recordkeeping and Reporting (NAC 445B.3679.3)

a. Compliance Testing

1. Within 60 days after achieving the maximum rate of production at which **TU4.001** will be operated, but not later than 180 days of initial startup of **TU4.001**, and annually thereafter, ***the Permittee*** shall conduct and record a performance test for mercury on the exhaust stack of **TU4.001** consisting of three valid runs utilizing US EPA Method 29 of 40 CFR Part 60 Appendix A. Each of the three test runs must collect a sample volume of **0.85** dry standard cubic meters (**30 dscf**).
2. Simultaneously, during the Method 29 compliance test, conduct and record a material assay from **System 15**. One representative sample shall be taken for each test run. Total mercury content shall be determined using EPA Method 7471B (cold vapor atomic adsorption analysis) (or alternative test method approved by the Director).
3. ***The Permittee*** shall comply with the requirements in Section I.N of this operating permit for all compliance testing.

b. Monitoring

The ***Permittee*** shall:

1. Monitor the daily throughput rate of **ore** in tons.
2. Monitor the pressure drop across **Baghouse DC-204.1** once**,** during each day of operation.
3. Monitor the pressure drop across **Baghouse DC-204.2** once, during each day of operation.
4. Monitor the pressure drop across **Baghouse DC-205** once, during each day of operation.
5. Monitor the daily hours of operation.

c. Recordkeeping

The required monitoring established in Section II.A.3.a. above shall be maintained in a contemporaneous log containing, at a minimum, the following recordkeeping.

1. The calendar date of any required monitoring.
2. The total daily hours of operation for the corresponding date.
3. The total daily throughput rate of **ore** in tons, for the corresponding date.
4. The pressure drop across **Baghouse DC-204.1** once, during each day of operation, for the corresponding date.
5. The pressure drop across **Baghouse DC-204.2** once, during each day of operation, for the corresponding date.
6. The pressure drop across **Baghouse DC-205** once, during each day of operation, for the corresponding date.
7. Results of the semi-annual **Baghouse** inspections for the corresponding date.

d. Reporting

The ***Permittee*** will promptly report to the Director any deviations from the requirements of the Operating Permit to Construct. The report to the Director will include probable cause of all deviations and any action taken to correct the deviations. For this Operating Permit to Construct, prompt is defined as submittal of a report within 15 days of said deviation. This definition does not alter any reporting requirements as established for reporting of excess emissions as required under NAC 445B.232 and under condition I.L. of this permit.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions (continued)

B. Emission Unit #TU4.002 location North 4,538,442 m, East 552,190 m, UTM (Zone 11)

B. System 16 – Mill #2 Dry Grinding Process		
TU	4.002	Mill#2 Dry Grinding Process

1. Air Pollution Equipment

a. Exhaust gases from **TU4.002** shall be ducted to a control system with 100% capture consisting of:
   1. **Baghouse DC-206.1**
   2. **Baghouse DC-206.2**
   3. **Baghouse DC-207**

b. Descriptive Stack Parameters
Height: 230 feet
Diameter: 9.5 feet
Temperature: 180°F
Exhaust gases from **TU4.002** shall have a maximum volume flow rate of 183,680 dry standard cubic feet per minute (DSCFM).
Exhaust gases from **TU4.002** is ducted to 1 stack.

2. Operating Requirements (NAC 445B.3679.3)

a. Limitations of Operation
   1. The maximum allowable throughput rate of **ore** for **TU4.002** shall not exceed **500.0** tons per any one-hour period.
   2. Mercury emissions from **System 16** shall not exceed **1.8×10^{-5}** grains per dry standard cubic foot (gr/dscf).
   3. **TU4.002** may operate **24** hours per day.

b. Work Practices
   1. Inspect the **Baghouses** on **TU4.002** for leaks on a semi-annual basis.
   2. The pressure drop across **Baghouse DC-206.1 and DC-206.2** shall be maintained between 1.5 and 11.0 inches of water, based on a 1-hour period.
   3. The pressure drop across **Baghouse DC-207** shall be maintained between 1.5 and 6.5 inches of water, based on a 1-hour period.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions (continued)

B. Emission Unit #TU4.002 (continued)

3. Compliance Testing, Monitoring, Recordkeeping and Reporting (NAC 445B.3679.3)

a. Compliance Testing

1. Within 60 days after achieving the maximum rate of production at which **TU4.002** will be operated, but not later than 180 days of initial startup of **TU4.002**, and annually thereafter, ***the Permittee*** shall conduct and record a performance test for mercury on the exhaust stack of **TU4.002** consisting of three valid runs utilizing US EPA Method 29 of 40 CFR Part 60 Appendix A. Each of the three test runs must collect a sample volume of **0.85** dry standard cubic meters (**30 dscf**).
2. Simultaneously, during the Method 29 compliance test, conduct and record a material assay from **System 16**. One representative sample shall be taken for each test run. Total mercury content shall be determined using EPA Method 7471B (cold vapor atomic adsorption analysis) (or alternative test method approved by the Director).
3. ***The Permittee*** shall comply with the requirements in Section I.N of this operating permit for all compliance testing.

b. Monitoring

The ***Permittee*** shall:

1. Monitor the daily throughput rate of **ore** in tons.
2. Monitor the pressure drop across **Baghouse DC-206.1** once, during each day of operation.
3. Monitor the pressure drop across **Baghouse DC-206.2** once, during each day of operation.
4. Monitor the pressure drop across **Baghouse DC-207** once, during each day of operation.
5. Monitor the daily hours of operation.

c. Recordkeeping

The required monitoring established in Section II.B.3.a. above shall be maintained in a contemporaneous log containing, at a minimum, the following recordkeeping.

1. The calendar date of any required monitoring.
2. The total daily hours of operation for the corresponding date.
3. The total daily throughput rate of **ore** in tons, for the corresponding date.
4. The pressure drop across the **Baghouse DC-206.1** once, during each day of operation, for the corresponding date.
5. The pressure drop across the **Baghouse DC-206.2** once, during each day of operation, for the corresponding date.
6. The pressure drop across the **Baghouse DC-207** once, during each day of operation, for the corresponding date.
7. Results of the semi-annual **Baghouse** inspections for the corresponding date.

d. Reporting

The ***Permittee*** will promptly report to the Director any deviations from the requirements of the Operating Permit to Construct. The report to the Director will include probable cause of all deviations and any action taken to correct the deviations. For this Operating Permit to Construct, prompt is defined as submittal of a report within 15 days of said deviation. This definition does not alter any reporting requirements as established for reporting of excess emissions as required under NAC 445B.232 and under condition I.L. of this permit.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions (continued)

C. Emission Units #TU4.003 and TU4.004 location North 4,538,477 m, East 552,145 m, UTM (Zone 11)

C. System 18 – Roaster Circuit		
TU	4.003	Roaster # 1
TU	4.004	Roaster # 2

1. Air Pollution Equipment

a. Exhaust gases from **TU4.003 and TU4.004** shall be ducted to a control system with 100% capture consisting of:

TU4.003 Roaster #1	**TU4.004 Roaster #2**
Primary Cyclone (**PC-201**)	Primary Cyclone (**PC-202**)
Secondary Cyclone (**SC-201**) (Emergency Vent)	Secondary Cyclone (**SC-202**) (Emergency Vent)
Off-Gas Quencher (**OGQ-201**)	Off-Gas Quencher (**OGQ-202**)
Venturi Wet Dust Scrubber (**VS-201**)	Venturi Wet Dust Scrubber (**VS-202**)
Condenser (**CV-201**)	Condenser (**CV-202**)
Emissions from TU4.003 and TU4.004 combine	
Wet Electrostatic Precipitator (**WESP-201**)	
Mercury Scrubber (**Hg-201**)	
SO_2 Scrubber (**SO_2-201**)	
CO Oxidizer	
Selective Catalytic Reduction (**SCR-201**)	

b. Descriptive Stack Parameters
Height: 260 feet
Diameter: 4.25 feet
Temperature: 670.0°F
Exhaust gases from **TU4.003 and TU4.004** shall have a maximum volume flow rate of 31,500 dry standard cubic feet per minute (DSCFM).
Exhaust gases from **TU4.003 and TU4.004** are ducted to 1 stack.

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Section II. Specific Operating Conditions (continued)

C. Emission Units #TU4.003 and TU4.004 (continued)

2. Operating Requirements (NAC445B.3679.3)

a. Limitations of Operation

1. The maximum allowable throughput for **TU4.003** and **TU4.004**, combined, shall not exceed **1,000** tons per hour of ore, petroleum-contaminated soil, sulfur, resin-in-leach fines, carbon fines, and air pollution control carbon, nor more than **6,752,500** tons per year. The maximum allowable throughput for petroleum-contaminated soils, sulfur, resin-in-leach fines and carbon fines, each, shall not exceed **10** tons per hour, nor more than **22,508** tons per year, based on a 12-month rolling period. The maximum allowable throughput of air pollution control carbon shall not exceed **2.5** tons per day; the maximum allowable throughput of air pollution control carbon shall also not exceed 0.10% of the total throughput for **TU4.003** and **TU4.004**, combined, on any day.
   a. Carbon fines are defined as activated carbon fines from carbon-in-column, carbon-in-pulp, and carbon-in-leach systems for the purpose of gold stripping from a sodium cyanide or similar beneficiation elution that utilizes activated carbon.
   b. Resin-in-leach fines are defined as those fines originating from the Resin-In-Leach process for the purpose of gold stripping using a non-cyanide beneficiation elution that utilizes resin.
   c. Air pollution control carbon is defined as carbon that has been employed as a permitted emission control at the Goldstrike facility. All air pollution control carbon that will be utilized as a throughput material to **TU4.003** and **TU4.004** must be stored in closed containers between the time that the air pollution control carbon is removed from emission control units and the time that the air pollution control carbon is blended with ore, petroleum-contaminated soil, sulfur, resin-in-leach fines, and/or carbon fines for roasting. Air pollution control carbon from facilities other than the Goldstrike facility may not be utilized as throughput for **TU4.003** and **TU4.004**.
2. Mercury emissions from **System 18** shall not exceed **1.6×10^{-4}** grains per dry standard cubic foot (gr/dscf).
3. **TU4.003 and TU4.004** each may operate **24** hours per day.
4. Air pollution control carbon that is used as throughput for **TU4.003** and **TU4.004** must be processed through System 10 (PF1.201 of Air Quality Operating Permit AP1041-0739.04) to ensure that the air pollution control carbon is thoroughly blended with ore and other throughput materials prior to roasting in **TU4.003** and **TU4.004**.

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Section II. Specific Operating Conditions (continued)

C. Emission Units #TU4.003 and TU4.004 (continued)

2. Operating Requirements (continued)

b. Work Practices

1. **Off-Gas Quenchers (OGQ-201 and OGQ-202)**
   a. The water flow rate to **OGQ-201** and **OGQ-202**, each, shall be equal to or above **200** gallons per minute.
2. **Venturi Wet Dust Scrubbers (VS-201 and VS-202)**
   a. The differential pressure across **VS-201** and **VS-202**, each, shall be equal or greater than **35** inches of water.
   b. The water flow rate to **VS-201** and **VS-202**, each, shall be equal to or above **300** gallons per minute.
3. **Condensers (CV-201 and CV-202)**
   a. The exhaust temperature exiting **CV-201** and **CV-202**, each, shall be equal to or less than **90º** Fahrenheit.
4. **Wet Electrostatic Precipitator (WESP-201)**
   a. **WESP-201** consists of an A and B side. During operation of **TU4.003** or **TU4.004**, exhaust must be ducted through one or both sides of **WESP-201**.
   b. **A Side**
      1. The minimum primary voltage shall be greater than **110** volts.
      2. The minimum secondary voltage shall be greater than **7** kilovolts.
      3. The minimum primary current shall be greater than **2** amps.
      4. The minimum secondary current shall be greater than **8** milliamps.
   c. **B Side**
      1. The minimum primary voltage shall be greater than **110** volts.
      2. The minimum secondary voltage shall be greater than **7** kilovolts.
      3. The minimum primary current shall be greater than **2** amps.
      4. The minimum secondary current shall be greater than **8** milliamps.
   d. Mercury shall be drained monthly from the WESP Drain Tank.
5. **Mercury Scrubber (Hg-201)**
   a. The mercury (II) chloride concentration shall be at or above **1.0** grams/liter
   b. The head pressure shall be maintained between **1** and **9** pounds per square inch.
   c. The inlet temperature shall be maintained between **32 – 134º** Fahrenheit.

