STATE OF NEVADA

Department of Conservation and Natural Resources

Division of Environmental Protection

Bureau of Mining Regulation and Reclamation

Water Pollution Control Permit

Permittee: **Nevada Gold Mines LLC**
Rain Project
1655 Mountain City Highway
Elko, Nevada 89801

Permit Number: **NEV0087011**
Review Type/Year/Revision: **Renewal 2020, Revision 00**

Pursuant to Nevada Revised Statutes (NRS) 445A.300 through 445A.730, inclusive, and regulations promulgated thereunder by the State Environmental Commission and implemented by the Division of Environmental Protection (the Division), this Permit authorizes the Permittee to construct, operate, and close the **Rain Project**, in accordance with the limitations, requirements and other conditions set forth in this Permit. The Permittee is not authorized to mine or process ore, unless approved in writing by the Division.

The Rain Project is located in Elko County Nevada, within Sections 3, 4, and 9 of Township 31 North (T31N), Range 53 East (R53E); and Sections 33 and 34 of T32N, R53E, Mount Diablo Baseline and Meridian, approximately 9 miles southeast of Carlin.

The Permittee must comply with all terms and conditions of this Permit and all applicable statutes and regulations.

This Permit is based on the assumption that the information submitted in the application of 30 July 2020, as modified by subsequent approved amendments, is accurate and that the facility has been constructed and is being operated as specified in the application. The Permittee must inform the Division of any deviation from, or changes in, the information in the application, which may affect the ability of the Permittee to comply with applicable regulations or Permit conditions.

This Permit is effective as of **31 March 2021**, and shall remain in effect until **14 November 2025**, unless modified, suspended, or revoked.

Signed this 10th day of **March 2021**.

Aimee Keys
Chief, Bureau of Mining Regulation and Reclamation

I. Specific Facility Conditions and Limitations

A. In accordance with operating plans, closure plans, and facility design plans reviewed and approved by the Division, the Permittee shall:

1. Close the facility in accordance with those plans;
2. Contain within the existing fluid management system all process fluids including all meteoric waters which enter the system as a result of the 100-year, 24-hour storm event. Any new process components or material modifications of existing process components shall be designed to contain all process fluids including all meteoric waters which enter the system as a result of the 500-year, 24-hour event; and
3. Not release or discharge any process or non-process contaminants from the fluid management system.

B. Schedule of Compliance:

1. By **31 May 2021**, the Permittee shall submit to the Division, for review and approval, an updated monitoring plan, pursuant to Nevada Administrative Code (NAC) 445A.398, subsection 3, that reflects all changes to monitoring made in accordance with the 2020 Renewal of the Permit, Revision 00. The monitoring plan shall include an updated map of all monitoring locations specified in the Permit, with the designated labels, and updated location data, per part II.C.5 of this Permit.
2. By **1 March 2021**, the Permittee shall commence with clearing and grubbing activities as related to the Division approved cover improvements on the NWRDF. (Completed 26 February 2021)
3. By **1 June 2025**, if targeted ARD flow reductions are not observed within two years following completion of cover improvement activities associated with the NWRDF, the Permittee shall submit to the Division a Permit modification and associated fees, including appropriate engineering designs, as applicable, for the construction of a double-walled pipeline and full-scale WTP, located at and/or downgradient of the Rain Mine to manage ARD solution being generated by the NWRDF, and for the elimination of inflow to the RTSF from the NWRDF.
4. **Within one year of Division approval** of the full-scale WTP and associated pipeline, the Permittee shall complete construction and installation in accordance with the approved Permit modification and schedule, and submit a final as-built report(s) within 30 days after completion of construction.
5. **Within 30 days of Division approval** of the final as-built report, the Permittee shall begin operation of the full-scale WTP.
6. **Within one year of Division approval** of the full-scale WTP final as-built report, the Permittee shall submit documentation demonstrating that inflows to the RTSF from the HLP and NWRDF have been eliminated.

7. By **01 January 2022**, the Permittee shall submit to the Division, including an implementation schedule, an FPPC for the relocation of the Rain HLP to the Emigrant Mine HLP which includes anticipated mitigation plans/protocols for remediation of contaminated soil and/or groundwater that may be located beneath the Rain HLP.
8. **By 15 April 2022**, the Permittee shall complete all closure and decommissioning activities of any remaining process components related to the Rain Project mill building and associated structures.
9. By **01 January 2024**, or cessation of leaching at the Emigrant Mine if later than 1 January 2024, the Permittee shall begin relocation of the Rain HLP to the Emigrant Mine for placement on the Emigrant HLP.
10. **By a date approved by the Division,** pursuant to Part I.B.2 above, the Permittee shall submit documentation demonstrating that inflows to the RTSF from the NWRDF have been eliminated.
11. **Within 180 days of Division approval** of the FPPC for the RTSF, the Permittee shall begin implementation per the schedule approved in the plan and associated EDCs.

The schedule of compliance items above are not considered completed until approved in writing by the Division.

C. The fluid management system covered by this Permit consists of the following process components:

1. Composite lined HLP, solution conveyance channel, flume, piping system, and French drain system;
2. Underdrain Collection System Evaporation Pond (UCSEP) and associated piping system;
3. Remaining mill components not yet removed, including, but not limited to, carbon-in-pulp (CIP) slurry tanks, precipitate tank, tailings tank, and mill solution tank;
4. RTSF, Underdrainage Collection Pond (UCP), piping and solution evaporation system;
5. RTSF Seepage Collection Pond (SCP), barrier trench, and Upstream, Downstream, and Parallel Trench Drains;
6. RTSF Underdrain Collection System (UCS) and associated piping used in conveyance of process fluids;
7. NWRDF, ARD collection systems, sumps, ARD Collection Pond, storm pond, and anaerobic treatment facility; and
8. Transfer pipes, valves, and pumps used in conveyance, control, or detection of process fluids between process components.

