

STATE OF UTAH
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER QUALITY
UTAH WATER QUALITY BOARD
SALT LAKE CITY, UTAH 84114-4870

**Renewed Ground Water Discharge Permit
Permit No. UGW350011**

In compliance with the provisions of the Utah Water Quality Act, Title 19, Chapter 5, Utah Code Annotated 1953, as amended, the Act,

**Kennecott Utah Copper LLC (Kennecott)
4700 Daybreak Parkway
South Jordan, UT 84095**

is granted a renewed ground water discharge permit for the operation of the Tailings Impoundment in Salt Lake County, Utah.

The Tailings Impoundment is located on the following tract of land (Salt Lake Base and Meridian):

- Township 1 South, Range 2 West - Portions of Sections 5, 6, 7, 8, 9, 17, 18, 19, and 20
 - Township 1 South, Range 3 West - Portions of Sections 1, 2, 3, 10, 11, 12, 13, 14, 15, 23, and 24
 - Township 1 North, Range 2 West - Portions of Section 31
 - Township 1 North, Range 3 West - Portions of Section 35 and 36
- (40° 45.449' N 112° 7.574' W)

This renewed ground water discharge permit is based on representations made by the permittee and other information contained in Division of Water Quality files. It is the responsibility of the permittee to read and understand all provisions of this renewed ground water discharge permit.

The facility shall be maintained and operated in accordance with conditions set forth in the renewed ground water discharge permit and the Utah Ground Water Quality Protection Rules (UAC R317-6).

This renewed ground water quality discharge permit for the Tailings Impoundment supersedes all other Ground Water Discharge Permits Tailings Impoundment previously issued.

This renewed ground water discharge permit may hereafter also be referred to as "permit."

This renewed ground water discharge permit shall become effective on October 5, 2017.

This renewed ground water discharge permit and the authorization to operate shall expire at midnight October 4, 2022.



Kim Shelley
Acting Director

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Applicable Kennecott Operations Documents for this permit include:

- 1) Assessment of Acidification Potential v.2017
- 2) Compliance and Operational Monitoring Plan v.2017
- 3) Pipeline Inspection Plan v.2017

I. SPECIFIC PERMIT CONDITIONS

A. GROUND WATER CLASSIFICATION

The ground water classification for the uppermost aquifer in the area of the Tailings Impoundment ranges from Class II Drinking Water Quality to Class IV Saline ground water, with ground water near the Oquirrh Mountains recharge area generally Class II and water adjacent to the Great Salt Lake discharge area generally Class IV. Ground water compliance monitoring at each well has been classified based on historical monitoring data.

B. GROUND WATER COMPLIANCE LIMITS

Monitoring well protection levels for this permit are contained in Table 1. Ground water protection levels are based on background sampling performed to date and calculations performed based on the criteria of R317-6-4 and provisions of R317-6-4B. Ground water Protection levels for any new or replacement compliance monitoring wells approved by the Division and installed during the term of this permit will be set following an accelerated quarterly sampling program.

C. BEST AVAILABLE TECHNOLOGY PERFORMANCE STANDARD

The enforceable performance standard for this permit to achieve protection of ground water quality will be discharge minimization of process fluids to ground water from the permitted facilities. The permittee is responsible for implementing and maintaining the best available technology (BAT) to minimize discharge of process fluids from the permitted facilities to ground water. Maintenance of this performance standard will be demonstrated by:

1. Best Available Technology for the Tailings Impoundment will be a Discharge Minimization approach.
2. The current Tailings Impoundment is comprised of two sections: an older inactive South Tailings Impoundment and a North Tailings Impoundment. Active tailings disposal currently occurs in the North Tailings Impoundment. Tailings disposal into the South Tailings Impoundment ended in October 2002. Mine waste materials that originate from the Bingham Canyon Mine, related processing waste, and other permitted waste streams as outlined in Part I.D may be disposed of in the Tailings Impoundment. Other waste streams not listed in Part I.D must be approved by the Director prior to disposal in the tailings impoundment.