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Section II. Specific Operating Conditions (continued)

C. Emission Units #TU4.003 and TU4.004 (continued)

4. Compliance Testing, Monitoring, Recordkeeping and Reporting (NAC 445B.3679.3)

a. Compliance Testing

1. Within 60 days after achieving the maximum rate of production at which **TU4.003 and TU4.004** will be operated, but not later than 180 days of initial startup of **TU4.003 and TU4.004**, and annually thereafter, ***the Permittee*** shall conduct and record a performance test for mercury on the exhaust stack of **TU4.003 and TU4.004** consisting of three valid runs utilizing US EPA Method 29 of 40 CFR Part 60 Appendix A. Each of the three test runs must collect a sample volume of **0.85** dry standard cubic meters (**30 dscf**).
2. Simultaneously, during the Method 29 compliance test, conduct and record a material assay from **System 18**. One representative sample shall be taken for each test run. Total mercury content shall be determined using EPA Method 7471B (cold vapor atomic adsorption analysis) (or alternative test method approved by the Director).
3. ***The Permittee*** shall comply with the requirements in Section I.N of this operating permit for all compliance testing.

b. Monitoring

The ***Permittee*** shall:

1. Monitor the daily throughput rate of **ore, petroleum contaminated soils, sulfur, resin-in-leach fines, carbon fines, and air pollution control carbon**, each, for **TU4.003** and **TU4.004**, each, in tons.
2. Monitor the daily hours of operation for **TU4.003** and **TU4.004,** each.
3. Monitor the water flow rate to **OGQ-201** and **OGQ-202**, in gallons per minute, once during each day of operation.
4. Monitor the differential pressure across **VS-201** and **VS-202**, each, in inches of water, once during each day of operation.
5. Monitor the water flow rate to **VS-201** and **VS-202**, each, in gallons of water, once during each day of operation.
6. Monitor the exhaust temperature exiting **CV-201** and **CV-202**, each, in degrees Fahrenheit, once during each day of operation.
7. Monitor the A Side primary voltage for **WESP-201**, in volts, once during each day of operation.
8. Monitor the A Side secondary voltage for **WESP-201**, in kilovolts, once during each day of operation.
9. Monitor the A Side primary current for **WESP-201**, in amps, once during each day of operation.
10. Monitor the A Side secondary current for **WESP-201**, in milliamps, once during each day of operation.
11. Monitor the B Side primary voltage for **WESP-201**, in volts, once during each day of operation.
12. Monitor the B Side secondary voltage for **WESP-201**, in kilovolts, once during each day of operation.
13. Monitor the B Side primary current for **WESP-201**, in amps, once during each day of operation.
14. Monitor the B Side secondary current for **WESP-201**, in milliamps, once during each day of operation.
15. Monitor the amount of mercury drained from the WESP Drain Tank.
16. Monitor the mercury (II) chloride concentration in **Hg-201**, in grams per liter, once during each day of operation.
17. Monitor the head pressure to **Hg-201**, in pounds per square inch, once during each day of operation.
18. Monitor the inlet temperature to **Hg-201**, in degrees Fahrenheit, once during each day of operation.

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Section II. Specific Operating Conditions (continued)

C. Emission Units #TU4.003 and TU4.004 (continued)

4. Compliance Testing, Monitoring, Recordkeeping and Reporting (NAC 445B.3679.3) (continued)

c. Recordkeeping

The required monitoring established in Section II.C.4.a. above shall be maintained in a contemporaneous log containing, at a minimum, the following recordkeeping.

1. The calendar date of any required monitoring.
2. The total daily throughput rate of **ore, petroleum contaminated soils, sulfur, resin-in-leach fines, carbon fines, and air pollution control carbon,** each, in tons for **TU4.003** and **TU4.004**, combined, for the corresponding date.
3. The total daily hours of operation for **TU4.003 and TU4.004,** combined, for the corresponding date.
4. The corresponding average hourly throughput rate of **ore, petroleum contaminated soils, sulfur, resin-in-leach fines, carbon fines,** each, for **TU4.003** and **TU4.004**, combined, in tons. The average hourly throughput rate will be determined from the total daily throughput rate and the total daily hours of operation.
5. The percentage of the total daily throughput for **TU4.003** and **TU4.004**, combined, that is air pollution control carbon.
6. The water flow rate to **OGQ-201** and **OGQ-202**, each, for the corresponding date.
7. The differential pressure across **VS-201** and **VS-202**, each, for the corresponding date.
8. The water flow rate to **VS-201** and **VS-202**, each, for the corresponding date.
9. The exhaust temperature from **CV-201** and **CV-202**, each, for the corresponding date.
10. The A Side primary voltage for **WESP-201**, for the corresponding date.
11. The A Side secondary voltage for **WESP-201**, for the corresponding date.
12. The A Side primary current for **WESP-201**, for the corresponding date.
13. The A Side secondary current for **WESP-201**, for the corresponding date.
14. The B Side primary voltage for **WESP-201**, for the corresponding date.
15. The B Side secondary voltage for **WESP-201**, for the corresponding date.
16. The B Side primary current for **WESP-201**, for the corresponding date.
17. The B Side secondary current for **WESP-201**, for the corresponding date.
18. The mercury (II) chloride concentration in **Hg-201**, for the corresponding date.
19. The head pressure to **Hg-201**, for the corresponding date.
20. The inlet temperature to **Hg-201**, for the corresponding date.
21. The amount of mercury drained from the WESP Drain Tank.
22. Record the source of all air pollution control carbon added to **TU4.003** and **TU4.004**; the source description must include a permitted control unit designation.

d. Reporting

1. The ***Permittee*** will promptly report to the Director any deviations from the requirements of the Operating Permit to Construct. The report to the Director will include probable cause of all deviations and any action taken to correct the deviations. For this Operating Permit to Construct, prompt is defined as submittal of a report within 15 days of said deviation. This definition does not alter any reporting requirements as established for reporting of excess emissions as required under NAC 445B.232 and under condition I.L. of this permit.
2. The ***Permittee*** will report to the Director the results of the twice monthly US EPA Method 30B tests, on an annual basis. This report will calculate the annual mercury emissions based on the US EPA Method 30B tests, using the individual test to determine mercury emissions of multiplied by the hours of operation for System 18, for each period between the twice monthly US EPA Method 30B test.
3. The ***Permittee*** will promptly report to the director any emergency exhaust push events, this will include duration and the corresponding estimate of uncontrolled mercury emissions. For this Operating Permit to Construct, prompt is defined as submittal of a report within 15 days of said push event. This definition does not alter any reporting requirements as established for reporting of excess emissions as required under NAC 445B.232 and under condition I.L. of this permit.
4. The ***Permittee*** will report annually to the Director the amount of mercury collected from the WESP Drain Tank, in pounds for the reporting year.

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Section II. Specific Operating Conditions

D. Emission Unit #TU4.005 Location North 4,538,486 m, East 552,142 m, UTM (Zone 11, NAD 83)

System 19A – Roaster #1 Quench Tank		
TU	4.005	Roaster #1 Quench Tank

1. Air Pollution Control Equipment

a. Emissions from **TU4.005** shall be ducted to a control system with 100% capture consisting of:
(1) **Venturi Wet Dust Scrubber (VS-203)** *(manufacturer unknown)*

b. **Descriptive Stack Parameters**
Height: 40.0 feet
Diameter: 2.0 feet
Temperature: Approximately 125 ºF
Exhaust gases from **TU4.005** shall have a maximum volume flow rate of approximately **10,733** dry standard cubic feet per minute (DSCFM).

2. Operating Requirements (NAC 445B.3679.3)

a. Limitations of Operation
(1) The maximum allowable throughput of **calcine** for **TU4.005** shall not exceed **500** ton per any one-hour period. Calcine is defined by:
(a) Material that has been processed by **Roaster #1 (TU4.003)** of this MOPTC.
(2) Mercury emissions from **TU4.005** shall not exceed **9.0 x 10^{-5}** grains per dry standard cubic foot (gr/dscf).
(3) Hours
(a) **TU4.005** may operate **24** hours per day.
(b) The exhaust pressure relief bypass for **TU4.005** may be operated for **100** hours per year.

b. Work Practices
(1) Roaster #1 Quench Tank (**TU4.005**)
(a) **TU4.005** shall be inspected annually for leaks and cracks.
(2) Venturi Wet Dust Scrubber (**VS-203**)
(a) The pressure drop across **VS-203** shall be maintained at or above **16.0** inches of water, based on a 1-hour period.
(b) The water flow rate for **VS-203** shall be maintained at or above **75.0** gallons per minute, based on a 1-hour period.
(c) **VS-203** shall be visually inspected quarterly of the external functioning components, which include but are not limited to the following; scrubber fan, ducting and scrubber housing for leaks and damage.

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Section II. Specific Operating Conditions (continued)

D. Emission Unit #TU4.005 (continued)

3. Compliance Testing, Monitoring, Recordkeeping and Reporting (NAC 445B.3679.3)

a. Compliance Testing

(1) Within 60 days after achieving the maximum rate of production at which **TU4.005** will be operated, but not later than 180 days of initial startup of **TU4.005**, and annually thereafter, the Permittee shall conduct and record a performance test for mercury on the exhaust stack of **TU4.005** consisting of three valid runs utilizing US EPA Method 29 of 40 CFR Part 60 Appendix A. Each of the three test runs must collect a sample volume of **0.85** dry standard cubic meters (**30 dscf**).

(2) Simultaneously, during the Method 29 compliance test, conduct and record a material assay from **System 19A**. One representative sample shall be taken for each test run. Total mercury content shall be determined using EPA Method 245.1 (cold vapor atomic absorption spectrometry) (or alternative test method approved by the Director).

(3) The Permittee shall comply with the requirements in Section I.N of this operating permit for all compliance testing.

b. Monitoring

The Permittee shall:

(1) Install, operate, calibrate, and maintain instrumentation to measure and record the following for **TU4.005**.
   (a) The water flow rate to **VS-203**, in gallons per minute.
   (b) The pressure drop across **VS-203**, in inches of water.

(2) Monitor the daily throughput of **calcine**, in tons.

(3) Monitor the daily hours of operation.

(4) Monitor the water flow rate for **VS-203**, twice per shift during operation. The water flow rate readings shall be recorded for the corresponding date.

(5) Monitor the pressure drop across **VS-203** twice per shift during operation. The pressure drop readings shall be recorded for the corresponding date.

(6) Monitor the date and time of the quarterly inspection of **VS-203.**

(7) Monitor the date and time of the annual inspection of **TU4.005**.

c. Recordkeeping

The required monitoring established in Section D.3.b above, shall be maintained in a contemporaneous log containing, at a minimum, the following recordkeeping:

(1) The calendar date of any required monitoring.

(2) The total daily throughput of **calcine**, in tons, for the corresponding date.

(3) The total daily hours of operation for the corresponding date.

(4) The corresponding average hourly throughput rate in tons per hour. The average hourly throughput rate shall be determined from the total daily throughput rate and the total daily hours of operation recorded in Section D.3.b.(2) through Section D.3.b.(3) above.

(5) The water flow rate to **VS-203**, in gallons per minute, for the corresponding date.

(6) The pressure drop across **VS-203**, in inches of water, for the corresponding date.

(7) The results of the quarterly inspection of **VS-203**.

(8) The results of the annual inspection of **TU4.005**.

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Section II. Specific Operating Conditions (continued)

D. Emission Unit #TU4.005 (continued)

3. Compliance Testing, Monitoring, Recordkeeping and Reporting (NAC 445B.3679.3) (continued)

d. Reporting

(1) ***The Permittee*** shall promptly report to the Director any emissions and or throughput exceedances from **System 19A**. The report to the Director shall include probable cause and any action taken to correct the exceedance. For this Operating Permit to Construct, prompt is defined as submittal of a report within 15 days of said deviation. This definition does not alter any reporting requirements as established for reporting of excess emissions as required under NAC 445B.232 and under condition I.L of this operating permit.

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Section II. Specific Operating Conditions

E. Emission Unit #TU4.006 Location North 4,538,465 m, East 552,142 m, UTM (Zone 11, NAD 83)

System 19B – Roaster #2 Quench Tank		
TU	4.006	Roaster #2 Quench Tank

1. Air Pollution Control Equipment

a. Emissions from **TU4.006** shall be ducted to a control system with 100% capture consisting of:
(1) **Venturi Wet Dust Scrubber (VS-204)** *(manufacturer unknown)*

b. **Descriptive Stack Parameters**
Height: 40.0 feet
Diameter: 2.0 feet
Temperature: Approximately 125 ºF
Exhaust gases from **TU4.006** shall have a maximum volume flow rate of approximately **10,733** dry standard cubic feet per minute (DSCFM).

2. Operating Requirements (NAC 445B.3679.3)

a. Limitations of Operation
(1) The maximum allowable throughput of **calcine** for **TU4.006** shall not exceed **500** ton per any one-hour period. Calcine is defined by:
(a) Material that has been processed by **Roaster #2 (TU4.004)** of this MOPTC.
(2) Mercury emissions from **TU4.006** shall not exceed **9.0 x 10^{-5}** grains per dry standard cubic foot (gr/dscf).
(3) Hours
(a) **TU4.006** may operate **24** hours per day.
(b) The exhaust pressure relief bypass for **TU4.006** may be operated for **100** hours per year.

b. Work Practices
(1) Roaster #2 Quench Tank (**TU4.006**)
(a) **TU4.006** shall be inspected annually for leaks and cracks.
(2) Venturi Wet Dust Scrubber (**VS-204**)
(a) The pressure drop across **VS-204** shall be maintained at or above **16.0** inches of water, based on a 1-hour period.
(b) The water flow rate for **VS-204** shall be maintained at or above **75.0** gallons per minute, based on a 1-hour period.
(c) **VS-204** shall be visually inspected quarterly of the external functioning components, which include but are not limited to the following; scrubber fan, ducting and scrubber housing for leaks and damage.

3. Compliance Testing, Monitoring, Recordkeeping and Reporting (NAC 445B.3679.3)

a. Compliance Testing
(1) Within 60 days after achieving the maximum rate of production at which **TU4.006** will be operated, but not later than 180 days of initial startup of **TU4.006**, and annually thereafter, the Permittee shall conduct and record a performance test for mercury on the exhaust stack of **TU4.006** consisting of three valid runs utilizing US EPA Method 29 of 40 CFR Part 60 Appendix A. Each of the three test runs must collect a sample volume of **0.85** dry standard cubic meters (**30 dscf**).
(2) Simultaneously, during the Method 29 compliance test, conduct and record a material assay from **System 19B**. One representative sample shall be taken for each test run. Total mercury content shall be determined using EPA Method 245.1 (cold vapor atomic absorption spectrometry) (or alternative test method approved by the Director).
(3) The Permittee shall comply with the requirements in Section I.N of this operating permit for all compliance testing.