D. Monitoring Requirements:

Identification	**Parameter**	**Frequency**
1. Water Supply Well RN-WS	Profile I[1], Groundwater elevation (feet AMSL), Collar elevation (feet AMSL)	Annually[2]
2. Heap Leach Pad Channel Leak Detection HLCLD	Average daily accumulation (gpd)	Monthly[3]
3. Leak Detection Ports & Sumps Pond LCRS (UCP-LCRS), SCP Wet Well (WW-LDP), SCP Vault (V-LDP); UCS TPS Wet Well (TPSWW-LDP); UCS TPS Vault (TPSV-LDP); UCS TPS Pipeline (TPS-P); ARD Collection Pond (ARDLD),	Average daily accumulation (gpd);	Monthly[3];
4. Pits SMZ Pit Lake (SMZPIT);	Profile III[4,5,6], Field pH[7], SC (µS/cm)[7], Water elevation (feet AMSL)[8];	Quarterly;
SMZ Cutoff Trench (SMZ-CT);	Profile I[1,9]; Average flow (gpm);	Quarterly;
Rain Main Pit Lake (RMPIT), Rain East Pit Extension (REPIT)	Profile III[4,5], Field pH[7], SC (µS/cm)[7], Water elevation (feet AMSL)[8]	Quarterly
5. Heap Leach Pad Draindown at Flowmeter Vault (FMV) (HLPDD-FMV)	Profile I[1]; Average flow (gpm)	Quarterly[10]; Monthly

Identification	Parameter	Frequency
6. Underdrain Collection Structure (UCS)		
Leach Pad French Drains East (EFD) West (WFD);	Profile I[1]; Average flow (gpm);	Quarterly[10]; Weekly[10];
SMZ Waste Rock Dump Seepage at pipe outfall (SMZ-WRDS-UCS)	Profile I[1,9]; Average flow (gpm), Field pH[7], SC (µS/cm)[7]	Quarterly[10]; Weekly[10]
7. North Waste Rock Disposal Facility[11]	Visual inspection[11]	Quarterly;
ARD solution (TRTIN) Desilting Pond (DSP) Rock pond (RP) Stilling Well #6 (SW6) Anaerobic Pond	Profile I[1]; Average flow (gpm), Field pH[7], SC (µS/cm)[7]	Quarterly; Weekly, when present
8. SMZ Waste Rock Disposal Facility	Visual inspection[11]	Quarterly;
Seepage Pipe Outfall to Diversion Channel (SMZ-WRDS-DC)	Profile I[1,9]; Average flow (gpm), Field pH[7], SC (µS/cm)[7]	Quarterly; Weekly
9. Tailings Seepage and Underdrain		
Seepage Collection Pond (SCP);	Pumpback flow (gpm); Profile I[1];	Weekly; Quarterly;
Underdrain Water (UW)	Average flow (gpm); Profile I[1]	Weekly; Quarterly
10. UCP to RTSF		
UW return to RTSF	Pumpback flow (gpm)	Weekly
11. Parallel Trench Drain (reporting to Wet Well at pipe outfall) (PTD)	Profile I[1]; Pumpback flow (gpm)	Quarterly; Weekly
12. Downstream Trench Drain (reporting to Wet Well at pipe outfall) (DTD)	Profile I[1]; Pumpback flow (gpm)	Quarterly; Weekly

Identification	Parameter	Frequency
13. Upstream Trench Drain (reporting to Wet Well at pipe outfall) (UTD)	Profile I[1]; Pumpback flow (gpm)	Quarterly; Weekly
14. RTSF Outflow Structure (TIOS)	Average flow (gpm)	Weekly
15. RTSF Supernatant [12] (TW)	Solution elevation (feet AMSL)[8]; Profile I[1]	Monthly; Semi-Annual (2nd & 4th Quarter)
16. Treated ARD Solution [13] (RN-TRTARD)	Profile I[1]	Annual[2]
17. Flowrates reporting to RTSF ARD to Lime Treatment Tank UW Return Flow from TIOS (includes UCS and HLP flows) Direct meteoric precipitation	Average flow (gpm)	Weekly
18. Site Monitoring Wells REP1 REP1A MW2B MW3 MW16 MW23 SMZMW1 SMZMW2[13] RWD14	Profile I[1], Groundwater elevation (feet AMSL), Collar elevation (feet AMSL)	Quarterly
19. Springs/Seeps Emigrant (ESPR-1) Ferdelford 2 (FSPR-2) Ferdelford 3 (FSPR-3) Trench Drain Spring (TDSP)	Profile I[1]	Quarterly

