

STATE OF UTAH  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
DIVISION OF WATER QUALITY  
WATER QUALITY BOARD  
PO BOX 144870  
SALT LAKE CITY, UTAH 84114-4870

**Ground Water Discharge Permit**  
**Permit No. UGW270001**

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

**Materion Natural Resources**  
**PO Box 815**  
**Delta, Utah 84624**

(formerly Brush Resources) hereafter referred to as the Permittee, is granted a Ground Water Discharge Permit for the operation of a beryllium mill tailings pond located 10 miles northeast of Delta, Utah. The facility is located on a tract of land within the NE¼ of Section 32, Township 15 South, Range 5 West, Salt Lake Base and Meridian, Millard Co., Utah.


This permit is based on representation made by the Permittee and other information contained in the administrative record. It is the responsibility of the Permittee to read and understand all provisions of this permit.

The tailings pond shall be constructed and operated in accordance with conditions set forth in the permit and the Utah Administrative Rules for Ground Water Quality Protection (UAC R317-6).

This permit shall become effective on the date signed below.

This permit and authorization to operate shall expire at midnight July 21, 2024

Signed this 22<sup>nd</sup> day of July 2019.



Erica B. Gaddis, PhD  
Director

DWQ-2019-001242

## TABLE OF CONTENTS

TABLE OF CONTENTS.....	ii
<b>PART I</b>	<b>SPECIFIC CONDITIONS.....3</b>
A.	Ground Water Classification.....3
B.	Background Ground Water Quality .....3
C.	Ground Water Protection Levels .....3
D.	Best Available Technology (BAT) Standard.....3
F.	Non-Compliance Status .....7
G.	Reporting Requirements .....8
H.	Compliance Schedule .....10
I.	Tailings Storage Facility Expansion .....10
<b>PART II</b>	<b>MONITORING, RECORDING AND REPORTING REQUIREMENTS.....12</b>
A.	Representative Sampling .....12
B.	Analytical Procedures .....12
C.	Penalties for Tampering.....12
D.	Reporting of Monitoring Results .....12
E.	Compliance Schedules.....12
F.	Additional Monitoring by the Permittee.....12
G.	Records Contents .....12
H.	Retention of Records .....12
I.	Twenty-four Hour Notice of Noncompliance Reporting.....13
J.	Other Noncompliance Reporting.....13
K.	Inspection and Entry .....13
<b>PART III</b>	<b>COMPLIANCE RESPONSIBILITIES .....14</b>
A.	Duty to Comply .....14
B.	Penalties for Violations of Permit Conditions .....14
C.	Need to Halt or Reduce Activity not a Defense.....14
D.	Duty to Mitigate.....14
E.	Proper Operation and Maintenance .....14
<b>PART IV</b>	<b>GENERAL REQUIREMENTS.....15</b>
A.	Planned Changes.....15
B.	Anticipated Noncompliance.....15
C.	Permit Actions .....15
D.	Duty to Reapply .....15
E.	Duty to Provide Information.....15
F.	Other Information .....15
G.	Signatory Requirements.....15
H.	Penalties for Falsification of Reports.....16
I.	Availability of Reports.....16
J.	Property Rights .....17
K.	Severability .....17
L.	Transfers .....17
M.	State Laws.....17
N.	Reopener Provision.....17
<b>TABLE 1: Permit Limits for Compliance Monitoring Wells .....</b>	<b>19</b>

**PART I SPECIFIC CONDITIONS**

**A. GROUND WATER CLASSIFICATION**

The ground water classification of the upper artesian aquifer under the tailings pond is Class IA Pristine ground water to Class II Drinking Water Quality ground water. Upgradient wells NSW and MW-31 and down gradient wells DH-55 and DH-56 exhibit total dissolved solids concentrations to classify as Class IA Pristine ground water. Upgradient well DH-14 and down gradient well DH-57 are Class II Drinking Water Quality ground water.