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Section II. Specific Operating Conditions (continued)

b. Monitoring

The Permittee shall:

(1) Install, operate, calibrate, and maintain instrumentation to measure and record the following for **TU4.006**.
   (a) The water flow rate to **VS-204**, in gallons per minute.
   (b) The pressure drop across **VS-204**, in inches of water.
(2) Monitor the daily throughput of **calcine**, in tons.
(3) Monitor the daily hours of operation.
(4) Monitor the water flow rate for **VS-204**, twice per shift during operation. The water flow rate readings shall be recorded for the corresponding date.
(5) Monitor the pressure drop across **VS-204** twice per shift during operation. The pressure drop readings shall be recorded for the corresponding date.
(6) Monitor the date and time of the quarterly inspection of **VS-204.**
(7) Monitor the date and time of the annual inspection of **TU4.006**.

c. Recordkeeping

The required monitoring established in Section E.3.b above, shall be maintained in a contemporaneous log containing, at a minimum, the following recordkeeping:

(1) The calendar date of any required monitoring.
(2) The total daily throughput of **calcine**, in tons, for the corresponding date.
(3) The total daily hours of operation for the corresponding date.
(4) The corresponding average hourly throughput rate in tons per hour. The average hourly throughput rate shall be determined from the total daily throughput rate and the total daily hours of operation recorded in Section E.3.b.(2) through Section E.3.b.(3) above.
(5) The water flow rate to **VS-204**, in gallons per minute, for the corresponding date.
(6) The pressure drop across **VS-204**, in inches of water, for the corresponding date.
(7) The results of the quarterly inspection of **VS-204**.
(8) The results of the annual inspection of **TU4.006**.

d. Reporting

(1) ***The Permittee*** shall promptly report to the Director any emissions and or throughput exceedances from **System 19B**. The report to the Director shall include probable cause and any action taken to correct the exceedance. For this Operating Permit to Construct, prompt is defined as submittal of a report within 15 days of said deviation. This definition does not alter any reporting requirements as established for reporting of excess emissions as required under NAC 445B.232 and under condition I.L of this operating permit.

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Section II. Specific Operating Conditions

F. Emission Units #TU4.008 through TU4.012 location North 4,536,197 m, East 554,605 m, UTM (Zone 11, NAD 83)

E. System 61A – Carbon Reactivation Kiln and Solutions		
TU	4.008	Carbon Reactivation Kiln Drum
TU	4.009	Pregnant Tank A-side
TU	4.010	Pregnant Tank B-side
TU	4.011	Barren Tank A-side
TU	4.012	Barren Tank B-side

1. Air Pollution Control Equipment

a. Exhaust gases from **TU4.008 through TU4.012** shall be ducted to a control system with 100% capture consisting of:
1. **Venturi Wet Scrubber (WS-001) for TU4.008**
2. **Condensation Tower (CT-001) for TU4.008**
3. **6.0-ton Carbon Bed (CA-001) for TU4.008 through TU4.012**
4. **1.65-ton Carbon Bed (CA-002) for TU4.008 through TU4.012**

b. Descriptive Stack Parameters
Height: 100 feet
Diameter: 0.958 feet
Temperature: approximately 158°F
Exhaust gases from **TU4.008 through TU4.012** shall have a maximum volume flow rate of 3,500 dry standard cubic feet per minute (DSCFM).
Exhaust gases from **TU4.008 through TU4.012** are ducted to 1 stack.

2. Operating Requirements (NAC 445B.3679.3)

a. Limitations of Operation
1. The maximum allowable throughput rate of **stripped carbon** for **TU4.008** shall not exceed **3.0** tons per any one-hour period.
2. The maximum allowable throughput rate to the **A-side Pregnant and Barren Tanks (TU4.009 and TU4.011)** shall not exceed **250** gallons per minute of solution.
3. The maximum allowable throughput rate to the **B-side Pregnant and Barren Tanks (TU4.010 and TU4.012)** shall not exceed **250** gallons per minute of solution.
4. Mercury emissions from **System 61** shall not exceed **5.0×10^{-5}** grains per dry standard cubic foot (gr/dscf).
5. **TU4.008 through TU4.012,** each, may operate **24** hours per day.
6. **WS-001 and CT-001** shall be operated while **TU4.008** is in operation.

b. Work Practices
1. Inspect the drum lining of **TU4.008** for cracks twice per calendar year.
2. **Venturi Wet Scrubber (WS-001):**
(a) The pressure drop across **WS-001** shall be maintained at or above **7.0** inches of water during operation of **TU4.008**.
(b) The water flow rate of **WS-001** shall be maintained at or above **27.0** gallons per minute during operation of **TU4.008**.

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Section II. Specific Operating Conditions (continued)

F. Emission Units #TU4.008 through TU4.012 (continued)

2. Operating Requirements (NAC 445B.3679.3) (continued)

b. Work Practices (continued)

3. **Condensation Tower (CT-001)**
   (a) Water flow rate to **CT-001** shall be maintained at or above **50** gallons per minute (gpm) during operation of **TU4.008**.
   (b) The exhaust gas temperature exiting **CT-001** shall be maintained at or below **100** °F during operation of **TU4.008**.
4. **6-ton Carbon Bed (CA-001)**
   (a) **CA-001** shall contain at least **6.0** tons of sulfur impregnated carbon during all times of operation.
   (b) The pressure drop across **CA-001** shall be equal to or lower than 33 inches water column.
   (c) Replace the sulfur-impregnated carbon in **CA-001** according to the following schedule:
      i. Representative carbon samples will be taken using a grain sampler to obtain a composite sample. The depth of the samples will be recorded. The percentage of mercury by weight will be calculated as the average loading from the samples. The loading capacity of the sulfur-impregnated carbon is **20%** by weight. Sampling will be conducted quarterly, at the same sample depths, until **50%** of the loading capacity is reached. Upon reaching **50%** of the loading capacity, sampling of the carbon will occur monthly until **90%** of the loading capacity is reached. The carbon will be replaced with an equivalent or better performing carbon no later than **30** days after reaching **90%** of the loading capacity. The required mercury analysis shall be performed utilizing one of the following methods:
         1. EPA method 6020-Inductively Coupled Plasma-Mass Spectrometry;
         2. EPA method 7471B-Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique); or
         3. An alternative test method as approved by the Director.
      ii. On an annual basis, perform a total loading analysis on the mercury removal media in **CA-001**.
   (d) Any sulfur-impregnated carbon replaced in **CA-001** shall be replaced with only the original manufacturer's design specification sulfur-impregnated carbon or with equivalent or better performing mercury removal media.
   (e) The original manufacturer's design specifications for the sulfur impregnated carbon used in **CA-001** shall be kept on site.
5. **1.65-ton Carbon Bed (CA-002)**
   (a) **CA-002** shall contain at least **1.65** tons of sulfur impregnated carbon during all times of operation.
   (b) The pressure drop across **CA-002** shall equal to or lower than **21** inches water column.
   (c) Replace the sulfur-impregnated carbon in **CA-002** according to the following schedule:
      i. Representative carbon samples will be taken from near the inlet and exit of **CA-002**. The depth of the samples will be recorded. The percentage of mercury by weight will be calculated as the average loading from the samples. The loading capacity of the sulfur-impregnated carbon is **20%** by weight. Sampling will be conducted quarterly, at the same sample depths, until **50%** of the loading capacity is reached. Upon reaching **50%** of the loading capacity, sampling of the carbon will occur monthly until **90%** of the loading capacity is reached. The carbon will be replaced with an equivalent or better performing carbon no later than **30** days after reaching **90%** of the loading capacity. The required mercury analysis shall be performed utilizing one of the following methods:
         1. EPA method 6020-Inductively Coupled Plasma-Mass Spectrometry;
         2. EPA method 7471B-Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique); or
         3. An alternative test method as approved by the Director.
      ii. On an annual basis, perform a total loading analysis on the mercury removal media in **CA-002**.

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Section II. Specific Operating Conditions (continued)

F. Emission Units #TU4.008 through TU4.012 (continued)

2. Operating Requirements (NAC 445B.3679.3) (continued)

b. Work Practices (continued)

5. **1.65-ton Carbon Bed (CA-002) (continued)**

(d) Any sulfur-impregnated carbon replaced in **CA-002** shall be replaced with only the original manufacturer's design specification sulfur-impregnated carbon or with equivalent or better performing mercury removal media.

(e) The original manufacturer's design specifications for the sulfur impregnated carbon used in **CA-002** shall be kept on site.

3. Compliance Testing, Monitoring, Recordkeeping, and Reporting (NAC 445B.3679.3)

a. Compliance Testing

1. Within 60 days after achieving the maximum rate of production at which **TU4.008 through TU4.012** will be operated, but not later than 180 days of initial startup of **TU4.008 through TU4.012**, and annually thereafter, ***the Permittee*** shall conduct and record a performance test for mercury on the exhaust stack of **TU4.008 through TU4.012** consisting of three valid runs utilizing US EPA Method 29 of 40 CFR Part 60 Appendix A. Each of the three test runs must collect a sample volume of **0.85** dry standard cubic meters (**30 dscf**).
2. Simultaneously, during the Method 29 compliance test, conduct and record a material assay from **System 61**. One representative sample shall be taken for each test run. Total mercury content of the stripped carbon shall be determined using EPA Method 7471B (cold vapor atomic adsorption analysis) and the total mercury content of the solution shall be determined using EPA Method 245.1 (or alternative test method approved by the Director).
3. ***The Permittee*** shall comply with the requirements in Section I.N of this operating permit for all compliance testing

b. Monitoring

The *Permittee* shall:

1. Prior to implementation of NvMACT for **System 61,** install, operate, calibrate, and maintain instrumentation to measure and record the following:
   (a) The flow rate of solution to **TU4.009 through TU4.012,** each, in gallons per minute.
   (b) The pressure drop across **WS-001**, in inches of water.
   (c) The water flow rate to **WS-001**, in gallons per minute.
   (d) The water flow rate to **CT-001**, in gallons per minute.
   (e) The exhaust gas temperature exiting the **CT-001**, in degrees Fahrenheit.
   (f) The differential pressure across **CA-001** and **CA-002,** each, in inches water column.
2. Monitor the daily throughput rate of **stripped carbon** for **TU4.008** in tons.
3. Monitor the throughput rate of **solution** of the **A-side Pregnant and Barren Tanks (TU4.009 and TU4.011)**, once during each day of operation.
4. Monitor the throughput rate of **solution** of the **B-side Pregnant and Barren Tanks (TU4.010 and TU4.012)**, once during each day of operation.
5. Monitor the daily hours of operation for **TU4.008 through TU4.012** each.
6. Monitor the pressure drop across **WS-001** once, during each day of operation of **TU4.008**.
7. Monitor the water flow rate to **WS-001** once, during each day of operation of **TU4.008**.
8. Monitor the water flow rate to **CT-001** once, during each day of operation of **TU4.008**.
9. Monitor the exhaust gas temperature exiting **CT-001** once, during each day of operation of **TU4.008**.
10. Monitor the differential pressure across **CA-001** and **CA-002**, each, once during each day of operation.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions (continued)

F. Emission Units #TU4.008 through TU4.012 (continued)

3. Compliance Testing, Monitoring, Recordkeeping, and Reporting (NAC 445B.3679.3) (continued)

c. Recordkeeping

The required monitoring established in Section II E.3.b. above shall be maintained in a contemporaneous log containing, at a minimum, the following recordkeeping.

1. The calendar date of any required monitoring.
2. The total daily throughput rate of **stripped carbon** in tons for **TU4.008**, for the corresponding date.
3. The total daily hours of operation for **TU4.008 through TU4.012,** each, for the corresponding date.
4. The corresponding average hourly throughput rate in tons per hour for **TU4.008**. The average hourly throughput rate will be determined from the total daily throughput rate (2) and the total daily hours of operation (3) above.
5. The throughput rate in gallons per minute of **solution** of the **A-side Pregnant and Barren Tanks (TU4.009 and TU4.011)**, once during each day of operation, for the corresponding date.
6. The throughput rate in gallons per minute of **solution** of the **B-side Pregnant and Barren Tanks (TU4.010 and TU4.012)**, once during each day of operation, for the corresponding date.
7. The findings and dates of the twice per calendar year inspections of the drum on **TU4.008**.
8. The pressure drop in inches of water across **WS-001** once, during each day of operation of **TU4.008**, for the corresponding date.
9. The water flow rate in gallons per minute to **WS-001** once, during each day of operation of **TU4.008**, for the corresponding date.
10. The water flow rate in gallons per minute to **CT-001** once, during each day of operation of **TU4.008**, for the corresponding date.
11. The exhaust gas temperature in degrees Fahrenheit exiting **CT-001** once, during each day of operation of **TU4.008**, for the corresponding date.
12. The differential pressure across **CA-001** and **CA-002**, each, in inches water column once during each day of operation, for the corresponding date.
13. The percentage of mercury by weight in **CA-001**, for the corresponding date.
14. The depth of the carbon sample location, in **CA-001** for the corresponding date.
15. The date, time, and weight of each carbon replacement in **CA-001**.
16. The percentage of mercury by weight in **CA-002** for the corresponding date.
17. The depth of the carbon sample location, in **CA-002** for the corresponding date.
18. The date, time, and weight of each carbon replacement in **CA-002**.

d. Reporting

The ***Permittee*** will promptly report to the Director any deviations from the requirements of the Operating Permit to Construct. The report to the Director will include probable cause of all deviations and any action taken to correct the deviations. For this Operating Permit to Construct, prompt is defined as submittal of a report within 15 days of said deviation. This definition does not alter any reporting requirements as established for reporting of excess emissions as required under NAC 445B.232 and under condition I.L. of this permit.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions (continued)

G. Emission Units #TU4.014 and TU4.015 location North 4,536,082 m, East 554,709 m, UTM (Zone 11)

G. System 66B – Autoclave Circuit 2		
TU	4.014	Autoclave # 2
TU	4.015	Autoclave # 3

1. **Air Pollution Equipment**
   a. Exhaust gases from **TU4.014 and TU4.015** shall be ducted to a control system with 100% capture consisting of:
      1. **Venturi Wet Dust Scrubber (VWDS-001)** on the exhaust stream of **TU4.014.**
      2. **Venturi Wet Dust Scrubber (VWDS-002)** on the exhaust stream of **TU4.015.**

   b. Descriptive Stack Parameters
   Height: 100 feet
   Diameter: 6.17 feet
   Temperature: 198°F
   Exhaust gases from **TU4.014 and TU4.015** shall have a maximum volume flow rate of 8,000 Dry Standard Cubic Feet per Minute (DSCFM).
   Exhaust gases from **TU4.014 and TU4.015** are ducted to 1 stack.