South Tailings Impoundment - The Lake Bonneville Clay (Bonneville Clay) is a low-permeability lacustrine clay layer varying from 9 to 15 feet thick that underlies the existing impoundment. The Bonneville Clay serves as a natural liner for the impoundment. A radial discharge capture ditch system exists for most of the South Impoundment to route lateral seepage from the tailings back into the process water network for recycle, or for discharge under UPDES Permit No. UT0000051.

North Tailings Impoundment - The North Tailings Impoundment area is underlain by the Bonneville Clay. This low-permeability lacustrine clay layer serves as a natural liner for the North Tailings Impoundment. A 36-inch finger drain system consisting of crushed slag placed between filter materials has been placed in the base of the Tailings impoundment. This drain layer promotes horizontal seepage of tailings water through the embankment and into the perimeter toe drain collection ditch and reduces, somewhat, the potential for vertical migration of tailings waters. The collection ditch around the perimeter of the North Tailings Impoundment is utilized to capture lateral seepage from the blanket drain and route waters back into the process water makeup system.

3. Diving Board Area – This area is contained by earthen dikes composed of low-permeability native materials and is underlain by the low-permeability lacustrine clays typical of this area. Drainage from this area is collected via a ditch and channeled to the clarification canal.
4. Implementation of the Compliance and Operational Monitoring Plan, to ensure prompt cleanup of any spills and proper handling of process waters as well as an ongoing inspection and maintenance program for facilities included in this permit.
5. Closure - Both the South and North sections of the Tailings Impoundment shall undergo closure in accordance with the requirements of the approved UGW350011 closure plan in concert with closure plans administered by the Utah Division of Oil, Gas & Mining, Mining & Reclamation permits M-035-0002 and M-035-0015.

D. PERMITTED FACILITIES

These Tailing Impoundment facilities, collectively, constitute those, not permitted by rule, where there is potential for release of fluids to ground water.

The Tailings Impoundment Facilities authorized under this permit include:

1. The South Section of the Tailings Impoundment near Magna, Utah, located adjacent to and North of UT S.R. 201;
2. The North Section of the Tailings Impoundment, located east and adjacent to UT S.R. 202 and South of I-80;
3. Sedimentation Pond, located east of the South Impoundment and north of State Road 201;
4. The Diving Board Area, located south of State Road 201, and west of 9180 West.

Permitted Inflow Waste Streams

The waste streams that are permitted for placement in the Tailings Impoundment include:

- 1) Copper Tailings from the Copperton Concentrator;
- 2) Slag Tailings from the slag concentrator at the Smelter;
- 3) Power plant coal ash slurry;
- 4) Smelter process waters;
- 5) Wastewater effluent slurry from the Hydrometallurgical Plant at the Smelter;

- 6) Mine leach water and meteoric contact water that have been treated (via mixing over distance) in the tailings pipeline;
- 7) Wastewater effluent from the Reverse Osmosis treatment of sulfate contaminated waters;
- 8) Neutralized acid-mine contaminated waters;
- 9) Barney's Canyon pit dewatering and heap leach pad and other drain down waters;
- 10) Construction, maintenance and non-hazardous trash (Salt Lake Valley Health Department Permit: 35-0011805 covering footprint of Tailings Impoundment);
- 11) Treated effluent from the sewage treatment plant; and non-process impacted storm water;
- 12) Leakage collection system water from the Arthur Stepback Repository (CERCLA CAMU);
- 13) Other inflows, including managed meteoric contact water that are approved by the Director for this permit or UPDES permit UT0000051.