**B. BACKGROUND GROUND WATER QUALITY**

Background concentrations presented in the Statement of Basis are based on compounds that may be in a discharge from operation of the facilities. Permit Limits for compliance monitoring wells for this permit are represented in Table 1 and are not to be exceeded in the down gradient monitoring wells screened in the upper artesian aquifer. Permit Limits are based on background sampling performed to date and on the criteria of R317-6-4. An out-of-compliance condition with these permit limits is defined in Part I.F.2. Utah's Ground Water Quality Protection Rules also contain standards for other compounds such as metals, pesticides and volatile organic chemicals. The ground water around the mill site must meet all the applicable protection levels contained in R317-6 even though this permit does not require monitoring for each specific chemical listed in the regulations. Therefore, the permittee shall only discharge normal operation wastes to the tailings pond limited to slurry discharges from the tailings disposal tank, treated sanitary sewage, and other inert solid wastes from the mill operations that may contain beryllium. Discharge to the tailings pond of other compounds in other than de minimis concentrations including those defined (unless conditionally exempt) as hazardous wastes under UAC R315 such as paints, used oil, antifreeze, lab waste, metals, leachate, corrosives, pesticides or volatile organic compounds is prohibited under this permit. Changes in the current average composition of the waste stream must be reported to the Division within 5 days at the address in Part II D.

**C. GROUND WATER PROTECTION LEVELS**

Table 1 provides ground water protection levels for compliance monitoring wells. A sampling result is non-compliant if it exceeds the higher of the Compliance Limit or Protection Level in two consecutive samples.

**D. BEST AVAILABLE TECHNOLOGY (BAT) STANDARD**

1. Authorized Construction - The operational tailings pond (TSF1) at the Materion Natural Resources beryllium mill facility is authorized by this permit. The tailings pond is approximately 220 acres in area and contains finely ground bertrandite ore and waste rock. This facility has the potential for release of fluids to ground water. Any further modification by Materion Natural Resources to the present facilities that have the potential to affect ground water will require both modification of this permit and a construction permit.
2. Discharge Minimization Technology - The administration of the permit, to assure compliance with ground water protection regulations, is founded on the use of discharge minimization technology (DMT) defined in a report dated April 15, 1993 and in a subsequent Jan. 20, 1999 version by Brush Resources. In summary, the DMT for the tailings pond is:

- a) The interior tailings pond was sealed with approximately 24 inches of tailings slimes with an effective hydraulic conductivity of  $1 \times 10^{-6}$  cm/s. The slimes were produced in a cyclone station and hydraulically transported and placed within separate cells that divide the tailings pond. This seal restricts seepage as it would be impossible to achieve zero discharge from the present tailings pond.
  - b) There will be a continuous control of the total wastewater seepage mound volume. Discharge minimization technology should strive for an overall reduction in mound volume.
  - c) The current well field located west, north and south of the tailings pond shall be pumped to the extent practicable in an effort to decrease the seepage mound volume. The pumped water will be utilized in the mill process or evaporated in the tailings pond.
  - d) Enhancing evaporation to the maximum extent feasible within the tailings pond through a distribution system of pumps and piping.
3. BAT Performance Monitoring - During the period beginning with the effective date of the permit and lasting the term of the permit or as stated in an approved closure plan, the permittee shall sample wells in the underlying upper artesian aquifer, monitor technology performance wells screened in the seepage mound beneath the tailings pond, and provide technology performance monitoring of the discharge minimization technology of the tailings pond and the seepage mound recovery system.

Ground Water Quality Compliance Monitoring Points- Background water quality and compliance monitoring shall be conducted in the underlying upper artesian aquifer that could be affected by contaminated discharges into the aquifer, according to the provisions specified in the approved Compliance and Technology Performance Monitoring Sampling Plan. Compliance and protection levels are those for Class I and II ground water as specified in Table 1. The wells and monitoring schedules are specified as follows:

- a) Background monitoring well MW31, and upgradient wells DH14A and the Nielson Stock Well shall be sampled annually. Samples shall be analyzed for the parameters specified in Part I.E.1.f. The well locations are shown in Figure 1 of the approved monitoring plan.
- b) Compliance monitoring wells DH-55, 56, and 57 are completed in the upper artesian aquifer down gradient of the seepage mound. They shall be sampled semi-annually and the samples analyzed for the parameters specified in Part I.E.1.f.
- c) Radionuclides are collected at the frequency specified in the Sampling Plan.