2. **Operating Requirements (NAC 445B.3679.3)**

   a. Limitations of Operation
      1. The maximum allowable throughput rate of **ore** for **TU4.014 and TU4.015** each shall not exceed **200.0** tons per any one-hour period.
      2. Mercury emissions from **System 66B** shall not exceed **4.0 x 10^{-4}** grains per dry standard cubic foot (gr/dscf).
      3. **TU4.014 and TU4.015** each, may operate **24** hours per day.
      4. **TU4.014 and TU4.015** will operate in acidulation mode only.

   b. Work Practices
      1. The pressure drop across **VWDS-001 and VWDS-002**, each, shall be maintained at or below **70.0** inches of water.
      2. The water flow rate to **VWDS-001 and VWDS-002**, each, shall be maintained at or above **50.0** gallons per minute.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions (continued)

G. Emission Units #TU4.014 and TU4.015 location North 4,536,082 m, East 554,709 m, UTM (Zone 11)

3. Testing, Monitoring, Recordkeeping and Reporting (NAC 445B.3679.3)

a. Compliance Testing

1. Within 60 days after achieving the maximum rate of production at which **TU4.014 and TU4.015** will be operated, but not later than 180 days of initial startup of **TU4.014 and TU4.015**, and annually thereafter, ***the Permittee*** shall conduct and record a performance test for mercury on the exhaust stack of **TU4.014 and TU4.015** consisting of three valid runs utilizing US EPA Method 29 of 40 CFR Part 60 Appendix A. Each of the three test runs must collect a sample volume of **0.85** dry standard cubic meters (**30 dscf**), or sample for up to two hours, whichever occurs first.
2. Simultaneously, during the Method 29 compliance test, conduct and record a material assay from **System 66B**. One representative sample shall be taken for each test run. Total mercury content shall be determined using EPA Method 7471B (cold vapor atomic adsorption analysis) (or alternative test method approved by the Director).
3. ***The Permittee*** shall comply with the requirements in Section I.N of this operating permit for all compliance testing.

b. Monitoring

The ***Permittee***, upon the issuance date of this permit, for **TU4.014 and TU4.015** shall:

1. Monitor the daily throughput rate of **ore** in tons.
2. Monitor the pressure drop across **VWDS-001 and VWDS-002**, each, once, during each day of operation.
3. Monitor the water flow rate of **VWDS-001 and VWDS-002**, each, once, during each day of operation.
4. Monitor the daily hours of operation.

c. Recordkeeping

The required monitoring established in Section II.G.b.. above shall be maintained in a contemporaneous log containing, at a minimum, the following recordkeeping.

1. The calendar date of any required monitoring.
2. The total daily hours of operation for the corresponding date.
3. The total daily throughput rate of **ore** in tons, for the corresponding date.
4. The pressure drop across **VWDS-001 and VWDS-002**, each, once, during each day of operation, for the corresponding date.
5. The water flow rate of **VWDS-001 and VWDS-002**, each, once, during each day of operation, for the corresponding date.
6. The corresponding average hourly throughput rate in tons per hour. The average hourly throughput rate will be determined from the total daily throughput rate (3) and the total daily hours of operation (2) above.

d. Reporting

The ***Permittee*** will promptly report to the Director any deviations from the requirements of the Operating Permit to Construct. The report to the Director will include probable cause of all deviations and any action taken to correct the deviations. For this Operating Permit to Construct, prompt is defined as submittal of a report within 15 days of said deviation. This definition does not alter any reporting requirements as established for reporting of excess emissions as required under NAC 445B.232 and under condition I.L. of this permit.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions (continued)

H. Emission Units #TU4.016 through TU4.018 location North 4,535,952 m, East 554,722 m, UTM (Zone 11, NAD 83)

H. System 66C – Autoclaves		
TU	4.016	Autoclave Circuit # 4
TU	4.017	Autoclave Circuit # 5
TU	4.018	Autoclave Circuit # 6

1. Air Pollution Control Equipment

a. Each Autoclave Circuit consists of the following:
   1. Primary Splash Vessel
   2. Secondary Splash Vessel
   3. Autoclave
   4. Primary Flash Vessel
   5. Secondary Flash Vessel

b. Exhaust gases from the **Autoclaves** and **Primary and Secondary Splash Vessels** in **System 66C** shall be ducted to a control system with 100% capture consisting of:
   1. **Primary Venturi Scrubbers (VS-004, VS-005, and VS-006)** – each autoclave has its own primary venturi scrubber. Exhaust gases from each autoclave are sent through their respective primary venturi scrubber before joining the exhaust gas from the secondary splash vessels. The combined gases are then ducted to the secondary venturi scrubber (**VS-007**).
   2. **Secondary Venturi Scrubber (VS-007)**
   3. **Gas Cooling Tower (GCT-001)**
   4. **Condenser (CO-001)**
   5. **Humidity Control Heater**
   6. **Carbon Filter (CA-007)** – Two trains of carbon beds with each train consisting of a primary and secondary bed.

c. Descriptive Stack Parameters
   Height: 100 feet
   Diameter: 4.5 feet
   Temperature: approximately 110°F
   Exhaust gases from **System 66C** shall have a maximum volume flow rate of approximately 11,820 Dry Standard Cubic Feet per Minute (DSCFM).
   Exhaust gases from **System 66C** are ducted to 1 stack.

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Section II. Specific Operating Conditions (continued)

H. Emission Units #TU4.016 through TU4.018 (continued)

2. Operating Requirements (NAC 445B.3679.3)

a. Limitations of Operation

1. The maximum allowable throughput rate of as fed **alkaline ore or acidic ore** for **TU4.016 through TU4.018,** each, shall not exceed **250.0** tons per any one-hour period.
   (a) **Alkaline ore** is defined as ore that has not been pre-treated with acid.
   (b) **Acidic ore** is defined as ore that has been pre-treated with acid.
2. Mercury emissions from **System 66C** shall not exceed **7.8 x 10^{-5}** grains per dry standard cubic foot (gr/dscf).
3. Hours
   (a) **TU4.016 - TU4.018,** each, may operate **24** hours per day.
   (b) **TU4.016** is equipped with a release vent located prior to **VS-007**, and **TU4.017** and **TU4.018** have a combined release vent prior to **VS-007**. Use of the release vents for **System 66C** shall be limited to **100** hours per year and only during the processing of **acidic ore**.

b. Work Practices

1. Primary Venturi Scrubbers **(VS-004, VS-005, and VS-006)**
   (a) The pressure drop across each of the **Primary Venturi Scrubbers** shall be maintained at or below **70.0** inches of water, based on a one hour period.
   (b) The water flow rate to each of the **Primary Venturi Scrubbers** shall be maintained at or above **50.0** gallons per minute, based on a one hour period.
2. Secondary Venturi Scrubber (**VS-007**)
   (a) The pressure drop across the **Secondary Venturi Scrubber** shall be maintained at or above **8** inches of water, based on a one hour period, expect during the autoclave warm-up period The warm-up period is defined as the period of time after start-up during which the autoclaves are brought up to steady-state operation. The warm-up period will not exceed **3** hours.
   (b) The water flow rate to the **Secondary Venturi Scrubber** shall be maintained at or above **2,000** gallons per minute, based on a one hour period.
3. Gas Cooling Tower (**GCT-001**)
   (a) The water flow rate to the **Gas Cooling Tower** shall be maintained at or above **250** gallons per minute, based on a one hour period.
4. Condenser (**CO-001**)
   (a) The exhaust gas temperature at the outlet of the **Condenser** shall be maintained at or below **115°F**, based on a one hour period. If at any time the gas temperature at the outlet of the condenser exceeds **115°F**, an alarm shall sound and immediate corrective action shall be taken.
   (b) Condensed mercury from the **Condenser** shall be collected monthly.
5. Carbon Filter **(CA-007)**
   (a) The primary beds in the **CA-007,** combined shall contain no less than **12,000** pounds of sulfur-impregnated carbon.
   (b) The secondary beds in the **CA-007,** combined shall contain no less than **28,800** pounds of sulfur-impregnated carbon.
   (c) The pressure drop across the primary beds in **CA-007** shall be at or below **8** inches of water, based on a one hour period.
   (d) The pressure drop across the secondary beds in **CA-007** shall be at or below **20** inches of water, based on a one hour period.
   (e) The relative humidity entering **CA-007** shall not exceed **70%**, based on a one hour period.
   (f) The inlet exhaust temperature entering **CA-007** shall not exceed **225º** Fahrenheit.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions (continued)

H. Emission Units #TU4.016 through TU4.018 (continued)

2. Operating Requirements (NAC 445B.3679.3) (continued)

b. Work Practices(continued)

5. Carbon Filter (**CA-007**) (continued)

(g) Replace the sulfur-impregnated carbon according to the following schedule:

i. The carbon filter will include a sampling canister that will contain the equivalent carbon depth as the carbon filter. This canister will receive a slip stream of the process gas during operation of **System 66C**. Once every calendar quarter the sample canisters will be analyzed for mercury. The percentage of mercury by weight shall be calculated. The sampling canister will be analyzed quarterly until **50%** of the carbon loading capacity of **20%** by weight, as specified by the manufacturer, is reached. Upon reaching **50%** of the carbon loading capacity of **20%** by weight, sampling of the canister will occur monthly until **90%** of the carbon loading capacity of **20%** by weight is reached. The carbon in the carbon filter will be replaced with an equivalent performing sulfur impregnated carbon no later than **30** days after reaching **90%** of the carbon loading capacity of 20% by weight. The required mercury analysis shall be performed utilizing one of the following methods:

1. EPA method 6020-Inductively Coupled Plasma-Mass Spectrometry;
2. EPA method 7471B- Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique); or
3. An alternative test method as approved by the Director.

ii. On an annual basis, perform a total loading analysis on the mercury removal media in **CA-007**.

(h) Any sulfur-impregnated carbon replaced in **CA-007** shall be replaced with only the original manufacturer's design specification sulfur-impregnated carbon or with equivalent or better performing mercury removal media.

(i) The original manufacturer's design specifications for the sulfur impregnated carbon used in **CA-007** shall be kept on site.

3. Compliance Testing, Monitoring, Recordkeeping, and Reporting (NAC 445B.3679.3)

a. Compliance Testing

1. Within 60 days after achieving the maximum rate of production at which **TU4.016 through TU4.018** will be operated, but not later than 180 days of initial startup of **TU4.016 through TU4.018**, and annually thereafter, ***the Permittee*** shall conduct and record a performance test for mercury on the exhaust stack of **TU4.016 through TU4.018** consisting of three valid runs utilizing US EPA Method 29 of 40 CFR Part 60 Appendix A. Each of the three test runs must collect a sample volume of **0.85** dry standard cubic meters (**30 dscf**).
2. Simultaneously, during the Method 29 compliance test, conduct and record a material assay from **System 66C**. One representative sample shall be taken for each test run. Total mercury content shall be determined using EPA Method 7471B (cold vapor atomic adsorption analysis) (or alternative test method approved by the Director).
3. ***The Permittee*** shall comply with the requirements in Section I.N of this operating permit for all compliance testing.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions (continued)

H. Emission Units #TU4.016 through TU4.018 (continued)

3. Compliance Testing, Monitoring, Recordkeeping, and Reporting (NAC 445B.3379.3) (continued)

b. Monitoring

The *Permittee* shall:

1. Prior to commencement of **System 66C**, install, operate, calibrate, and maintain an exhaust gas temperature alarm which will notify the operator when the exhaust gas from **Condenser** exceeds **115°F**.
2. Monitor the throughput rate of **acidic ore** and **alkaline ore,** each, in tons for each autoclave in **System 66C**.
3. Monitor the daily hours of operation for each autoclave in **System 66C**.
4. Monitor the pressure drop in inches of water across each **Primary Venturi Scrubber** hourly, during operation.
5. Monitor the water flow rate in gallons per minute to each **Primary Venturi Scrubber** hourly, during operation.
6. Monitor the pressure drop in inches of water across the **Secondary Venturi Scrubber** hourly, during operation.
7. Monitor the water flow rate in gallons per minute to the **Secondary Venturi Scrubber** hourly, during operation.
8. Monitor the water flow rate in gallons per minute to the **Gas Cooling Tower** hourly, during operation.
9. Monitor the exhaust gas temperature in degrees Fahrenheit at the outlet of the **Condenser** hourly, during operation.
10. Monitor the mercury drained from the **Condenser**, monthly.
11. Monitor the pressure drop in inches of water across the primary beds in **CA-007** hourly, during operation.
12. Monitor the pressure drop in inches of water across the secondary beds in **CA-007** hourly, during operation.
13. Monitor the relative humidity as a percent entering **CA-007** hourly, during operation.
14. Monitor the **CA-007** for percentage of mercury by weight, quarterly until reaching **50** percent capacity and then monthly until reaching **90** percent capacity.
15. Monitor the inlet exhaust temperature for **CA-007**, hourly during operation.
16. Monitor the number of hours when any release vent is in use for **System 66C**.

c. Recordkeeping

The required monitoring, established in Section II H.3.b. above, shall be maintained in a contemporaneous log containing, at a minimum, the following recordkeeping:

1. The calendar date of any required monitoring.
2. The total daily hours of operation, for each autoclave in **System 66C**, for the corresponding date.
3. The total daily throughput rate of **ore** in tons, for each autoclave in **System 66C**, for the corresponding date.
4. The corresponding average hourly throughput rate in tons per hour, for each autoclave in **System 66C**. The average hourly throughput rate will be determined from the total daily throughput rate (3) and the total daily hours of operation (2) above.
5. The pressure drop in inches of water across each **Primary Venturi Scrubber** hourly, during operation, for the corresponding date.
6. The water flow rate in gallons per minute to each **Primary Venturi Scrubber** hourly, during operation, for the corresponding date.
7. The pressure drop in inches of water across the **Secondary Venturi Scrubber** hourly, during operation, for the corresponding date.
8. The water flow rate in gallons per minute to the **Secondary Venturi Scrubber** hourly, during operation, for the corresponding date.
9. The water flow rate to the **Gas Cooling Tower** hourly, during operation, for the corresponding date.