Identification	Parameter	Frequency
20. Surface Water Monitoring Emigrant Creek Drainage		
Intermittent Stream below Emigrant Spring (EMI-D1-A) Ephemeral drainage downgradient of the NWRDF (RN-CC);	Surface Water Profile[14,15]; DO (mg/L)[7], temperature (°F)[7], SC (µS/cm)[7], flow (gpm);	Quarterly; Monthly, when accessible and flowing;
Ferdelford Creek Drainage		
Ferdelford Creek headwaters upgradient of confluence of unnamed ephemeral drainage (FF-HW1-A) Ferdelford Creek downgradient of confluence of unnamed ephemeral drainage above FSPR-2 (FF-D1-A) Ferdelford Creek upstream from the confluence of Ferdelford Creek and Pine Creek (FF-D1-B)	Surface Water Profile[16,15]; DO (mg/L)[7], temperature (°F)[7], SC (µS/cm)[7], flow (gpm)	Quarterly[17]; Monthly, when accessible and flowing
21. Weather Stations Facility Ambient Conditions [18]	Ambient Temperature (min/max), Relative Humidity (%), Wind Speed (mph), Wind Direction (azimuth degree), Total Precipitation (mm), Solar Irradiation (W/m^2), SWE (mm)	Daily
22. Tailings Solution Evaporation Data	Total Amount Evaporated (gallons per day);	Daily[19] (during evaporation season);
	Number and Hours of Evaporators Active	Daily (during evaporation season)
23. RTSF Lime Usage	Amount used (lbs.) to treat ARD solution	Daily

The Permittee may request a reduction of the monitoring frequency after four quarters of complete monitoring based on justification other than cost. Such reductions may be considered modifications to the Permit and require payment of modification fees.

Abbreviations:

ARD = acid rock drainage; gal = gallons; gpm = gallons per minute; gpd = gallons per day; AMSL = above mean sea level; $CaCO_3$ = calcium carbonate; DO = dissolved oxygen; GPS = global positioning system; lbs = pounds; LCRS = leak collection and recovery system; mm = millimeters; mph = miles per hour; min/max = minimum/maximum; meq/L = millequivalents per liter; mg/L = milligrams per liter; N = nitrogen; NAVD88 = North American vertical datum of 1988; NTU = nephelometric turbidity unit; PCU = platinum cobalt units; SAR = sodium adsorption ratio; SC = specific conductance; SU = standard units; SWE = snow water equivalent; TDS = total dissolved solids; µg/L = micrograms per liter; µS/cm = micro Siemens per centimeter; WAD = weak acid dissociable; W/m^2 = watt per square meter; WRDFs = waste rock disposal facilities; % = percentage.

Footnotes:

(1) Profile I:

Alkalinity (as $CaCO_3$)	Cadmium	Magnesium	Silver
Bicarbonate	Calcium	Manganese	Sodium
Total	Chloride	Mercury	Sulfate
Aluminum	Chromium	Nitrate + Nitrite (as N)	Thallium
Antimony	Copper	Nitrogen, Total (as N)	Total Dissolved Solids
Arsenic	Fluoride	pH (± 0.1 SU) (20)	WAD Cyanide
Barium	Iron	Potassium	Zinc
Beryllium	Lead	Selenium	-

(2) The analyses must be performed once a year. If a monitored item/component is seasonally dry or only used or accessible part of the year, the Permittee's sampling and/or characterization schedule must be adjusted to these variations

(3) The sump must be inspected and evacuated on a more frequent basis if the fluid level is above the top of the sump or the invert of any pipe which discharges into the sump, whichever level is lower, or if the potential exists to exceed the sump capacity. Records are required documenting volume, date, and time of extraction to show that sumps are maintained in this condition.

(4) Profile III:

Alkalinity (as $CaCO_3$)	Calcium	Mercury	Strontium
Bicarbonate	Chloride	Molybdenum	Sulfate
Total	Chromium	Nickel	Thallium
Aluminum	Copper	Nitrate + Nitrite (as N)	Tin
Antimony	Fluoride	Nitrogen, Total (as N)	Total Dissolved Solids
Arsenic	Iron	pH (± 0.1 SU) (20)	Total Suspended Solids
Barium	Lead	Phosphorus	Uranium

Beryllium	Lithium	Potassium	Vanadium
Boron	Magnesium	Selenium	Zinc
Cadmium	Manganese	Sodium	-

(5) For presence of water, state whether the pit surface is dry, damp, or wet (ponded or flowing water). If sufficient water is present for sampling), the Permittee shall perform the required monitoring for pit lakes.

(6) When monitoring well SMZMW2 indicates a static water level of 6,314 feet AMSL or greater, the Permittee shall analyze the pit lake (SMZ Pit) for both Profile I and Profile III constituents; otherwise analyze the SMZ Pit for Profile III only.

(7) Field measurements (e.g., temperature, specific conductance, pH, Eh, etc.) shall be made at the Project site concurrent with the monitoring activity using a calibrated instrument, and do not require analysis by a laboratory certified or approved by the State of Nevada as otherwise specified in Part II.E.5. Field measurements must be accompanied by appropriate calibration information.

(8) Water elevation in feet AMSL, NAVD88, and estimated approximate gallons. Monthly measurements per observation (staff gauge) or GPS; via survey, 2nd and 4th Quarters.

(9) Analyses shall include total recoverable metals.

(10) Sample collection shall be conducted on the same day as flow measurement.

(11) Provide a visual evaluation of each waste rock storage facility for physical stability (e.g., stable, unstable, or slope failure), presence of water and seepage. If visibly unstable, or slope failure, describe. For presence of water, identify whether the surface and toes of the waste rock storage facility are dry, damp, or wet (ponded or flowing water). If seepage is emanating from any portion of a waste rock storage facility, the Permittee shall perform the required monitoring for seeps.

(12) Sample collection is to be performed downgradient of the treated ARD solution pipe outfall and be representative of accumulated tailings solution.

(13) Sample collection is to be performed at the outfall of the pipeline discharging into the tailings impoundment from the lime addition plant.