4. Technology Performance Standard Monitoring - Materion Natural Resources shall perform the following technology performance monitoring according to the provisions specified in the approved Compliance and Technology Performance Monitoring Sampling Plan to determine if the use of DMT is controlling the seepage of tailings water to the seepage mound to the extent described in Part I.D.2. Technology performance monitoring data shall be submitted to the Director as required in Part I G.
  - a) Monitor water levels in those wells tapping the seepage mound beneath the tailings pond on a quarterly basis, in order to monitor the seepage from the tailings pond as required by R317-6-6.4C. These wells shall include Drill Holes 7A, 8A, 9A, 10A, 11B, 12B, 13, 14A, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25B, 26, 28, 29, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 51, 52, 53, 55, 56, 57, 58, 59, 60, 61, 62, 63, and 64. In addition, the background and compliance monitoring wells listed in Part I.D.3a,b shall also be monitored at the same time. Their locations are shown on Figure 1 of the approved monitoring plan. Once per year, the water level readings from these wells will be used to recalculate the volume of the seepage mound according to the provisions specified in the approved monitoring plan. This list may change upon the final construction design of the tailings pond expansion (TSF2).
  - b) Monitor pH of discharge to the tailings pond once each quarter.
  - c) An operating log shall be kept of the seepage mound recovery system indicating which wells were pumping, and the total volume pumped from the mound.
  - d) An operating log shall be kept of the whole tailings pumping rate indicating the total monthly slurry flow to the tailings pond. This information must be maintained at the plant premises and available upon request.
5. Mound Growth Stabilization and Reduction - Materion Natural Resources shall perform a technical study which will be due one year from the permit renewal date. The deliverables for the DWQ from this study will include the following:
  - a) Develop a detailed plan outlining how Materion will stabilize the mound growth and bring the tailings pond into water balance.
  - b) Develop a continued plan detailing how the mound will be reduced in thickness to the required 20 ft thick target as per the Interim Closure Plan amendments of July 1, 2001.

E. COMPLIANCE MONITORING REQUIREMENTS

Monitoring shall continue throughout the life 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.

1. Ground Water Monitoring

- a) Sampling shall be conducted according to the provisions of the Materion Natural Resources Compliance and Technology Performance Monitoring Sampling Plan V4 (Revised February 2019).
- b) In association with each well sampling event, water level measurements shall be made 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. Groundwater samples shall be taken only after adequate removal or purging of standing water within the well casing has been performed. This shall consist of removal of three casing volumes for monitoring wells DH-55, DH-56, DH-57, DH14A, and Nielson Stock Well. Due to a significantly greater well casing volume in the deep well 31-MW, adequate purging shall consist of removal until field parameter stabilization according to the provisions of the Materion Natural Resources Compliance and Technology Performance Monitoring Sampling Plan V4 is observed.
- c) Analytical Procedures. All laboratory analyses shall be performed by a laboratory certified by the State of Utah to perform the tests required. Water sample analysis will be conducted according to test procedures specified under UAC R317-6-6.3L.
- d) Damage to Monitoring Wells. If any monitor well is damaged or is otherwise rendered inadequate for its intended purpose, the Director, shall be notified by written notice within five days.
- e) Water quality sampling results for compliance monitoring shall be reported to the Director as required in Part I.G:
- f) *Constituents Sampled* - The following analysis for all ground water quality samples shall be performed according to the Sampling Plan schedule:
  - i) Field Measurements: pH, specific conductance, temperature
  - ii) Laboratory Analysis:
    - TDS (Total Dissolved Solids)
    - Ions: fluoride, sulfate, nitrate, nitrite
    - Metals (dissolved): arsenic, barium, beryllium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc
    - Radionuclides: radium 226, radium 228, thorium 230, thorium