Kennecott shall obtain approval from the Director prior to disposing of mine waste, other materials, or other listed waste streams that do not originate in the Bingham Canyon Mine. The request to dispose of off-site mine waste, other materials, or listed waste streams that do not originate in the Bingham Canyon Mine shall include characterization of the wastes using the Synthetic Precipitation Leaching Procedure (SPLP EPA SW846 Method 1312) for mining waste streams and the Toxicity Characteristic Leaching Procedure (TCLP EPA SW846 Method 1311) for non-mining and listed waste streams. Further analysis may be required by the Director to adequately characterize off site materials. The use of off-site materials including anodes, concentrate, scrap copper, reagents, fluxes, or materials to process ore, slag, or other smelting-acceptable copper bearing secondary materials does not trigger this requirement. Materials authorized for storage in Arthur Stepback Repository are described in U.S. EPA Record of Decision for Kennecott North and South Zone Sites, dated September 26, 2002.

E. MONITORING

1. General Provisions

- a) *Future Modification of the Monitoring Network* - If at any time the Director determines the monitoring program to be inadequate Kennecott shall submit within 30 days of receipt of written notice from the Director a modified monitoring plan that addresses the inadequacies noted by the Director.
- b) *Compliance Monitoring Period* - Monitoring shall continue throughout the term of this permit. For compliance monitoring wells that are installed during the term of this permit, monitoring shall commence upon completion of the well installation and development.
- c) *Laboratory Approval* - All water quality analyses shall be performed by a laboratory certified by the State of Utah to perform such analysis.
- d) *Water Level Measurement* - In association with each well sampling event, water level shall be measured in each monitoring well prior to removal of any water from the well bore. These measurements will be made from a permanent single reference point clearly marked on the top of the well or surface casing. Measurements will be made to the nearest 0.01 foot.

- e) *Sampling Protocol* - Water quality samples will be collected, handled, and analyzed in conformance with the currently approved version of the Kennecott Utah Copper Ground Water Characterization and Monitoring Plan.
 - f) *Constituents Sampled* - The following analysis shall be performed on all water quality samples collected:
 - i) Field Measurements: pH, specific conductance, temperature
 - ii) Laboratory Analysis:
 - Major Ions: alkalinity, calcium, chloride, magnesium, potassium, sodium, and sulfate;
 - Total Dissolved Solids (TDS);
 - Metals (dissolved): arsenic, barium, cadmium, chromium, copper, lead, selenium, silver, and zinc.
 - g) *Analytical Procedures* - Water sample analysis will be conducted according to test procedures specified under UAC R317-6-6.3L.
2. Operational Monitoring will be used to assure inflows are consistent with the approved Best Available Technology performance standards for this permit.
- a) Monitoring of Inflows - Each inflow to the Tailings Impoundment listed in Section I Part D, except solid waste such as construction, maintenance and non-hazardous waste, shall be characterized using at a minimum the SPLP (EPA SW846 Method 1312) or TCLP (EPA SW846 Method 1311), as appropriate, and total metals analysis. The details for monitoring of inflows are described in the Compliance and Operational Monitoring Plan.
 - b) Kennecott shall perform ongoing monitoring of tailings materials inflow for acid generation potential. These characterizations shall be performed in accordance with the Assessment of Acidification Potential Plan.
3. Monitoring Frequency
- a) *Well Monitoring Frequency* - All existing compliance monitoring wells will be sampled according to the frequency listed in Table 1 of the Compliance and Operational Monitoring Plan throughout the term of this permit. All new and replacement compliance monitoring wells will be sampled quarterly over a three year period following installation to establish baseline ground water quality. If an established ground water well is switched to a compliance monitoring well, the Director will consider the well's historical data instead of three years of monitoring. Following completion of accelerated sampling, monitoring may change to a semiannual sampling frequency. The samples shall be analyzed for major ions and the parameters listed in Part I.E.1.f.

- b) *Operational Monitoring Frequency* - Operational monitoring including monitoring of inflows shall occur semi-annually throughout the term of this permit, except for tailings underflow samples noted in Standard Operating Procedure #2 of Assessment of Acidification Potential guidance.
- c) Radionuclides: Uranium, Radium 226, Radium 228, Gross Alpha, and Gross Beta Particle from monitoring wells NET1386 A&B, and NET1393 A&B shall be sampled once every five years prior to permit renewal. Analytical results shall be submitted in the ground water discharge permit renewal application.