(14) Emigrant Surface Water Profile:

Alkalinity (as CaCO3)	Chromium (III), Dissolved[15]	Nitrite (as N)
Bicarbonate	Chromium (VI), Dissolved[15]	Phosphorus, Total
Total	Color, PCU	pH (± 0.1 SU)[20]
Hardness (as mg/L CaCO3)[21]	Copper, Dissolved	Selenium, Total
Ammonia, Total (as N)	Cyanide, Free	Silver, Dissolved
Antimony, Total	Dissolved Oxygen	Sulfate
Arsenic, Dissolved	Iron, Total	Sulfide, Total (as un-dissociated hydrogen sulfide)
Barium, Total	Lead, Dissolved	Thallium, Total
Beryllium, Total	Magnesium, Dissolved	Total Dissolved Solids
Boron, Total	Manganese, Total	Total Suspended Solids
Cadmium, Dissolved	Mercury, Dissolved	Turbidity, NTU
Calcium, Dissolved	Molybdenum, Total	Zinc, Dissolved
Chloride	Nickel, Dissolved	-
Chromium, Total	Nitrate+Nitrite (as N)	-

(15) Analyze and calculate for species only if Total Chromium exceeds 5.5 µg/L.

(16) Ferdelford Surface Water Profile:

Alkalinity (as $CaCO_3$)	Chromium (III), Dissolved[6]	Nitrite (as N)
Bicarbonate	Chromium (VI), Dissolved[6]	Phosphorus, Total
Total	Color (PCU)	pH (± 0.1 SU)[20]
Hardness (as mg/L $CaCO_3$)[21]	Copper, Dissolved	Selenium, Total
Ammonia, Total (as N)	Cyanide, Free	Silver, Dissolved
Antimony, Total	Dissolved Oxygen	SAR[22]
Arsenic, Dissolved	Iron, Total	Sulfate
Barium, Total	Lead, Dissolved	Sulfide, Total (as un-dissociated hydrogen sulfide)
Beryllium, Total	Magnesium, Dissolved	Suspended Solids
Boron, Total	Manganese, Total	Thallium, Total
Cadmium, Dissolved	Mercury, Dissolved	Total Dissolved Solids
Calcium, Dissolved	Molybdenum, Total	Turbidity (NTU)
Chloride	Nickel, Dissolved	Zinc, Dissolved
Chromium, Total	Nitrate+Nitrite (as N)	-

(17) Ferdelford Creek – If any parameter at monitoring location FF-D1-A exceeds the Standard or Standard Calculation Equation for the Ferdelford Surface Water Profile and associated Most Restrictive Beneficial Use Standards for Ferdelford Creek in Part I.G.9, the Permittee shall also sample and analyze a further downgradient location on Ferdelford Creek, FF-D1-B, for the Surface Water Profile. Otherwise no monitoring at FF-D1-B is required.

(18) Average monthly evaporation shall be calculated and incorporated into all future designs and closure plans, as appropriate, utilizing site meteorological data collected per I.D.22 and the Penman-Monteith equation.

(19) Total amount of solution evaporated during the evaporation season shall be based on the volume and area of solution following initial tailings lake survey and ending with a final tailings lake survey at the end of the evaporation season – typically May through September, and taking into account inflow volumes reported as per Part I.D.18 during the correlating evaporation period.

(20) All sample analyses resulting in a pH value less than or equal to 5.0 SU shall also be analyzed for acidity (mg/L, as CaCO3 equivalent). Collect additional sample volume as required for acidity analysis.

(21) Hardness = (2.497 * Ca) + (4.118 * Mg), where Ca is the calcium concentration in mg/L and Mg is the magnesium concentration in mg/L.

(22) $$SAR = \frac{(Na, mg/L \times 0.04350)}{[([Ca, mg/L \times 0.04990] + [Mg, mg/L \times 0.08229])/2]^{-1/2}}$$

Where Ca = calcium, Mg = magnesium, and Na = sodium.

E. Quarterly and annual monitoring reports and release reporting shall be in accordance with Part II.B.

F. All sampling and analytical accuracy shall be in accordance with Part II.E.

G. Permit Limitations

1. The daily accumulation or flow exceeding 150 gallons per day averaged over the quarter in the leak detection sump/port/pipe identified in Parts I.D.2 and I.D.3.
2. The daily accumulation or flow exceeding 50 gallons per day averaged over the year in the leak detection sump/port/pipe identified in Parts I.D.2 and I.D.3.
3. Failure to meet a Schedule of Compliance date or requirement.
4. The storage of process solution in a single-lined pond for more than 20 consecutive days for any single event.
5. Except as otherwise allowed by this Permit, a minimum 2-foot freeboard shall be maintained in all ponds.
6. Tailings material may not be removed from the tailings impoundment, except with prior written authorization from the Division.
7. Failure to complete approved permanent closure actions in accordance with an approved schedule and applicable regulations.

8. Emigrant Surface Water Profile and associated Most Restrictive Beneficial Use Standards for Emigrant Springs Drainage:

Chemical (inorganic only)	Standard or Standard Calculation Equation (µg/L, except as noted)
Hardness (as mg/L $CaCO_3$)	Measure/calculate and report (as mg/L $CaCO_3$)
Alkalinity (as mg/L $CaCO_3$)	>20 mg/L
Ammonia, Total (as N)	mg/L per NAC 445A.118
Antimony, Total	146
Arsenic, Dissolved	50
Barium, Total	2 mg/L
Beryllium, Total	0
Boron, Total	750
Cadmium, Dissolved[a]	$(1.101672-\{\ln(\text{hardness})(0.041838)\})*e^{(0.7409\{\ln(\text{hardness})\}-4.719)}$
Calcium	Measure/calculate and report (as mg/L calcium) for hardness determination
Chloride	230 mg/L
Chromium, Total	100
Chromium (III), Dissolved[a][b]	$(0.860)*e^{(0.8190\{\ln(\text{hardness})\}+0.6848)}$
Chromium (VI), Dissolved[a][b]	11
Color	75 PCU
Copper, Dissolved[a]	$(0.960)*e^{(0.8545\{\ln(\text{hardness})\}-1.702)}$
Cyanide, Free	5.2
Dissolved Oxygen	≥ 6.0 mg/L
Iron, Total[a]	1.0 mg/L
Lead, Dissolved[a]	$(1.46203-\{\ln(\text{hardness})(0.145712)\})*e(1.273\{\ln(\text{hardness})\}-4.705)$
Magnesium	Measure/calculate and report (as mg/L magnesium) for hardness determination
Manganese, Total	200
Mercury, Dissolved[a]	0.77
Molybdenum, Total[a]	1.65 mg/L
Nickel, Dissolved[a]	$(0.997)*e^{(0.8460\{\ln(\text{hardness})\}+0.0584)}$
Nitrate+Nitrite (as N)	10 mg/L
Nitrite (as N)	0.06 mg/L
Phosphorus, Total	0.10 mg/L
pH[b]	6.5 – 9.0 SU
Selenium, Total [a]	5.0
Silver, Dissolved[a]	$(0.85)*e^{(1.72\{\ln(\text{hardness})\}-6.59)}$
Sulfate	250 mg/L
Sulfide, Total (as un-dissociated hydrogen sulfide)	2.0
Thallium, Total	13
Total Dissolved Solids	500 mg/L
Total Suspended Solids	25 mg/L
Turbidity	10 NTU

Chemical (inorganic only)	Standard or Standard Calculation Equation (µg/L, except as noted)
Zinc, Dissolved[(a)]	$(0.986)*e^{(0.8473\{\ln(\text{hardness})\}+0.884)}$

(a) 96-hour average, may be exceeded once every three years. For "hardness-based" calculations, "hardness" is expressed as mg/L $CaCO_3$ in equation, and "e" refers to the base of the natural logarithm whose value is 2.718.

(b) Analyze and calculate for species only if total chromium exceeds 5.5 µg/L.

(c) For a complete list of applicable standards, refer to NAC 445A.118, 445A.121, 445A.1236, and 445A.1466.

9. Ferdelford Surface Water Profile and associated Most Restrictive Beneficial Use Standards for Ferdelford Creek:

Chemical (inorganic only)	Standard or Standard Calculation Equation (µg/L, except as noted)
Hardness (as mg/L $CaCO_3$)	Measure/calculate and report (as mg/L $CaCO_3$)
Ammonia, Total (as N)	mg/L per NAC 445A.118
Antimony, Total	146
Arsenic, Dissolved	50
Barium, Total	2 mg/L
Beryllium, Total	0
Boron, Total	750
Cadmium, Dissolved[(a)]	$(1.101672-\{\ln(\text{hardness})(0.041838)\})*e^{(0.7409\{\ln(\text{hardness})\}-4.719)}$
Calcium	Measure/calculate and report (as mg/L calcium) for hardness determination
Chloride	250 mg/L
Chromium, Total	100
Chromium (III), Dissolved[(a)(b)]	$(0.860)*e^{(0.8190\{\ln(\text{hardness})\}+0.6848)}$
Chromium (VI), Dissolved[(a)(b)]	11
Color	No adverse effects
Copper, Dissolved[(a)]	$(0.960)*e^{(0.8545\{\ln(\text{hardness})\}-1.702)}$
Cyanide, Free	5.2
Dissolved Oxygen	≥ 5.0 mg/L
Iron, Total[(a)]	1.0 mg/L
Lead, Dissolved[(a)]	$(1.46203-\{\ln(\text{hardness})(0.145712)\})*e^{(1.273\{\ln(\text{hardness})\}-4.705)}$
Magnesium	Measure/calculate and report (as mg/L magnesium) for hardness determination
Manganese, Total	200
Mercury, Dissolved[(a)]	0.77
Molybdenum, Total[(a)]	1.65 mg/L
Nickel, Dissolved[(a)]	$(0.997)*e^{(0.8460\{\ln(\text{hardness})\}+0.0584)}$
Nitrate+Nitrite (as N)	10 mg/L
Nitrite (as N)	1 mg/L
Phosphorus, Total	0.10 mg/L

Chemical (inorganic only)	Standard or Standard Calculation Equation (µg/L, except as noted)
pH[(b)]	6.5 – 9.0 SU
SAR	8 meq/L
Selenium, Total [(a)]	5.0
Silver, Dissolved[(a)]	$(0.85)*e^{(1.72\{\ln(\text{hardness})\}-6.59)}$
Sulfate	250 mg/L
Sulfide, Total (as un-dissociated hydrogen sulfide)	2.0
Suspended Solids	80 mg/L
Thallium, Total	13
Total Dissolved Solids	500 mg/L
Turbidity	50 NTU
Zinc, Dissolved[(a)]	$(0.986)*e^{(0.8473\{\ln(\text{hardness})\}+0.884)}$

(a) 96-hour average, may be exceeded once every three years. For "hardness-based" calculations, "hardness" is expressed as mg/L $CaCO_3$ in equation, and "e" refers to the base of the natural logarithm whose value is 2.718.

(b) Analyze and calculate for species only if total chromium exceeds 5.5 µg/L.

(c) For a complete list of applicable standards, refer to NAC 445A.118, 445A.121, 445A.1236, and 445A.1442.

10. The facility shall not degrade waters of the State to the extent that applicable water quality standards or reference values, and background concentrations, are exceeded.