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Section II. Specific Operating Conditions (continued)

H. Emission Units #TU4.016 through TU4.018 (continued)

3. Compliance Testing, Monitoring, Recordkeeping, and Reporting (NAC 445B.3379.3) (continued)

c. Recordkeeping (continued)

10. The exhaust gas temperature in degrees Fahrenheit at the outlet of the **Condenser** hourly, during operation, for the corresponding date.
11. The amount of mercury drained from the **Condenser**, in pounds, monthly, for the corresponding date.
12. The pressure drop in inches of water across the primary beds in **CA-007** hourly, during operation, for the corresponding date.
13. The pressure drop in inches of water across the secondary beds in **CA-007** hourly, during operation, for the corresponding date.
14. The relative humidity as a percent entering **CA-007** hourly, during each operation.
15. The percentage of mercury by weight in the sulfur-impregnated carbon, for the corresponding date.
16. The date, time, and weight of each replacement of the sulfur-impregnated carbon bed.
17. The original manufacturer's design specifications for the sulfur impregnated carbon used in **CA-007** shall be kept on site.
18. The date, time, and corrective action taken for an alarm notification, for the corresponding date.
19. The inlet exhaust temperature for **CA-007**, for the corresponding date.
20. The date and length of any use of the release vent for **System 66C**.

d. Reporting

(a) ***Permittee*** will promptly report to the Director any deviations from the requirements of the Operating Permit to Construct. The report to the Director will include probable cause of all deviations and any action taken to correct deviations. For this Operating Permit to Construct, prompt is defined as submittal of a report within 15 days of said deviation. This definition does not alter any reporting requirements as established for reporting of excess emissions as required under NAC 445B.232 and under condition I.L. of this permit.

(b) ***Permittee*** will report the annual number of hours that any use of the release vent for **System 66C** and use the mercury emission factor of **4.0×10^{-4}** grains per dry standard cubic foot to calculate the yearly emissions from any release vent for **System 66C**.

(c) ***Permittee*** will report annually to the Director the amount of mercury drained from the **Condenser**, in pounds for the reporting year.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions (continued)

I. Emission Units #TU4.019 through TU4.021, and TU4.025 location North 4,536,176 m, East 554,526 m, UTM (Zone 11, NAD 83)

I. System 67 – Mercury Retort Circuit		
TU	4.019	Mercury Retort #1
TU	4.020	Mercury Retort #2
TU	4.021	Mercury Retort #3
TU	4.025	Mercury Retort #4

1. Air Pollution Control Equipment

a. Exhaust gases from **TU4.019 through TU4.021 and TU4.025** shall be ducted to a control system with 100% capture consisting of:
   1. **Chilled Contact Condenser System** (Each retort has its own contact condenser.)
   2. **Carbon Filter (CA-003)**

b. Descriptive Stack Parameters
Height: 85 feet
Diameter: 1 foot
Temperature: approximately 190°F
Exhaust gases from **System 67** shall have a maximum volume flow rate of 400 dry standard cubic feet per minute (DSCFM).
Exhaust gases from **System 67** are ducted to 1 stack.

2. Operating Requirements (NAC 445B.3679.3 and NAC445B.3685.3)

a. Limitations of Operation
   1. The maximum batch weight for each mercury retort in **System 67** shall not exceed **0.6** tons of **precious metal bearing material**. Precious metal bearing material shall consist only of the following:
      (a) Material that is loaded with gold along with various other metals (such as silver, copper, and mercury) and substances that is produced by electrowinning, the Merrill-Crowe process, flotation and gravity separation processes, and other gold concentration and precipitation processes;
      (b) Material collected from the wash down of any equipment or surfaces contacted with precious metals that have accumulated through the concentration methods employed by the Permittee.
      (c) Baghouse bags and filter press bags containing precious metal from the refinery process/building.
   2. Mercury emissions from each mercury retort in **System 67** shall not exceed **1.0×10^{-4}** grains per dry standard cubic foot (gr/dscf).
   3. Each emission unit in **System 67** may operate **24** hours per day.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions (continued)

I. Emission Units #TU4.019 through TU4.021, and TU4.025 (continued)

2. Operating Requirements (NAC 445B.3679.3 and NAC445B.3685.3) (continued)

b. Work Practices

1. **Mercury Retorts (TU4.019 through TU4.021 and TU4.025)**
   (a) During heating, each mercury retort in **System 67** shall be placed under negative gauge pressure at or above **5.0** inches of water.
   (b) During operation of each mercury retort in **System 67**, precious metal bearing material shall not exceed the retort pan volume utilized for the design of the NvMACT emissions controls. The NvMACT volume of each retorting pan shall be maintained on site.
   (c) Each mercury retort in **System 67** shall automatically shut off if the corresponding gauge pressure falls below **5** inches of water.
   (d) Baghouse bags and filter press bags will be retorted in ash collecting canisters.
2. **Contact Condensers**
   (a) The exhaust gas temperature at the outlet of each contact condenser will be maintained at or below **85°** Fahrenheit.
   (b) The water temperature at the outlet of each **Contact Condenser** shall be maintained at or below **100 °** Fahrenheit
   (c) Condensed mercury from each **Contact Condenser** shall be collected at least monthly.
   (d) Each mercury retort in **System 67** shall automatically shut off by interlock if the exhaust gas temperature at the outlet of a retort's corresponding **Contact Condenser** exceeds **100 °**Fahrenheit.
3. **Carbon Filter (CA-003)**
   (a) The **CA-003** shall contain no less than **2,400** pounds of sulfur impregnated carbon.
   (b) The pressure differential across **CA-003** shall not exceed **3.0** inches of water.
   (c) The exhaust temperature at the inlet of **CA-003** shall be maintained at or below **180°F**.
   (d) Sample the sulfur-impregnated carbon in **CA-003** as follows:
      1. The carbon in **CA-003** may be sampled from a sampling canister or by grab-sample. The carbon filter will include sampling canisters that will contain the equivalent carbon depth as the carbon filter. These canisters will receive a slip stream of the process gas during operation of **System 67**. The Permittee also has the option to directly collect representative composite carbon samples (grab-samples) from **CA-003**.
      2. The canister and grab-sample carbon sampling methods specified above may only be alternated at the point of complete carbon replacement in **CA-003**.
   (e) The percentage of mercury by weight shall be calculated. The sampling canister will be analyzed quarterly until **50%** of the carbon loading capacity of **15%** by weight, as specified by the manufacturer, is reached. Upon reaching **50%** of the carbon loading capacity of **15%** by weight, sampling of the canister will occur monthly until **90%** of the carbon loading capacity of **15%** by weight is reached. The carbon in the carbon filter will be replaced with an equivalent performing sulfur impregnated carbon no later than **30** days after reaching **90%** of the carbon loading capacity of **15%** by weight. The required mercury analysis shall be performed utilizing one of the following methods:
      1. EPA method 6020-Inductively Coupled Plasma-Mass Spectrometry;
      2. EPA method 7471B- Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique); or
      3. An alternative test method as approved by the Director.
   (f) On an annual basis, perform a total loading analysis on the mercury removal media in **CA-003**.
   (g) Any sulfur-impregnated carbon replaced in **CA-003** shall be replaced with only the original manufacturer's design specification sulfur-impregnated carbon or with equivalent or better performing mercury removal media.
   (h) The original manufacturer's design specifications for the sulfur impregnated carbon used in **CA-003** shall be kept on site.

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Section II. Specific Operating Conditions (continued)

I. Emission Units #TU4.019 through TU4.021, and TU4.025 (continued)

3. Compliance Testing, Monitoring, Recordkeeping, and Reporting (NAC 445B.3379.3 and NAC 445B.3685.3)

a. Compliance Testing

1. Within 60 days after achieving the maximum rate of production at which **TU4.019 through TU4.021, and TU4.025** will be operated, but not later than 180 days of initial startup of **TU4.019 through TU4.021, and TU4.025**, and annually thereafter, ***the Permittee*** shall conduct and record a performance test for mercury on the exhaust stack of **TU4.019 through TU4.021 and TU4.025** consisting of three valid runs utilizing US EPA Method 29 of 40 CFR Part 60 Appendix A. Each of the three test runs must collect a sample volume of **0.85** dry standard cubic meters (**30 dscf**).
2. Simultaneously, during the Method 29 compliance test, conduct and record a material assay from **System 67**. One representative sample shall be taken for each test run. Total mercury content shall be determined using E`PA Method 7471B (cold vapor atomic adsorption analysis) (or alternative test method approved by the Director).
3. ***The Permittee*** shall comply with the requirements in Section I.N of this operating permit for all compliance testing.

b. Monitoring

The *Permittee* shall:

1. Prior to implementation of NvMACT for **TU4.019 through TU4.021** and prior to startup of **TU4.025**, install, operate, calibrate, and maintain instrumentation to continuously measure and record the following:
   (a) The negative gauge pressure of each mercury retort in **System 67,** in inches of water.
   (b) The water temperature at the outlet of each **Contact Condenser**, in degrees Fahrenheit.
   (c) The exhaust gas temperature at the outlet of each **Contact Condenser**, in degrees Fahrenheit.
   (d) The pressure differential across the **CA-003**, in inches of water.
   (e) The exhaust gas temperature at the inlet of **CA-003**, in degrees Fahrenheit.
2. Prior to implementation of NvMACT for **TU4.019 through TU4.021** and prior to startup of **TU4.025** install, operate, calibrate, and maintain a vacuum interlock on each retort in **System 67** that will shut off a retort's heating element if a retort's corresponding gauge pressure falls below **5.0** inches of water.
3. Prior to implementation of NvMACT for **TU4.019 through TU4.021** and prior to startup of **TU4.025** install, operate, calibrate, and maintain an exhaust gas temperature interlock at the outlet of each **Contact Condenser** that will shut off the retort heating element if the exhaust gas temperature at the outlet of the **Contact Condenser** is above **100** °F.
4. Monitor the batch weight of **precious metal bearing material** for each retort in **System 67**, in tons, for each batch.
5. Monitor the hours of operation for each mercury retort in **System 67**, for each batch.
6. Monitor the gauge pressure on each mercury retort in **System 67**, continuously during operation.
7. Monitor the water temperature at the outlet of each **Contact Condenser**, continuously during operation.
8. Monitor the exhaust gas temperature at the outlet of each **Contact Condenser**, continuously during operation.
9. Monitor the mercury drained from the condensers in **System 67**, monthly.
10. Monitor the pressure drop across the **Carbon Filter (CA-003)** continuously during operation.
11. Monitor the exhaust gas temperature at the inlet of the **Carbon Filter (CA-003)** continuously during operation.
12. Monitor the **Carbon Filter (CA-003)** for percentage of mercury by weight, quarterly until reaching **50** percent capacity and then monthly until reaching **90** percent capacity.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions (continued)

I. Emission Units #TU4.019 through TU4.021, and TU4.025 (continued)

3. Compliance Testing, Monitoring, Recordkeeping, and Reporting (NAC 445B.3679.3 and NAC 445B.3685.3) (continued)

c. Recordkeeping

The required monitoring, established in Section II.I.3.b. above, shall be maintained in a contemporaneous log containing, at a minimum, the following recordkeeping:

1. The calendar date of any required monitoring.
2. The total batch weight of **precious metal bearing material**, for each mercury retort in **System 67**, per batch, in tons, for the corresponding date.
3. The total hours of operation, for each mercury retort in **System 67**, per batch, for the corresponding date.
4. The hourly average gauge pressure readings, determined from four or more points for each hour, in inches of water for each mercury retort in **System 67**, for the corresponding date.
5. The hourly average water temperature readings, determined from four or more points for each hour, in degrees Fahrenheit at the outlet of each **Contact Condenser**, for the corresponding date.
6. The hourly average exhaust gas temperature readings, determined from four or more points for each hour, in degrees Fahrenheit at the outlet of each **Contact Condenser**, for the corresponding date.
7. The total amount of mercury collected from the condensers for each mercury retort in **System 67**, in pounds, monthly, for the corresponding date.
8. The hourly average pressure drop, determined from four or more points for each hour, in inches of water across **CA-003**, for the corresponding date.
9. The hourly average exhaust gas temperature readings, determined from four or more points for each hour, in degrees Fahrenheit at the inlet of **CA-003**, for the corresponding date.
10. The percentage of mercury by weight in the sulfur-impregnated carbon, for the corresponding date.
11. The date and weight of each carbon replacement in the sulfur-impregnated carbon bed.
12. The original manufacturer's design specifications for the sulfur impregnated carbon used in **CA-003** shall be kept on site.
13. The date, time, and corrective action taken for an interlock shut-down, for the corresponding date.

d. Reporting

1. ***Permittee*** will promptly report to the Director any deviations from the requirements of the Operating Permit to Construct. The report to the Director will include probable cause of all deviations and any action taken to correct the deviations. For this Operating Permit to Construct, prompt is defined as submittal of a report within 15 days of said deviation. This definition does not alter any reporting requirements as established for reporting of excess emissions as required under NAC 445B.232 and under condition I.L. of this permit.
2. ***Permittee*** will report annually to the Director the amount of mercury collected from each of the **Contact Condensers**, in pounds for the reporting year.