4. Post-Closure Monitoring

Kennecott shall conduct post-closure monitoring in accordance with the post closure monitoring program that is included in the closure plan in section 7 of the permit application.

F. DEMONSTRATION OF COMPLIANCE

1. Probable Out of Compliance for Ground Water Protection Levels

If the concentration of any pollutant exceeds the ground water protection level (Table 1) in any compliance monitoring well, Kennecott shall:

- a) Notify the Director of Probable Out of Compliance status in the corresponding ground water report.
- b) Initiate quarterly sampling for the well(s) that have exceeded the ground water protection level.

2. Out of Compliance Status for Ground Water Compliance Wells Limits

Out of compliance status shall be defined as follows:

Two or more consecutive samples from the same compliance monitoring well exceed the ground water protection level (Table 1) for that well.

3. Upon determining that an out of compliance situation exists, Kennecott shall:

- a) Notify the Director of the out of compliance status within 24 hours of detection, followed by a written notice within 5 days of the detection.
- b) Initiate quarterly sampling until the facility is brought into compliance unless the Director determines that other periodic sampling is appropriate.
- c) Submit a Source Assessment and Compliance Schedule to the Director within 30 days of determination of the out of compliance status that outlines the following:
 - Steps of action that will assess the source, extent, and potential dispersion of the contamination.
 - Evaluation of potential remedial actions to restore and maintain ground water quality and ensure the compliance limits will not be exceeded at that compliance monitoring point.
 - Measures to ensure best available technology will be re-established.

- d) Implement the Source Assessment and Compliance Schedule as directed by the Director.

G. NON-COMPLIANCE FOR BEST AVAILABLE TECHNOLOGY

- 1. Kennecott is required to maintain the Best Available Technology in accordance with the approved design and practice for this permit. Failure to maintain BAT or maintain the approved design and practice shall be a violation of this permit. In the event a compliance action is initiated against the permittee for violation of permit conditions relating to best available technology, Kennecott may affirmatively defend against that action by demonstrating the following:
 - a. Kennecott submitted notification in accordance with R317-6-6.13;
 - b. The failure was not intentional or caused by Kennecott's negligence, either in action or in failure to act;
 - c. Kennecott has taken adequate measures to meet permit conditions in a timely manner or has submitted for the Director's approval, an adequate plan and schedule for meeting permit conditions; and
 - d. The provisions of UCA 19-5-107 have not been violated.

H. REPORTING REQUIREMENTS

1. Reporting

- a. Water quality sampling results with any supporting data for compliance monitoring wells shall be submitted two times per year to the Director as follows:

| <u>Quarter Sampled In</u> | <u>Results Due On</u> |
|---------------------------|-----------------------|
| 1st (Jan., Feb., March) | August 15 |
| 2nd (April, May, June) | August 15 |
| 3rd (July, Aug., Sept.) | February 15 |
| 4th (Oct., Nov., Dec.) | February 15 |

- b. *Operational Monitoring* - Operational monitoring results including interstitial waters, decant pond flows, tailings inflows, and acidification analysis shall be submitted in an annual report by March 31 of each year.
 - c. Failure to submit reports within the time frame due shall be deemed as noncompliance and may result in enforcement action.
- 2. **Electronic Filing Requirements** - The permittee will electronically submit the required ground water monitoring data in the electronic format specified by the Director. The data should be in an Adobe PDF document sent by e-mail, CD, USB flash drive, or other approved transmittal mechanism.

I. COMPLIANCE SCHEDULE

1. *Documentation of New and Replacement Well Installations* - Within 60 days of completion of any new or replacement monitoring well, Kennecott shall submit documentation for the wells. The report is due within 60 days of the date of well completion. The report shall include:
 - Casing: depth, diameter, and type of material.
 - Screen: length, depth interval, diameter, material type, slot size.
 - Sand Pack: depth interval, material type and grain size.
 - Annular Seals: depth interval, material type.
 - Surface Casing and Cap: depth, diameter, material type, protection measures constructed.
 - Elevation and Well Location: ground surface elevation, elevation of water level measuring point, latitude and longitude in degrees, minutes and seconds.
 - Well construction description, well completion description, results of well pump tests or slug tests.