Exceedances of these limitations may be Permit violations and shall be reported as specified in Part II.B.4.

H. The facility shall maintain, at the Rain Weather Station, located at a location approved by the Division as representative of the North Waste Rock Dump Facility (NWRDF), an automated or manual calibrated rain gauge, which shall be monitored at least daily, to record precipitation (inches of water, including snow water equivalent). A record of all daily weather, per Parts I.D.21, shall be maintained on site and shall be submitted to the Division upon request, with each submittal of the Permit renewal, and pursuant to Parts II.B.1 and II.B.2, as applicable, in a Division-approved electronic format.

I. The Permittee shall inspect all control devices, systems, and facilities weekly, and during, when possible, and after major storm events. These inspections are performed to detect evidence of:

1. Deterioration, malfunction, or improper operation of control or monitoring systems;
2. Sudden changes in the data from of any monitoring device;
3. The presence of liquids in leak detection systems; and

4. Severe erosion or other signs of deterioration in dikes, diversions, closure covers, or other containment devices.

If detected, the Permittee shall report the above conditions in accordance with Part II.B.4, except such a report is not required for the presence of liquids in leak detection systems unless a leak detection limitation in Part I.G is exceeded.

J. Prior to initiating permanent closure activities at the facility, or at any process component or other source within the facility, the Permittee must have an approved final plan for permanent closure.

K. The Permittee shall remit an annual review and services fee in accordance with NAC 445A.232 starting July 1 after the effective date of this Permit and every year thereafter until the Permit is terminated or the facility has received final closure certification from the Division.

L. The Permittee shall not dispose of or treat Petroleum-Contaminated Soil (PCS) on the mine site without first obtaining from the Division approval of a PCS Management Plan.

M. When performing dust suppression activities, the Permittee shall use best management practices and appropriate selection of water source and additives to prevent degradation of waters of the State. If a dust suppressant exceeds a water quality standard and the corresponding natural background water concentration in the area where dust suppression will occur, the Permittee shall demonstrate no potential to degrade waters of the State.

N. Continuing Investigations: None Required

II. General Facility Conditions and Limitations

A. General Requirements

1. The Permittee shall achieve compliance with the conditions, limitations, and requirements of the Permit upon commencement of each relevant activity. The Administrator may, upon the request of the Permittee and after public notice (if required), revise or modify a Schedule of Compliance in an issued Permit if he determines good and valid cause (such as an act of God, a labor strike, materials shortage, or other event over which Permittee has little or no control) exists for such revision.

2. The Permittee shall at all times maintain in good working order and operate as efficiently as possible, all devices, facilities, and systems installed or used by the Permittee to achieve compliance with the terms and conditions of this Permit.

3. Whenever the Permittee becomes aware that he failed to submit any relevant facts in the Permit application, or submitted incorrect information in a Permit application or in any report to the Administrator, the Permittee shall promptly submit such facts or correct information. Any inaccuracies found in this information may be grounds for revocation or modification of this Permit and appropriate enforcement action.

B. Reporting Requirements

1. The Permittee shall submit quarterly reports, in a Division-approved electronic format, which are due to the Division on or before the 28th day of the month following the quarter and must contain the following:

   a. Monitoring results from the leak detection sumps identified in Parts I.D.2 and I.D.3, reported on Nevada Division of Environmental Protection (NDEP) Form 0590 or equivalent;

   b. Analytical results of the solution collected from monitoring locations identified in Parts I.D.4 (SMZ-CT only), I.D.5, I.D.6, I.D.7, I.D.8, I.D.9, I.D.11, I.D.12, I.D.13, I.D.15, I.D.18,and I.D.19, reported on NDEP Form 0190 or equivalent;

   c. Flow measurements, elevations and field measurements/observations as applicable, from monitoring locations identified in Parts I.D.4, I.D.5, I.D.6, I.D.7, I.D.8, I.D.9, I.D.10, I.D.11, I.D.12, I.D.13, I.D.14, I.D.15, I.D.17, and I.D.20;

   d. A table of analytical results and calculated Aquatic Life standard values for the surface water collected from monitoring locations identified in Part I.D.20 reported on NDEP Form 0190 or equivalent;

   e. Water and collar elevations for site monitoring wells identified in Part I.D.18;

   f. Analytical results for the pit lakes identified in Part I.D.4, reported on NDEP Form 0290 or equivalent;

   g. Monitoring results identified in Part I.D.23;

   h. A record of releases, and the remedial actions taken in accordance with the approved Emergency Response Plan on NDEP Form 0490 or equivalent.

   Facilities which have not initiated mining or construction, must submit a quarterly report identifying the status of mining or construction. Subsequent to any noncompliance or any facility expansion which provides increased capacity, the Division may require an accelerated monitoring frequency.

2. The Permittee shall submit an annual report, in a Division-approved electronic format, by February 28th of each year, for the preceding calendar year, which contains the following:

   a. Analytical results of water quality samples identified in Parts I.D.1 and I.D.16, reported on NDEP Form 0190 or equivalent;

   b. Water and collar elevations for water supply well identified in Part I.D.1;

   c. Daily and annual monitoring results identified in Part I.D.22;

   d. A synopsis of releases on NDEP Form 0390 or equivalent;

   e. A brief summary of site operations, construction activities, and major problems with the fluid management system;

f. A table of total monthly precipitation, average monthly solar radiation, relative humidity, barometric pressure, min/max temperature, wind speed, and tails volumes evaporated in accordance with Parts I.D.21, I.D.22, and I.H, reported for the history since initial Permit issuance;

g. An updated version of the facility monitoring and sampling procedures and protocols;

h. An updated evaluation of the closure plans using specific characterization data for each process component with respect to achieving stabilization; and

i. Graphs of leak detection, all monitoring locations with associated flow rate measurements, alkalinity, antimony, arsenic, chromium, iron, manganese, mercury, nitrate + nitrite (as N), pH, sulfate, TDS, WAD cyanide, and any parameters exceeding a Division Profile I, Profile III, or Surface Water Profile reference value concentration (as applicable), versus time for all fluid sampling points. These graphs shall display all previous historic data prior to the date of submittal. Additional parameters may be required by the Division if deemed necessary.