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Section II. Specific Operating Conditions (continued)

J. Emission Units #TU4.022 through TU4.024 location North 4,536,180 m, East 554,542 m, UTM (Zone 11, NAD 83)

J. System 68 – Refinery		
TU	4.022	West Furnace
TU	4.023	East Furnace
TU	4.024	Electrowinning Cells (14 operating in series acting as a single emission unit)

1. Air Pollution Control Equipment

a. Exhaust gases from **TU4.022 through TU4.024** shall be ducted to a control system with 100% capture consisting of:
   1. **Baghouse (BH-001)** – on the exhaust stream of **TU4.022 and TU4.023.**
   2. **Carbon Bed (CA-004)** – on the exhaust stream of **TU4.022 through TU4.024.**

b. Descriptive Stack Parameters
Height: 85 feet
Diameter: 1.46 feet
Temperature: Approximately 140°F
Exhaust gases from **TU4.022 through TU4.024** shall have a maximum volume flow rate of 9,100 dry standard cubic feet per minute (DSCFM).
Exhaust gases from **TU4.022 through TU4.024** are ducted to 1 stack.

2. Operating Requirements (NAC 445B.3679.3)

a. Limitations of Operation
   1. The maximum allowable batch weight for **TU4.022 and TU4.023,** each, shall not exceed **1,200** pounds of **retorted precious metal bearing material**.
   2. The maximum allowable throughput rate for **TU4.024** shall not exceed **35** gallons per minute of **solution**.
   3. Mercury emissions from **System 68** shall not exceed **7.3 x 10^{-4}** grains per dry standard cubic foot (gr/dscf).
   4. **TU4.022 through TU4.024,** each, may operate **24** hours per day.

b. Work Practices
   1. All **precious metal bearing material** shall be retorted prior to furnace smelting.
   2. The lids on **TU4.024** shall be shut during operation.
   3. The pressure differential across **BH-001** shall be maintained between **0.5 and 8** inches of water.
   4. **Carbon Bed (CA-004)**
      (a) The pressure drop across **CA-004** shall be equal to or lower than **12** inches water column.
      (b) **CA-004** shall contain no less than **6,600** pounds of sulfur-impregnated carbon.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions (continued)

J. Emission Units #TU4.022 through TU4.024 (continued)

2. Operating Requirements (NAC 445B.3679.3) (continued)

b. Work Practices (continued)

(c) Replace the sulfur-impregnated carbon in **CA-004** according to the following schedule: Representative carbon samples will be taken from near the inlet and exit of **CA-004**. The depth of the samples will be recorded. The percentage of mercury by weight will be calculated as the average loading from the samples. The loading capacity of the sulfur-impregnated carbon is **20%** by weight. Sampling will be conducted quarterly, at the same sample depths, until **50%** of the loading capacity is reached. Upon reaching **50%** of the loading capacity, sampling of the carbon will occur monthly until **90%** of the loading capacity is reached. The carbon will be replaced with an equivalent or better performing carbon no later than **30** days after reaching **90%** of the loading capacity. The required mercury analysis shall be performed utilizing one of the following methods:

i. EPA method 6020-Inductively Coupled Plasma-Mass Spectrometry;
ii. EPA method 7471B- Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique); or
iii. An alternative test method as approved by the Director.

(d) On an annual basis, perform a total loading analysis on the mercury removal media in **CA-004**.

(e) Any sulfur-impregnated carbon replaced in **CA-004** shall be replaced with only the original manufacturer's design specification sulfur-impregnated carbon or with equivalent or better performing mercury removal media.

3. Monitoring, Recordkeeping, Reporting, and Testing (NAC 445B.3679.3)

a. Compliance Testing

1. Within 60 days after achieving the maximum rate of production at which **TU4.022 through TU4.024** will be operated, but not later than 180 days of initial startup of **TU4.022 through TU4.024**, and annually thereafter, ***the Permittee*** shall conduct and record a performance test for mercury on the exhaust stack of **TU4.022 through TU4.024** consisting of three valid runs utilizing US EPA Method 29 of 40 CFR Part 60 Appendix A. Each of the three test runs must collect a sample volume of **0.85** dry standard cubic meters (**30 dscf**).
2. Simultaneously, during the Method 29 compliance test, conduct and record a material assay from **System 68**. One representative sample shall be taken for each test run. Total mercury content of the **retorted precious metal bearing material** shall be determined using EPA Method 7471B (cold vapor atomic adsorption analysis) and the total mercury content of the solution shall be determined using EPA Method 245.1 (or alternative test method approved by the Director).
3. ***The Permittee*** shall comply with the requirements in Section I.N of this operating permit for all compliance testing

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Section II. Specific Operating Conditions (continued)

J. Emission Units #TU4.022 through TU4.024 (continued)

3. Monitoring, Recordkeeping, Reporting, and Testing (NAC 445B.3679.3) (continued)

b. Monitoring

The *Permittee* shall:

1. Prior to implementation of NvMACT for **System 68,** install, operate, calibrate, and maintain instrumentation to measure and record the following:
   (a) The throughput of **solution** through **TU4.024**, in gallons per minute.
   (b) The pressure drop across **BH-001**, in inches of water.
   (c) The pressure drop across **CA-004**, in inches of water.
2. Monitor the batch weight of **retorted precious metal bearing material** for **TU4.022 and TU4.023,** each, in pounds, for each batch.
3. Monitor the throughput of **solution** in gallons per minute for **TU4.024**, once per day during operation.
4. Monitor the hours of operation of **TU4.022 through TU4.024,** each, during each day of operation.
5. Monitor the pressure drop across **BH-001**, once per day during operation.
6. Monitor the pressure differential across **CA-004**, once per day during operation.
7. Monitor the sulfur-impregnated carbon in **CA-004** for percentage of mercury by weight, quarterly until reaching **50** percent capacity then monthly until reaching **90** percent.

c. Recordkeeping

The required monitoring, established in Section II.J.3.b. above, shall be maintained in a contemporaneous log containing, at a minimum, the following recordkeeping:

1. The calendar date of any required monitoring.
2. The total batch weight of **retorted precious metal bearing material** for **TU4.022 and TU4.023,** each, per batch, in pounds, for the corresponding date.
3. The throughput of **solution** for **TU4.024** in gallons per minute, once per day, during operation for the corresponding date.
4. The total daily operating hours for **TU4.022 through TU4.024,** each, for the corresponding date.
5. The pressure drop in inches of water across **BH-001**, once per day, during operation, for the corresponding date.
6. The pressure drop in inches of water across **CA-004**, once per day, during operation, for the corresponding date.
7. The percentage of mercury by weight in the sulfur-impregnated carbon in **CA-004**, for the corresponding date.
8. The depth of the sample location, for the corresponding date.
9. The date, time, and weight of each replacement of the sulfur-impregnated carbon.

d. Reporting

The ***Permittee*** will promptly report to the Director any deviations from the requirements of the Operating Permit to Construct. The report to the Director will include probable cause of all deviations and any action taken to correct the deviations. For this Operating Permit to Construct, prompt is defined as submittal of a report within 15 days of said deviation. This definition does not alter any reporting requirements as established for reporting of excess emissions as required under NAC 445B.232 and under condition I.L. of this permit.

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Section II. Specific Operating Conditions (continued)

K. Emission Units #TU4.007.1 through TU4.007.7 location North 4,535,953 m, East 554,386 m, UTM (Zone 11)

K. System 70 – Analytical Laboratory		
TU	4.007.1	Assay Furnace
TU	4.007.2	Assay Furnace
TU	4.007.3	Assay Furnace
TU	4.007.4	Assay Furnace
TU	4.007.5	Assay Furnace
TU	4.007.6	Assay Furnace
TU	4.007.7	Assay Furnace

1. Air Pollution Equipment

a. Exhaust gases from **System 70** shall be ducted to a control system with 100% capture consisting of:

1. **Baghouse (BH-002)**

b. Descriptive Stack Parameters
Height: 39 feet
Diameter: 3.42 feet
Temperature: 95.7°F
Exhaust gases from **System 70** shall have a maximum volume flow rate of 26,500 dry standard cubic feet per minute (DSCFM).
Exhaust gases from **System 70** are ducted to 1 stack.

2. Operating Requirements (NAC 445B.3679.3)

a. Limitations of Operation

1. The maximum allowable throughput rate of **assay samples** for **TU4.007.1 through TU4.007.7,** combined**,** shall not exceed **250.0** pounds per any one hour period.
2. Mercury emissions from **System 70** shall not exceed **2.3 x 10^{-5}** grains per dry standard cubic foot (gr/dscf).
3. **TU4.007.1 – TU4.007.7,** each**,** may operate 24 hours per day.

b. Work Practices

1. The pressure drop across **BH-002** shall be maintained between **1.0** and **7.0** inches of water.

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Section II. Specific Operating Conditions (continued)

K. Emission Units #TU4.007.1 through TU4.007.7 (continued)

3. Compliance Testing, Monitoring, Recordkeeping and Reporting (NAC 445B.3679.3)

a. Compliance Testing

1. Within 60 days after achieving the maximum rate of production at which **TU4.007.1 through TU4.007.7** will be operated, but not later than 180 days of initial startup of **TU4.007.1 through TU4.007.7**, and annually thereafter, ***the Permittee*** shall conduct and record a performance test for mercury on the exhaust stack **TU4.007.1 through TU4.007.7** consisting of three valid runs utilizing US EPA Method 29 of 40 CFR Part 60 Appendix A. Each of the three test runs must collect a sample volume of **0.85** dry standard cubic meters (**30 dscf**).
2. Simultaneously, during the Method 29 compliance test, conduct and record a material assay from **System 70**. One representative sample shall be taken for each test run. Total mercury content shall be determined using EPA Method 7471B (cold vapor atomic adsorption analysis) (or alternative test method approved by the Director).
3. ***The Permittee*** shall comply with the requirements in Section I.N of this operating permit for all compliance testing.

b. Monitoring

The ***Permittee*** shall:

1. Monitor the daily throughput rate of **assay samples** in pounds.
2. Monitor the pressure drop across **BH-002**, once, during each day of operation.
3. Monitor the daily hours of operation.

c. Recordkeeping

The required monitoring established in Section II.K.3.b. above shall be maintained in a contemporaneous log containing, at a minimum, the following recordkeeping.

1. The calendar date of any required monitoring.
2. The total daily hours of operation for the corresponding date.
3. The total daily throughput rate of **assay samples** in pounds, for the corresponding date.
4. The pressure drop across the inlet and outlet of **BH-002**, once, during each day of operation, for the corresponding date.
5. The corresponding average hourly throughput rate in pounds per hour. The average hourly throughput rate will be determined from the total daily throughput rate (3) and the total daily hours of operation (2) above.

d. Reporting

The ***Permittee*** will promptly report to the Director any deviations from the requirements of the Operating Permit to Construct. The report to the Director will include probable cause of all deviations and any action taken to correct the deviations. For this Operating Permit to Construct, prompt is defined as submittal of a report within 15 days of said deviation. This definition does not alter any reporting requirements as established for reporting of excess emissions as required under NAC 445B.232 and under condition I.L. of this permit.

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Section II. Specific Operating Conditions (continued)

L. Emission Units #TU4.026 and TU4.027 location North 4,536,293 m, East 554,699 m, UTM (Zone 11, NAD 83)

L. System 128 – Elution Circuit Process Tanks		
TU	4.026	Resin Regeneration Tank Train A
TU	4.027	Resin Regeneration Tank Train B

1. Air Pollution Control Equipment

a. Exhaust gases from **TU4.026 and TU4.027** shall be ducted to a control system with 100% capture consisting of:
   1. **Spray Tower Scrubber (ST-001)**
   2. **Carbon Filter (CA-005)**

b. Descriptive Stack Parameters
Height: 65 feet
Diameter: 3 feet
Temperature: approximately 140°F
Exhaust gases from **System 128** shall have a maximum volume flow rate of 6,778 dry standard cubic feet per minute (DSCFM).
Exhaust gases from **TU4.026 and TU4.027** are ducted to 1 stack.

2. Operating Requirements (NAC 445B.3685.3)

a. Limitations of Operation
   1. The maximum allowable throughput for **TU4.026 and TU4.027, each,** shall not exceed **18,900** gallons of solution per batch.
   2. Mercury emissions from **System 128** shall not exceed **5.0×10^{-5}** grains per dry standard cubic foot (gr/dscf).
   3. **TU4.026 and TU4.027** each may operate **24** hours per day.

b. Work Practices
   1. **Spray Tower Scrubber (ST-001):**
      (a) The pH at the outlet of **ST-001** shall be maintained at or above **8**.
      (b) The liquor flow rate to **ST-001** shall be maintained at or above **20** gallons per minute.