2. Accelerated Background Monitoring Program – The permittee shall conduct an accelerated ground water monitoring program to establish ground water protection levels for new or replacement compliance monitoring wells. Ground water quality samples will be collected and analyzed for all compliance monitoring wells in accordance with the following requirements:
 - a. Water samples will be collected quarterly from each well according to the requirements of Part I.E.3.a above and the Kennecott GCMP until a total of twelve (12) samples events have been completed.

 - b. After twelve (12) quarterly sample events have been completed, the permittee will submit an Accelerated Background Monitoring Report with all field data sheets, laboratory analytical reports, and the following statistical calculations for each well presented in spreadsheet format for each parameter in Part I.E.1.f.
 - 1) Non-detect values converted to the detection limit
 - 2) Mean concentration
 - 3) Standard deviation
 - 4) Mean concentration plus 2 standard deviations
 - 5) Mean total dissolved solids concentration times 1.25
 - 6) Mean concentration of all other parameters times 1.5
 - 7) Ground water quality standard times 0.5

After review and approval of the Accelerated Background Monitoring Report, the Director will establish well specific ground water protection parameters for each parameter in accordance with R317-6-4 of the Ground Water Quality Protection Rules.

- 3) *Permit Renewal Application Items* - As a part of the application for permit renewal each five years, Kennecott will include water level data and a potentiometric surface map for both the Shallow and Principal aquifer systems within at least a one mile perimeter and underlying the impoundment. The water level data and maps will delineate temporal changes in water levels that have occurred during the term of the permit. Monitoring results for radionuclides and uranium in wells NET1386A&B and NET1393A&B will be included in the renewal application.

- 4) *Tailings Impoundment Closure Plan* - At any time during the effective period of this permit, Kennecott shall submit within 180 days of written request by the Director, a revised closure plan for the Tailings Impoundment. The current preliminary closure plan for the Tailings Impoundment is contained within "Reclamation and Water Management Plan, Kennecott Utah Copper Corporation, Bingham Canyon Mine" submitted in March 2003. Within three years of mine closure Kennecott must submit a final set of engineered drawings and plans that clearly define the scope of the final closure for the North and South sections of the Tailings Impoundment. The plan will provide details on all aspects of closure and closure monitoring which are related to or have an impact on surface water or ground water quality, including all pre- and post-mine closure water sources. For any issues that require further study prior to finalizing aspects to the closure plan, details on what each study will include, and a schedule with milestones for each segment of the study shall be included in Kennecott's revised plan.

II. MONITORING, RECORDING AND REPORTING REQUIREMENTS

- A. REPRESENTATIVE SAMPLING
Samples collected in compliance with the monitoring requirements established under Part I shall be representative of the monitored activity.
- B. ANALYTICAL PROCEDURES
Water sample analysis must be conducted according to test procedures specified under UAC R317-6-6.3L, unless other test procedures have been specified in this permit.
- C. PENALTIES FOR TAMPERING
The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.
- D. REPORTING OF MONITORING RESULTS
Monitoring results obtained for each monitoring period specified in the permit, shall be submitted to the Director, Utah Division of Water Quality at the following address no later than 45 days after the end of the monitoring period (unless specified otherwise in this permit):
State of Utah
Division of Water Quality
P.O. Box 144870
Salt Lake City, Utah 84114-4870
Attention: Ground Water Protection Section
Electronic document submission:
<http://deq.utah.gov/ProgramsServices/services/submissions/>
- E. COMPLIANCE SCHEDULES
Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.
- F. ADDITIONAL MONITORING BY THE PERMITTEE
If the permittee monitors any pollutant more frequently than required by this permit, using approved test procedures as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted. Such increased frequency shall also be indicated.
- G. RECORDS CONTENTS
Records of monitoring information shall include:
1. The date, exact place, and time of sampling or measurements;
2. The individual(s) who performed the sampling or measurements;
3. The date(s) and time(s) analyses were performed;
4. The individual(s) who performed the analyses;
5. The analytical techniques or methods used; and,
6. The results of such analyses.
- H. RETENTION OF RECORDS
The permittee shall retain records of all monitoring information, including all calibration and maintenance records and copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be