3. Release Reporting Requirements: The following applies to facilities with an approved Emergency Response Plan. If a site does not have an approved Emergency Response Plan, then all releases must be reported as per NAC 445A.347 or NAC 445A.3473, as appropriate.

   a. A release of any quantity of hazardous substance, as defined at NAC 445A.3454, to surface water, or that threatens a vulnerable resource, as defined at NAC 445A.3459, must be reported to the Division as soon as practicable after knowledge of the release, and after the Permittee notifies any emergency response agencies, if required, and initiates any action required to prevent or abate any imminent danger to the environment or the health or safety of persons. An oral report shall be made by telephone to (888) 331-6337 for in-State callers or (775) 687-9485 for out-of-State callers, and a written report shall be provided within 10 days in accordance with Part II.B.4.b.

   b. A release of a hazardous substance in a quantity equal to or greater than that which is required to be reported to the National Response Center pursuant to 40 Code of Federal Regulations (CFR) Part 302 must be reported as required by NAC 445A.3473 and Part II.B.3.a.

   c. A release of a non-petroleum hazardous substance not subject to Parts II.B.3.a. or II.B.3.b., released to soil or other surfaces of land, and the total quantity is equal to or exceeds 500 gallons or 4,000 pounds, or that is discovered in or on groundwater in any quantity, shall be reported to the Division no later than 5:00 P.M. of the first working day after knowledge of the release. An oral report shall be made by telephone to (888) 331-6337 for in-State callers or (775) 687-9485 for out-of-State callers, and a written report shall be provided within 10 days in accordance with Part II.B.4.b. Smaller releases, with total quantity greater than 25 gallons or 200 pounds and less than 500 gallons or 4,000 pounds, released to soil or other surfaces

of land, or discovered in at least 3 cubic yards of soil, shall be reported quarterly on NDEP Form 0390 or equivalent.

d. Petroleum Products and Coolants: If a release is subject to Parts II.B.3.a. or II.B.3.b., report as specified in Part II.B.3.a. Otherwise, if a release of any quantity is discovered on or in groundwater, or if the total quantity is equal to or greater than 100 gallons released to soil or other surfaces of land, report as specified in Part II.B.3.c. Smaller releases, with total quantity greater than 25 gallons but less than 100 gallons, released to soil or other surfaces of land, or if discovered in at least 3 cubic yards of soil, shall be reported quarterly on NDEP Form 0390 or equivalent.

4. The Permittee shall report to the Administrator any noncompliance with the Permit.

   a. Each such event shall be reported orally by telephone to (775) 687-9400, not later than 5:00 P.M. of the next regular work day from the time the Permittee has knowledge of the circumstances. This report shall include the following:

      i. Name, address, and telephone number of the owner or operator;

      ii. Name, address, and telephone number of the facility;

      iii. Date, time, and type of incident, condition, or circumstance;

      iv. If reportable hazardous substances were released, identify material and report total gallons and quantity of contaminant;

      v. Human and animal mortality or injury;

      vi. An assessment of actual or potential hazard to human health and the environment outside the facility; and

      vii. If applicable, the estimated quantity of material that will be disposed and the disposal location.

   b. A written summary shall be provided within 10 days of the time the Permittee makes the oral report. The written summary shall contain:

      i. A description of the incident and its cause;

      ii. The periods of the incident (including exact dates and times);

      iii. If reportable hazardous substances were released, the steps taken and planned to complete, as soon as reasonably practicable, an assessment of the extent and magnitude of the contamination pursuant to NAC 445A.2269;

      iv. Whether the cause and its consequences have been corrected, and if not, the anticipated time each is expected to continue; and

      v. The steps taken or planned to reduce, eliminate, and prevent recurrence of the event.

   c. The Permittee shall take all available and reasonable actions, including more frequent and enhanced monitoring to:

i. Determine the effect and extent of each incident;

ii. Minimize any potential impact to the waters of the State arising from each incident;

iii. Minimize the effect of each incident upon domestic animals and all wildlife; and

iv. Minimize the endangerment of the public health and safety which arises from each incident.

d. If required by the Division, the Permittee shall submit, as soon as reasonably practicable, a final written report summarizing any related actions, assessments, or evaluations not included in the report required in Part II.B.4.b and including any other information necessary to determine and minimize the potential for degradation of waters of the State and the impact to human health and the environment. Submittal of the final report does not relieve the Permittee from any additional actions, assessments, or evaluations that may be required by the Division.

C. Administrative Requirements

1. A valid Permit must be maintained until permanent closure is complete. Therefore, unless permanent closure has been completed and termination of the Permit has been approved in writing by the Division, the Permittee shall apply for Permit renewal not later than 120 days before the Permit expires.

2. Except as required by NAC 445A.419 for a Permit transfer, the Permittee shall submit current Permit contact information described in paragraphs (a) through (c) of subsection 2 of NAC 445A.394 within 30 days after any change in previously submitted information.