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Section II. Specific Operating Conditions (continued)

L. Emission Units #TU4.026 and TU4.027 (continued)

2. Operating Requirements (NAC 445B.3685.3) (continued)

b. Work Practices (continued)

2. **Carbon Filter (CA-005)**
   (a) The exhaust temperature at the inlet of **CA-005** will be maintained at or below **185°F**.
   (b) **CA-005** shall contain no less than **5.0 tons** of sulfur impregnated carbon.
   (c) The pressure differential across **CA-005** shall not exceed **30** inches of water.
   (d) Sample the sulfur-impregnated carbon in the primary and secondary beds of **CA-005** as follows:
      1. The carbon in **CA-005** may be sampled from a sampling canister. The carbon beds will include sampling canisters that will contain the equivalent carbon depth as the carbon beds. These canisters will receive a slip stream of the process gas during operation of **System 128**; or
      2. The Permittee has the option to directly collect representative composite carbon samples (grab-samples) from the primary and secondary beds of **CA-005**. The carbon samples will be taken at the inlet and exit of the primary and secondary beds, the depth of the sample locations (grab-sample method) will be recorded. The average of the inlet and exit values will be used to determine carbon loading;
      3. The canister and grab-sample carbon sampling methods specified above may only be alternated for the primary or secondary beds at the point of complete carbon replacement in **CA-005**.
   (e) The percentage of mercury by weight shall be calculated. The sampling canister will be analyzed quarterly until **50%** of the carbon loading capacity of **20%** by weight, as specified by the manufacturer, is reached. Upon reaching **50%** of the carbon loading capacity of **20%** by weight, sampling of the canister will occur monthly until **90%** of the carbon loading capacity of **20%** by weight is reached. The carbon in the carbon filter will be replaced with an equivalent performing sulfur impregnated carbon no later than **30** days after reaching **90%** of the carbon loading capacity of **20%** by weight. The required mercury analysis shall be performed utilizing one of the following methods:
      1. EPA method 6020-Inductively Coupled Plasma-Mass Spectrometry;
      2. EPA method 7471B- Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique); or
      3. An alternative test method as approved by the Director.
   (f) On an annual basis, perform a total loading analysis on the mercury removal media in **CA-005**.
   (g) Any sulfur-impregnated carbon replaced in **CA-005** shall be replaced with only the original manufacturer's design specification sulfur-impregnated carbon or with equivalent or better performing mercury removal media.
   (h) The original manufacturer's design specifications for the sulfur impregnated carbon used in **CA-005** shall be kept on site.

3. Monitoring, Recordkeeping, Reporting, and Testing (NAC 445B.3685.3)

a. Compliance Testing
1. Within 60 days after achieving the maximum rate of production at which **TU4.026 and TU4.027** will be operated, but not later than 180 days of initial startup of **TU4.026 and TU4.027**, and annually thereafter, ***the Permittee*** shall conduct and record a performance test for mercury on the exhaust stack of **TU4.026 and TU4.027** consisting of three valid runs utilizing US EPA Method 29 of 40 CFR Part 60 Appendix A. Each of the three test runs must collect a sample volume of **0.85** dry standard cubic meters (**30 dscf**).
2. Simultaneously, during the Method 29 compliance test, conduct and record a material assay from **System 128**. One representative sample shall be taken for each test run. Total mercury content shall be determined using EPA Method 245.1 (cold vapor atomic adsorption analysis) (or alternative test method approved by the Director).
3. ***The Permittee*** shall comply with the requirements in Section I.N of this operating permit for all compliance testing.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions (continued)

L. Emission Units #TU4.026 and TU4.027 (continued)

3. Monitoring, Recordkeeping, Reporting, and Testing (NAC 445B.3685.3) (continued)

b. Monitoring

The *Permittee* shall:

1. Prior to startup of **System 128,** install, operate, calibrate, and maintain instrumentation to measure and record the following:
   (a) The pH at the outlet of **ST-001**.
   (b) The liquor flow rate to **ST-001**, in gallons per minute.
   (c) The exhaust gas temperature entering the **CA-005**, in degrees Fahrenheit.
   (d) The differential pressure across **CA-005**, in inches water column.
2. Monitor the throughput of **solution** to **TU4.026 and TU4.027,** each, for each batch during operation.
3. Monitor the hours of operation for **TU4.026 and TU4.027,** each, for each batch.
4. Monitor the pH at the outlet of **ST-001** once per day during operation.
5. Monitor the liquor flow rate to **ST-001** continuously during operation.
6. Monitor the exhaust gas temperature entering **CA-005** continuously during operation.
7. Monitor the differential pressure across **CA-005** continuously during operation.
8. Monitor the sulfur-impregnated carbon in the primary and secondary beds of **CA-005** for percentage of mercury by weight, quarterly until reaching **50** percent capacity then monthly until reaching **90** percent.

c. Recordkeeping

The required monitoring established in Section II.L.3.b. above shall be maintained in a contemporaneous log containing, at a minimum, the following recordkeeping.

1. The calendar date of any required monitoring.
2. The throughput of **solution** for **TU4.026 and TU4.027,** each, per batch, for the corresponding date.
3. The total daily hours of operation for **TU4.026 and TU4.027,** each, per batch, for the corresponding date.
4. The pH at the outlet of **ST-001**, each day of operation, for the corresponding date.
5. The hourly average liquor flow rate readings, determined from four or more points for each hour, in gallons per minute to **ST-001**, for the corresponding date.
6. The hourly average exhaust gas temperature readings, determined from four or more points for each hour, in degrees Fahrenheit entering **CA-005**, for the corresponding date.
7. The hourly average differential pressure readings, determined from four or more points for each hour, across **CA-005** in inches water column, for the corresponding date.
8. The percentage of mercury by weight in **CA-005**, for the corresponding date.
9. The depth of the carbon sample location, in **CA-005** for the corresponding date.
10. The date, time, and weight of each carbon replacement in **CA-005**.

d. Reporting

Permittee will promptly report to the Director any deviations from the requirements of the Operating Permit to Construct. The report to the Director will include probable cause of all deviations and any action taken to correct the deviations. For this Operating Permit to Construct, prompt is defined as submittal of a report within 15 days of said deviation. This definition does not alter any reporting requirements as established for reporting of excess emissions as required under NAC 445B.232 and under condition I.L. of this permit.

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section II. Specific Operating Conditions (continued)

M. Emission Units #TU4.030 through TU4.032 location North 4,536,169 m, East 554,512 m, UTM (Zone 11, NAD 83)

M. System 131 – Carbon In Leach (CIL) Electrowinning Circuit		
TU	4.030	Electrowinning Cells (8 total, operating in series as a single emission unit)
TU	4.031	Pregnant/Barren Tank A
TU	4.032	Pregnant/Barren Tank B

1. Air Pollution Control Equipment

a. Exhaust gases from **TU4.030 through TU4.032** shall be ducted to a control system with 100% capture consisting of:
   1. **Heater**
   2. **Carbon Bed (CA-006)**

b. Descriptive Stack Parameters
Height: 85 feet
Diameter: 3 feet
Temperature: Approximately 140°F
Exhaust gases from **System 131** shall have a maximum volume flow rate of 10,358 dry standard cubic feet per minute (DSCFM).
Exhaust gases from **TU4.030 through TU4.032** are ducted to 1 stack.

2. Operating Requirements (NAC445B.3685.3)

a. Limitations of Operation
   1. The maximum allowable throughput rate for **TU4.030 through TU4.032,** each, shall not exceed **2,000** gallons per minute of **solution**.
   2. Mercury emissions from **System 131** shall not exceed **5.0×10^{-5}** grains per dry standard cubic foot (gr/dscf).
   3. **TU4.030 through TU4.032,** each, may operate **24** hours per day.

b. Work Practices
   1. The exhaust temperature at the inlet of **CA-006** will be maintained at or below **212°F**.
   2. The **CA-006** shall contain no less than **21.0 tons** of sulfur impregnated carbon.
   3. The pressure differential across **CA-006** shall not exceed **30** inches of water.
   4. Sample the sulfur-impregnated carbon in the primary and secondary beds in **CA-006** as follows:
      (a) The carbon in **CA-006** may be sampled from a sampling canister. The carbon beds will include sampling canisters that will contain the equivalent carbon depth as the carbon beds. These canisters will receive a slip stream of the process gas during operation of **System 131**; or
      (b) The Permittee also has the option to directly collect representative composite carbon samples (grab-samples) from the primary and secondary beds of **CA-006**. The carbon samples will be taken from the inlet and exit of the primary and secondary beds and the depth of the sample locations (grab-sample method) will be recorded. The average of the inlet and exit values will be used to determine carbon loading.
      (c) The canister and grab-sample carbon sampling methods specified above may only be alternated for the primary or secondary beds at the point of complete carbon replacement in **CA-006**.

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Section II. Specific Operating Conditions (continued)

M. Emission Units #TU4.030 through TU4.032 (continued)

2. Operating Requirements (NAC 445B.3685.3) (continued)

b. Work Practices

5. The percentage of mercury by weight from the carbon sample shall be calculated. The loading capacity of the sulfur-impregnated carbon is **20%** by weight. A sample of carbon from each bed will be analyzed quarterly until **50%** of the carbon loading capacity is reached. Upon reaching **50%** of the carbon loading capacity, the sampling of carbon will occur monthly until **90%** of the carbon loading capacity is reached. The carbon in the carbon beds will be replaced no later than **30** days after reaching **90%** of the carbon loading capacity. The required mercury analysis shall be performed utilizing one of the following methods:
   (a) EPA method 6020-Inductively Coupled Plasma-Mass Spectrometry;
   (b) EPA method 7471B- Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique);
   (c) An alternative test method as approved by the Director.
6. On an annual basis, perform a total loading analysis on the mercury removal media in **CA-006**.
7. Any sulfur-impregnated carbon replaced in **CA-006** shall be replaced with only the original manufacturer's design specification sulfur-impregnated carbon or with equivalent or better performing mercury removal media.

3. Monitoring, Recordkeeping, Reporting, and Testing (NAC 445B.3685.3)

a. Compliance Testing

1. Within 60 days after achieving the maximum rate of production at which **TU4.030 through TU4.032** will be operated, but not later than 180 days of initial startup of **TU4.030 through TU4.032**, and annually thereafter, ***the Permittee*** shall conduct and record a performance test for mercury on the exhaust stack of **TU4.030 through TU4.032** consisting of three valid runs utilizing US EPA Method 29 of 40 CFR Part 60 Appendix A. Each of the three test runs must collect a sample volume of **0.85** dry standard cubic meters (**30 dscf**).
2. Simultaneously, during the Method 29 compliance test, conduct and record a material assay from **System 131**. One representative sample shall be taken for each test run. Total mercury content shall be determined using EPA Method 245.1 (cold vapor atomic adsorption analysis) (or alternative test method approved by the Director).
3. ***The Permittee*** shall comply with the requirements in Section I.N of this operating permit for all compliance testing

b. Monitoring

The *Permittee* shall:

1. Prior to startup of **System 131,** install, operate, calibrate, and maintain instrumentation to measure and record the following:
   (a) The exhaust gas temperature entering the **CA-006**, in degrees Fahrenheit.
   (b) The differential pressure across **CA-006**, in inches water column.
2. Monitor the throughput of **solution** in gallons per minute for **TU4.030 through TU4.032**, each, once per day during operation.
3. Monitor the hours of operation of **TU4.030 through TU4.032,** each, during each day of operation.
4. Monitor the exhaust gas temperature entering **CA-006** continuously during operation.
5. Monitor the differential pressure across **CA-006** continuously during operation.
6. Monitor the sulfur-impregnated carbon in the primary and secondary beds of **CA-006** for percentage of mercury by weight, quarterly until reaching **50** percent capacity then monthly until reaching **90** percent.

c. Recordkeeping

The required monitoring, established in Section II.M.3.b. above shall be maintained in a contemporaneous log containing, at a minimum, the following recordkeeping:

1. The calendar date of any required monitoring.

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Section II. Specific Operating Conditions (continued)

M. Emission Units #TU4.030 through TU4.032 (continued)

3. Monitoring, Recordkeeping, Reporting, and Testing (NAC 445B.3685.3) (continued)

c. Recordkeeping (continued)

2. The throughput of **solution** for **TU4.030 through TU4.032,** each, in gallons per minute, once per day, during operation for the corresponding date.
3. The total daily operating hours for **TU4.030 through TU4.032,** each, for the corresponding date.
4. The hourly average exhaust gas temperature readings, determined from four or more points for each hour, in degrees Fahrenheit entering **CA-006**, for the corresponding date.
5. The hour average differential pressure readings, determined from four or more points for each hour, across **CA-006** in inches water column, for the corresponding date.
6. The percentage of mercury by weight in the sulfur-impregnated carbon in **CA-006**, for the corresponding date.
7. The depth of the sample location, for the corresponding date.
8 The date, time, and weight of each replacement of the sulfur-impregnated carbon.

d. Reporting

Permittee will promptly report to the Director any deviations from the requirements of the Operating Permit to Construct. The report to the Director will include probable cause of all deviations and any action taken to correct the deviations. For this Operating Permit to Construct, prompt is defined as submittal of a report within 15 days of said deviation. This definition does not alter any reporting requirements as established for reporting of excess emissions as required under NAC 445B.232 and under condition I.L. of this permit.

********** End of Specific Operating Conditions **********

Facility ID No. A0005 Permit No. AP1041-2221
MERCURY OPERATING PERMIT TO CONSTRUCT: PHASE 2

Issued to: Nevada Gold Mines, LLC – Goldstrike Mine

Section III. Amendments

Aircase 235 February 2020 – KM: Phase-2 issued for all thermal units (with the exception of System 19 – Quench Process)

Aircase 11067 – May 2022 – KM: Revision to the baghouse differential pressure for System 68, changing the lower range from 3 to 0.5 inches of water.