extended by request of the Director at any time.

I. TWENTY-FOUR HOUR NOTICE OF NONCOMPLIANCE AND SPILL REPORTING

1. The permittee shall verbally report any noncompliance, or spills subject to the provisions of UCA 19-5-114, which may endanger public health or the environment as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of the circumstances. The report shall be made to the Utah Department of Environmental Quality 24 hour number, (801) 536-4123, or to the Division of Water Quality, Ground Water Protection Section at (801) 536-4300, during normal business hours (8:00 am - 5:00 pm Mountain Time).
2. A written submission shall also be provided to the Director within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times;
 - c. The estimated time noncompliance is expected to continue if it has not been corrected; and,
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
3. Reports shall be submitted to the addresses in Part II D, Reporting of Monitoring Results.

J. OTHER NONCOMPLIANCE REPORTING

Instances of noncompliance not required to be reported within 24 hours, shall be reported at the time that monitoring reports for Part II D are submitted.

K. INSPECTION AND ENTRY

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,
4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

III. COMPLIANCE RESPONSIBILITIES

A. DUTY TO COMPLY

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

B. PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

The Act provides that any person who violates a permit condition implementing provisions of the Act is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions is subject to a fine not exceeding \$25,000 per day of violation. Any person convicted under Section 19-5-115(2) of the Act a second time shall be punished by a fine not exceeding \$50,000 per day. Nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

C. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. DUTY TO MITIGATE

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. PROPER OPERATION AND MAINTENANCE

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

IV. GENERAL REQUIREMENTS

- A. PLANNED CHANGES The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required when the alteration or addition could significantly change the nature of the facility or increase the quantity of pollutants discharged.
- B. ANTICIPATED NONCOMPLIANCE The permittee shall give advance notice of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- C. PERMIT ACTIONS This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and re-issuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- D. DUTY TO REAPPLY If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit; the permittee must apply for and obtain a permit renewal or extension. The application should be submitted at least 180 days before the expiration date of this permit.
- E. DUTY TO PROVIDE INFORMATION The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.
- F. OTHER INFORMATION When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts or information.
- G. SIGNATORY REQUIREMENTS All applications, reports or information submitted to the Director shall be signed and certified.
1. All permit applications shall be signed as follows:
 - a. For a corporation: by a responsible corporate officer;
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.
 - c. For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the Director, and,
 - b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
3. Changes to Authorization. If an authorization under Part IV G 2. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part IV G 2. must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

- H. PENALTIES FOR FALSIFICATION OF REPORTS The Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.
- I. AVAILABILITY OF REPORTS Except for data determined to be confidential by the permittee, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Director. As required by the Act, permit applications, permits, effluent data, and ground water quality data shall not be considered confidential.

- J. PROPERTY RIGHTS The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
- K. SEVERABILITY The provisions of this permit are severable, and 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 be affected thereby.
- L. TRANSFERS This permit may be automatically transferred to a new permittee if:
1. The current permittee notifies the Director at least 30 days in advance of the proposed transfer date;
 2. The notice includes a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,
 3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.
- M. STATE LAWS Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, penalties established pursuant to any applicable state law or regulation under authority preserved by Section 19-5-117 of the Act.
- N. REOPENER PROVISION This permit may be reopened and modified (following proper administrative procedures) to include the appropriate limitations and compliance schedule, if necessary, if one or more of the following events occurs:
1. If new ground water standards are adopted by the Board, the permit may be reopened and modified to extend the terms of the permit or to include pollutants covered by new standards. The permittee may apply for a variance under the conditions outlined in R317-6-6.4(D)
 2. If alternate compliance mechanisms are required
 3. If water quality of the facility is significantly worse than represented in the original permit application.