3. All reports and other information requested by the Administrator shall be signed and certified as required by NAC 445A.231.

4. All reports required by this Permit, including, but not limited to, monitoring reports, corrective action reports, and as-built reports, as applicable, and all applications for Permit modifications, shall be submitted in both hard copy and a Division-approved electronic format.

5. The Permittee shall submit any new or updated Universal Transverse Mercator (UTM) location data for all monitoring points specified in Part I.D, expressed in meters and decimals of a meter, using the Nevada Coordinate System of 1983 (also known as the North American Datum of 1983 or NAD83, ref NRS 327.005), with each Permit renewal, as-built report, and monitoring plan update, as applicable. Data shall be submitted electronically to the Division in Excel format.

6. When ordered consistent with Nevada Statutes, the Permittee shall furnish any relevant information in order to determine whether cause exists for modifying, revoking and reissuing, or permanently revoking this Permit, or to determine compliance with this Permit.

7. The Permittee shall maintain a copy of, and all modifications to, the current Permit at the permitted facilities at all times.

8. The Permittee is required to retain during closure and post-closure monitoring, all records of monitoring activities and analytical results, including all original strip chart or data logger recordings for continuous monitoring instrumentation, and all calibration and maintenance records. This period of retention must be extended during the course of any unresolved litigation.

9. The provisions of this Permit are severable. If any provision of this Permit, or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Permit, shall not thereby be affected.

10. The Permittee is authorized to manage fluids and solid wastes in accordance with the conditions of this Permit. Issuance of this Permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of Federal, State, or local law or regulations. Compliance with the terms of this Permit does not constitute a defense to any order issued or any action brought under the Water Pollution Control Statutes for releases or discharges from facilities or units not regulated by this Permit. NRS 445A.675 provides that any person who violates a Permit condition is subject to administrative or judicial action provided in NRS 445A.690 through 445A.705.

D. Division Authority

The Permittee shall allow authorized representatives of the Division, at reasonable times, and upon the presentation of credentials to:

1. Enter the premises of the Permittee where a regulated activity is conducted or where records are kept per the conditions of this Permit;

2. Have access to and copy any record that must be kept per the conditions of this Permit;

3. Inspect and photograph any facilities, equipment (including monitoring and control equipment), practices, or operations regulated by this Permit; and

4. Sample or monitor for any substance or parameter at any location for the purposes of assuring Permit and regulatory compliance.

E. Sampling and Analysis Requirements

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

2. For each measurement or sample taken pursuant to the conditions of this Permit, the Permittee shall record the following information:

   a. The exact place, date, and time of the inspection, observation, measurement, or sampling; and

   b. The person(s) who inspected, observed, measured, or sampled.

3. Samples must be taken, preserved, and labeled according to Division approved methods.

4. Standard environmental monitoring chain of custody procedures must be followed.

5. Samples shall be analyzed by a laboratory certified or approved by the State of Nevada, as applicable for the method(s) being performed. The Permittee must identify in all required reports the certified and approved laboratories used to perform the analyses, laboratory reference numbers, and sample dates, and for the electronic version of each report only, include all associated laboratory analytical reports, including test results, test methods, chain-of-custody forms, and quality assurance/quality control documentation.

6. The accuracy of analytical results, unless otherwise specified, shall be expressed in mg/L and be reliable to at least two significant digits. The analytical methods used must have a practical quantitation limit (PQL) equal to or less than one-half the reference value for Profile I, Profile III, and Surface Water Profile parameters. Laboratories shall report the lowest reasonable PQL based on in-house method detection limit studies. Samples for Profile I parameters shall be filtered and analyzed for the dissolved fraction, unless otherwise required by the Division; samples for Profile III parameters shall be unfiltered and analyzed for the total recoverable fraction. Samples for Surface Water Profile parameters shall be analyzed in accordance with NAC 445A.1236 and any other applicable surface water regulations. Unless otherwise approved by the Division, analytical results that are less than the PQL shall be reported quantitatively by listing the PQL value preceded by the "<" symbol.

F. Permit Modification Requirements

1. Any material modification, as defined at NAC 445A.365, plan to construct a new process component, or proposed change to Permit requirements must be reported to the Division by submittal of an application for a Permit modification, or if such changes are in conformance with the existing Permit, by submittal of a written notice of the changes. The Permit modification application must comply with NAC 445A.391 through 445A.399, 445A.410, 445A.414, 445A.4155, 445A.416, 445A.417, 445A.440, and 445A.442, as applicable. The construction or modification shall not commence, nor shall a change to the Permit be effective, until written Division approval is obtained.

2. Prior to the commencement of mining activities at any site within the State which is owned or operated by the Permittee but not identified and characterized in a previously submitted application or report, the Permittee shall submit to the Division a report which identifies the locations of the proposed mine areas and waste disposal sites and characterizes the potential of mined materials and areas to release pollutants. Prior to development of these areas the Division shall determine if any of these new sources will be classified as process components and require engineered containment as well as Permit modification.

3. The Permittee shall notify the Division in writing at least 30 days before the introduction of process solution into a new process component or into an existing process component that has been materially modified, or of the intent to commence active operation of that process component. Before introducing process solution or commencing active operation, the Permittee shall obtain written authorization from the Division.
4. The Permittee must obtain a written determination from the Administrator of any planned process component construction or material modification, or any proposed change to Permit requirements, as to whether it is considered a Permit modification, and if so, what type.
5. The Permittee must give advance notice to the Administrator of any planned changes or activities which are not material modifications in the permitted facility that may result in noncompliance with Permit requirements.

Prepared by:	Karl W. McCrea
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