Aircase 11626 – September 2023 – KM: Revision to System 66C, allowing limited use of release vents up to 100 hours annually to allow for maintenance of the carbon controls. Mercury emission rate for the 100 hours is 4.0x10-4 gr/dscf. Rate confirmed by multiple Method 30B tests by facility.

Aircase 11781 – December 2023 – KM: Revision to Systems 67, 68 and 131. Removes the requirement for a Sulfur Dioxide Scrubber from the control train for Systems 67 and 68, based on process changes from a thiosulfate leaching to a cyanide-based Carbon in Leach process, System 131 description changed, removing references to Resin in Leach and replacing with Carbon in Leach. Electrowinning described more accurately for Systems 68 and 131.

Aircase 12014 – January 2025 – RC: Revision to System 18 to add air pollution control carbon (APC carbon) as a throughput material to the Roasters (TU4.003 and TU4.004). And revision to System 19 to add venturi scrubbers as controls to each of the roaster quench tanks (TU4.005 Roaster #1 Quench Tank and TU4.006 Roaster #2 Quench Tank), as well as adding a final NvMACT emission limit and work practice standards for System 19.

Aircase 12233 – January 2025 – RC: Revision of System 66C autoclaves (TU4.016 – TU4.018, respectively Autoclave #4, Autoclave #5, and Autoclave #6) to increase the hourly throughput limit.

This permit:

1. **Is non-transferable (NAC 445B.287.3).**
2. **Shall be posted conspicuously at or near the stationary source (NAC 445B.318.5).**
3. **Any party aggrieved by the Department's decision to issue this permit may appeal to the State Environmental Commission (SEC) within ten days after the date of notice of the Department's action (NRS 445B.340).**

Signature: _____

Issued by: Tanya Soleta, P.E.
Supervisor, Permitting Branch
Bureau of Air Pollution Control

Phone: (775) 687-9540 Date: _____

km	km	km	km	rc
2/2020	05/2022	9/23	12/23	03/25

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De Minimis Unit(s)

A. Pursuant to NAC 445B.3657 the Director has determined a De Minimis emission limit of 5.0 lbs/yr for each facility. In addition, the Director may designate thermal units as De Minimis on a case-by-case basis. The ***Permittee*** has provided the following thermal units with the potential to emit mercury as De Minimis and/or the following thermal units have been designated as De Minimis by the Director:

Unit #	Unit Description	Mercury PTE (lb/yr)
Assay Laboratory		
DM3.001	Wisconsin Smart Drying Oven A	**0.2704**
DM3.002	Wisconsin Smart Drying Oven B	**0.2704**
DM3.003	Grieve Drying Oven	**0.2129**
DM3.004	Direct Mercury Analyzer A	**0.0002**
DM3.005	Direct Mercury Analyzer B	**0.0002**
DM3.006	Annealing Furnace	**0.0000**
DM3.007	AA Spectrometer A	**0.0000**
DM3.008	AA Spectrometer B	**0.0000**
DM3.009	AA Spectrometer C	**0.0002**
DM3.010	AA Spectrometer D	**0.0002**
DM3.011	Leco Furnace A	**0.0007**
DM3.012	Leco Furnace B	**0.0007**
DM3.013	Leco Furnace C	**0.0007**
DM3.014	Leco Furnace D	**0.0007**
DM3.015	Hot Plate A	**0.0085**
DM3.016	Hot Plate B	**0.0085**
DM3.017	Hot Plate C	**0.0085**
DM3.018	Digestion Block A	**0.0004**
DM3.019	Digestion Block B	**0.0004**
DM3.020	Digestion Block C	**0.0004**
DM3.021	Digestion Block D	**0.0004**
DM3.022	HCl Digestion Drying Oven LA1304	**0.0000019**
DM3.054	Resin Drying Oven	**0.0005**
DM3.023	Laboratory Microwave	**0.0000**
DM3.024-O	Small Drying Oven Mill – Ore Slurry LA1301	**0.0031**
DM3.024-C	Small Drying Oven Mill – Carbon LA1301	**0.0139**
~~DM3.025~~	~~Small Drying Oven Mill LA4001~~	**Removed 2/3/2010**
DM3.026	Drying Oven G	**0.0000019**
~~DM3.027~~	~~Graphite Furnace A~~	**Removed 6/15/2017**
~~DM3.028~~	~~Graphite Furnace B~~	**Removed 6/15/2017**
DM3.056	Hot Plate D	**0.0004**
DM3.057	Hot Plate E	**0.0004**
DM3.065	Drying Oven B	**0.000034**
~~DM3.066~~	~~Thermo Scientific iCE3000 CVAA~~	**Removed 7/15/2021**
~~DM3.072~~	~~Leco Mercury Analyzer C~~	**Removed 6/15/2017**
~~DM3.073~~	~~Direct Mercury Analyzer D~~	**Removed 6/15/2017**
DM3.074	Moisture Analyzer A	**0.025**
DM3.075	Moisture Analyzer B	**0.025**

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DM3.076	Hot Plate I	**0.0009**
DM3.084	Cress Oven	**0.038**
DM3.044	Inductively Coupled Plasma (ICP) A	**0.0002**

Unit #	Unit Description	Mercury PTE (lb/yr)
Met Laboratory		
DM3.029	Bench-top Roaster A LM0502	**0.0385**
DM3.030	Bench-top Roaster B LM0501	**0.0385**
DM3.031	Drying Oven C LM0418	**0.0003**
DM3.032	Bench-top Autoclave A LM0101	**0.0391**
DM3.033	Bench-top Autoclave B LM0102	**0.0391**
DM3.034	Bench-top Autoclave C LM0103	**0.0391**
DM3.035	Bench-top Autoclave D LM0104	**0.0391**
~~DM3.036~~	~~Semi-Continuous Autoclave LM0214~~	**Removed 6/15/2017**
DM3.037	Drying Oven D LM0210	**0.0007**
DM3.038	Drying Oven E LM0314	**0.0507**
DM3.039	Drying Oven F LM0320	**0.0162**
DM3.040	Pilot Scale Roaster	**3.3654**
~~DM3.041~~	~~Grieve Drying Oven B~~	**Removed 7/15/2021**
DM3.042	Hot Plate F	**0.0004**
DM3.043	Digestion Block A	**0.0085**
~~DM3.055~~	~~Roasting Furnace LM0209~~	**Removed 7/15/2021**
DM3.058	Hot Plate G	**0.0004**
DM3.059	Hot Plate H	**0.0004**
DM3.060	Immersion Heater A	**0.0002**
DM3.061	Immersion Heater B	**0.0002**
DM3.062	Immersion Heater C	**0.0002**
DM3.067	Immersion Heater D	**0.0002**
DM3.068	Inductively Coupled Plasma (ICP) B	**0.0002**
DM3.069	Digestion Block B	**0.0085**
DM3.070	Digestion Block C	**0.0085**
~~DM3.071~~	~~Bench-top Autoclave LM0105~~	**Removed 6/15/2017**
DM3.077	Hot Plate J	**0.0004**
DM3.080	Immersion Heater E	**0.00055**
DM3.081	Immersion Heater F	**0.00055**
DM3.082	Immersion Heater G	**0.00055**
DM3.083	Immersion Heater H	**0.00055**
DM3.086	Immersion Heater I	**0.00055**
DM3.086	Immersion Heater J	**0.00055**
DM3.087	Grieve Drying Oven C	**0.0008**
Mill Met Laboratory		
DM3.045	Drying Oven	**0.0000017**
~~DM3.046~~	~~Leco Furnace A~~	**Removed 2/3/2010**
~~DM3.047~~	~~Leco Furnace B~~	**Removed 2/3/2010**
DM3.048	AA Spectrometer	**0.0004**
Autoclave Met Laboratory		
DM3.049	Drying Oven	**0.00000042**
DM3.050	Leco Furnace A	**0.0005**
~~DM3.051~~	~~Leco Furnace B~~	**Removed 2/3/2010**

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DM3.052	Hot Plate	**0.0059**
Roaster Pumphouse Laboratory		
~~DM3.053~~	~~AA Spectrometer~~	**Removed 2/3/2010**
System 103B Ore Fines Feed System (Ore Fines Drying and Storage System)		
S2.316.1	Fluid Bed Dryer	**0.0876**
RIL Test Laboratory		
~~DM3.063~~	~~Small Test Electrowinning Cell~~	**Removed 6/15/2017**
~~DM3.064~~	~~Small Test Regeneration Tank~~	**Removed 6/15/2017**
DM3.078	AA Spectrometer – Elutions	**0.000039**
DM3.079	Drying Oven – Elutions	**0.0017**
	Total	**4.6866**

B. Annual Demonstration Requirement NAC 445B.3665(1)(b)

1. An owner or operator of a tier-3 thermal unit:
   (a) Shall submit documentation to the Director on an annual basis which certifies that the thermal unit satisfies the criteria to be a tier-3 thermal unit.

Amendments:

12/19/08-NH: Barrick Goldstrike Mines, Inc. requested the addition of a Small Drying Oven Mill Ore Slurry, DM 3.024-O and an emission increase for DM 3.022 from 0.0000015 lbs/yr to 0.000006 lbs/yr.

2/3/10-TS: Barrick Goldstrike Mines, Inc. requested the addition of a small roasting furnace (DM3.055) and an additional HCl digestion drying oven (DM3.054). The pilot scale roaster (DM3.040) re-started operation, and the lay down yard drying oven LM0715 (DM3.041) re-started operation in 2009. As per request the small drying oven C (DM3.025) was removed from the De Minimis list. The Leco Furnaces A and B in the Mill Met Lab (DM3.046 and DM3.047), Leco Furnace B in the Autoclave Met Lab (DM3.0510), and the AA Spectrometer in the roaster pump house (DM3.053) where also removed.

1/25/11-TS: Barrick Goldstrike Mines requested the addition of 4 hot plates (DM3.056 – DM3.059) and 3 immersion heaters (DM3.060 – DM3.062) in the met lab. An RIL test laboratory, with a small test electrowinning cell and a small test regeneration tank, was also added. DM3.025 was replaced with small drying oven LA4001.

5/19/11-TS: Barrick Goldstrike Mines, Inc. requested the addition of a Thermo Scientific Drying Oven (DM3.065) to the Assay Lab. Also added a cold vapor atomic absorption (CVAA) machine (DM3.066).

6/12/2012-NL: Barrick Goldstrike Mines, Inc. requested per letter dated February 27, 2012, received by NDEP on March 2, 2012 the removal of the small drying oven (DM3.025) from the Assay Lab. Barrick requested that the CVAA machine (DM3.066) and two hot plates (DM3.056 and DM3.057) be moved from the Met Lab to the Assay Lab. In addition, the four AA Spectrometers (DM3.007 through DM3.010) in the Assay Lab were replaced with identical units. One new immersion heater (DM3.067), one new Inductively Coupled Plasma (ICP) unit (DM3.068), two new digestion blocks (DM3.069 and DM3.070), and one new bench-top autoclave (DM3.071) were added to the Met Lab.

6/19/2012-NL: Barrick Goldstrike Mines Inc., requested per letter dated June 5, 2012, received by NDEP on June 11, 2012 the addition of a Leco Mercury Analyzer (DM3.072) to the Assay Lab.

11/30/2012-NL: Barrick Goldstrike Mines Inc., requested per letter received by NDEP on September 10, 2012 the addition of a Direct Mercury Analyzer (DM3.073) to the Assay Lab. Goldstrike also requested that the names of DM3.004 and DM3.005 be changed from “Leco” to “Direct” Mercury Analyzer. The Leco units have been replaced with the same type of units but from a different manufacturer.

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5/3/13-AK: Barrick Goldstrike Mines Inc., requested per letter received by NDEP on March 04, 2013 the annual throughput to be changed on the Pilot Scale Roaster (DM3.040) to reflect the Class I permitted limit.

6/15/2017-KM: Barrick Goldstrike Mines, Inc. requested per letter received by NDEP on March 1, 2017 that the following De Minimis Units be removed from the De Minimis List; DM3.025, DM3.027, DM3.028, DM3.072, DM3.073, DM3.036, DM3.071, DM3.051, DM3.053, DM3.063 and DM3.064. Barrick also requested that DM3.041 and DM3.044 be moved from the Met Laboratory to the Assay Laboratory. Barrick also added DM3.074, DM3.075 and DM3.076 to the Assay Laboratory and added DM3.078 and DM3.079 to the RIL Test Laboratory. Revised calculations were also submitted for a majority of the existing De Minimis Units, which changed the total from 4.749 mercury pounds per year to 4.5755 mercury pounds per year.

7/13/2018 – KM Barrick Goldstrike Mines, Inc. requested per letter received by NDEP on February 27, 2018 that (4) Immersion Heaters (DM3.080 – DM3.083) be added to the Met Laboratory. Barrick also requested that DM3.048 be moved from the Strip Circuit Area to the Mill Met Laboratory. The calculations submitted change the total from 4.5755 mercury pounds per year to 4.6635 mercury pounds per year.

7/15/2021 – KM Aircase 10892 – Nevada Gold Mines – Goldstrike requested per letter received by NDEP on July, 14, 2021 removal of DM3.066, DM3.041, DM3.055 be removed from the De Minimis Designation. Also, the letter requests adding DM3.084 (Cress Oven), DM3.077 (Hot Plate J), DM3.085 – DM3.086 (Immersion Heater I and J) and DM3.087 (Grieve Drying Oven C). The calculations submitted change the total from 4.6625 mercury pounds per year to 4.6866 mercury pounds per year.