**TABLE 1 Permit No. UGW350011
PROTECTION LEVELS FOR GROUND WATER**

| Well | Class | pH | TDS | Sulfate | Arsenic | Barium | Cadmium | Chromium | Copper | Lead | Selenium | Zinc |
|---------------------------------------|--------------|------------------|------------|----------------|----------------|---------------|----------------|-----------------|---------------|--------------|-----------------|-------------|
| NEL532A | Class III | 6.5 - 8.5 | 8721 | 1264 | 0.265 | 1.000 | 0.003 | 0.050 | 0.650 | 0.005 | 0.025 | 2.50 |
| NEL532B | Class III | 6.5 - 8.5 | 10,200 | 123 | 0.292 | 2.000 | 0.003 | 0.050 | 0.650 | 0.005 | 0.025 | 2.50 |
| NEL536A | Class II | 6.5 - 8.5 | 2,137 | 402 | 0.050 | 0.500 | 0.0013 | 0.025 | 0.325 | 0.005 | 0.013 | 1.25 |
| NEL536B | Class II | 6.5 - 8.5 | 893 | 64 | 0.025 | 0.500 | 0.0013 | 0.025 | 0.325 | 0.005 | 0.013 | 1.25 |
| NED604A | Class III | 6.5 - 8.5 | 3,270 | 700 | 0.140 | 0.500 | 0.0013 | 0.025 | 0.325 | 0.005 | 0.013 | 1.25 |
| NED604B | Class II | 6.5 - 8.5 | 1,603 | 150 | 0.021 | 0.500 | 0.0013 | 0.025 | 0.325 | 0.005 | 0.013 | 1.25 |
| NET646A | Class IV | 6.5 - 8.5 | none | 6486 | 0.110 | 2.000 | 0.005 | 0.100 | 1.300 | 0.005 | 0.050 | 5.00 |
| NET646B | Class IV | 6.5 - 8.5 | none | 1416 | 0.225 | 2.000 | 0.005 | 0.100 | 1.300 | 0.005 | 0.050 | 5.00 |
| NET1380A | Class III | 6.5 - 8.5 | 8,100 | 1,898 | 0.025 | 1.000 | 0.003 | 0.050 | 0.650 | 0.005 | 0.025 | 2.50 |
| NET1380B | Class II | 6.5 - 8.5 | 1,535 | 16 | 0.013 | 0.500 | 0.003 | 0.025 | 0.325 | 0.005 | 0.013 | 1.25 |
| NET1381A | Class IV | 6.5 - 8.5 | none | 850 | 0.091 | 1.000 | 0.003 | 0.050 | 0.650 | 0.005 | 0.025 | 2.50 |
| NET1381B | Class IV | 6.5 - 8.5 | none | 1277 | 0.175 | 1.000 | 0.003 | 0.050 | 0.650 | 0.005 | 0.025 | 2.50 |
| NEL1382A | Class III | 6.5 - 8.5 | 6,450 | 305 | 0.289 | 1.000 | 0.003 | 0.050 | 0.650 | 0.005 | 0.025 | 2.50 |
| NEL1382B | Class II | 6.5 - 8.5 | 2,822 | 105 | 0.393 | 1.000 | 0.003 | 0.050 | 0.650 | 0.005 | 0.025 | 2.50 |
| NEL1382C | Class II | 6.5 - 8.5 | 2,000 | 96 | 0.575 | 1.000 | 0.003 | 0.050 | 0.650 | 0.005 | 0.025 | 2.50 |
| NET1383A | Class III | 6.5 - 8.5 | 7,500 | 330 | 0.263 | 1.000 | 0.003 | 0.050 | 0.650 | 0.005 | 0.025 | 2.50 |
| NET1383B | Class III | 6.5 - 8.5 | 9790 | 279 | 0.340 | 1.000 | 0.003 | 0.050 | 0.650 | 0.005 | 0.025 | 2.50 |
| NET1384A | Class IV | 6.5 - 8.5 | none | 5000 | 0.113 | 2.000 | 0.005 | 0.050 | 1.300 | 0.005 | 0.050 | 5.0 |
| NET1384B | Class IV | 6.5 - 8.5 | none | 3164 | 0.327 | 2.000 | 0.005 | 0.100 | 1.300 | 0.005 | 0.050 | 5.0 |
| NET1385A | Class III | 6.5 - 8.5 | 6743 | 212 | 0.159 | 1.000 | 0.003 | 0.050 | 0.650 | 0.005 | 0.025 | 2.50 |
| NET1385B | Class III | 6.5 - 8.5 | 7300 | 249 | 0.199 | 1.000 | 0.003 | 0.050 | 0.650 | 0.005 | 0.025 | 2.50 |
| NET1386A | Class IV | 6.5 - 8.5 | none | 150 | 0.021 | 2.000 | 0.003 | 0.050 | 0.650 | 0.005 | 0.025 | 2.50 |
| NET1386B | Class IV | 6.5 - 8.5 | none | 72 | 0.100 | 1.000 | 0.003 | 0.050 | 0.650 | 0.005 | 0.025 | 2.50 |
| NEM1387 | Class II | 6.5 - 8.5 | 1858 | 400 | 0.041 | 1.000 | 0.003 | 0.025 | 0.325 | 0.005 | 0.013 | 1.25 |
| NET1393A | Class IV | 6.5 - 8.5 | none | 150 | 0.071 | 2.000 | 0.005 | 0.100 | 1.300 | 0.005 | 0.050 | 5.00 |
| NET1393B | Class IV | 6.5 - 8.5 | none | 150 | 0.096 | 2.000 | 0.005 | 0.100 | 1.300 | 0.005 | 0.050 | 5.00 |
| NET1490 | Class II | 6.5 - 8.5 | 2176 | 392 | 0.013 | 0.500 | 0.003 | 0.025 | 0.325 | 0.005 | 0.013 | 1.25 |
| NET1491 | Class II | 6.5 - 8.5 | 3000 | 523 | 0.013 | 0.500 | 0.003 | 0.025 | 0.325 | 0.005 | 0.013 | 1.25 |
| NET1492 | Class II | 6.5 - 8.5 | 3136 | 500 | 0.013 | 0.500 | 0.003 | 0.025 | 0.325 | 0.005 | 0.013 | 1.25 |
| Ground Water Quality Standards | | 6.5 - 8.5 | | | 0.05 | 2.0 | 0.005 | 0.10 | 1.30 | 0.015 | 0.05 | 5.00 |

NOTES:

units: **milligrams per liter (mg/L)**, except for pH;

Ground water protection levels and compliance limits are established in accordance with R317-6-4. Only the highest allowable value is shown in Table 1.

Last Revision date: June 2017

TABLE 2

TAILINGS OPERATIONAL MONITORING POINTS

| Operational Monitoring Site | Sample ID | Sample Type or Location |
|---------------------------------|-----------|-----------------------------------|
| Toe Ditch | TLP1436 | Grab sample of ditch water |
| Toe Ditch | TLP1469 | Grab sample of ditch water |
| Clarification Canal | CLC452 | Grab sample from canal water |
| Seep | TLS1426 | Grab sample from seep, if flowing |
| West Cyclone underflow tailings | TLP1485 | Solids sample |
| West Cyclone overflow tailings | TLP1486 | Solids sample |
| East Cyclone underflow tailings | TLP1487 | Solids sample |
| East Cyclone overflow tailings | TLP1488 | Solids sample |
| Smelter slag/hydromet tailings | TLP2593 | Solids sample |
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