232, uranium, gross alpha, gross beta

F. NON-COMPLIANCE STATUS

1. Probable Out of Compliance for Ground Water Protection Levels - If the concentration of a pollutant from any compliance monitoring well sample exceeds the higher of the protection level or the compliance limit (Table 1) Materion Natural Resources shall:
  - a) Notify the Director in writing within 30 days of receipt of the data;
  - b) Initiate quarterly sampling for the compliance monitoring well(s) that has exceeded the higher of the protection level or the compliance limit (Table 1), unless the Director determines that other periodic sampling is appropriate, for a period of two quarters or until the compliance status of the facility can be determined.
2. Out-of-Compliance Status Based on Confirmed Exceedance of Permit Ground Water Protection Levels
  - a. Out of Compliance Status shall be defined as follows:
    - i) For parameters that have been defined as detectable in the background and for which protection levels have been established (Table 1), out-of-compliance shall be defined as two consecutive samples exceeding the higher of the protection level or the compliance limit.
  - b. Notification and Accelerated Monitoring - upon determination by the permittee or the Director, in accordance with UAC R317-6-6.17, that an out-of-compliance status exists, the permittee shall:
    - i) Verbally notify the Director of the out-of-compliance status or acknowledge Director notice that such a status exists within 24 hours of receipt of data, and
    - ii) Provide written notice within 5 days of the determination, and
    - iii) Continue an accelerated schedule of quarterly ground water monitoring for at least two quarters and continue quarterly monitoring until the facility is brought into compliance as determined by the Director.
  - c. Source and Contamination Assessment Study Plan - within 30 days after the written notice to the Director required in Part I.F. 2.b.ii, above, the permittee shall submit an assessment study plan and compliance schedule for:
    - i) Assessment of the source or cause of the contamination, and determination of steps necessary to correct the source.

- ii) Assessment of the extent of the ground water contamination and any potential dispersion.
  - iii) Evaluation of potential remedial actions to restore and maintain ground water quality and ensure that the ground water standards will not be exceeded at the compliance monitoring points.
3. Out-of-Compliance Status Based Upon Failure To Maintain Discharge Minimization Technology - In the event that the permittee fails to maintain DMT or otherwise fails to meet DMT standards as required by the permit, the permittee shall submit to the Director a notification and description of the failure according to R317-6-6.123. Notification shall be given orally within 24 hours of the permittee's discovery of the failure of DMT, and shall be followed up by written notification, including the information necessary to make a determination under R317-6-6.16.C.2, within five days of the permittee's discovery of the failure of discharge minimization technology.
4. Materion Natural Resources 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, Materion Natural Resources may affirmatively defend against that action by demonstrating the following:
- a) Materion Natural Resources submitted notification in accordance with R317-6-6.13;
  - b) The failure was not intentional or caused by Materion Natural Resources' negligence, either in action or in failure to act;
  - c) Materion Natural Resources 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.

G. REPORTING REQUIREMENTS

1. Compliance Monitoring Reports - monitoring required in Part I.D.3,4 and Part I.E.1 above shall be reported according to the schedule below, unless modified by the Director:

**Semi-Annual Compliance Monitoring Report Schedule**

<u>Monitoring Period</u>	<u>Report Due Date</u>
January through June	August 15
July thru December	February 15

2. Ground Water Quality Sampling - reporting and record keeping requirements are as follows:
  - a. Field Data Sheets - or copies thereof, including the field measurements, required in Part I.E.1 above, and other pertinent field data, such as: well name/number, date and time, names of sampling crew, type of sampling pump or bail, volume of water purged before sampling shall be maintained at the site and be made available to the Director upon request.
  - b. Laboratory Analytical Results - including date sampled, date received; and the results of analysis for each parameter, including: value or concentration, units of measurement, reporting limit (minimum detection limit for the examination), analytical method, and the date of the analysis shall be included in the semi-annual reports.
  - c. Tabulated water level data for the wells described in Part I.D.4.a. shall be included in the semi-annual reports.
  - d. Tabulated monthly summaries of the daily operating logs described in Part I.D.4.b,c,d will be submitted in the semi-annual monitoring reports. The daily operating logs will be maintained on site and shall be made available to the Director upon request.
  - e. A summary report of construction and the seepage mound water levels and seepage mound volume for the previous calendar year as described in Part I D.4.a will be submitted annually on February 15 which includes:
    - i. Description of construction
    - ii. Information on water levels and potentiometric surface of seepage mound and compliance monitoring well data.
    - iii. Calculations and maps of previous years data and compilation of historical data for mound volume history, mound footprint, and water level and potentiometric profile information.
3. Electronic Filing Requirements - In addition to submittal of the hard copy data above, the permittee will electronically submit the required ground water monitoring data (analytical ground water results, water level measurements, production well volumes) in the electronic format specified by the Director. A hard copy of the required reports, including data analysis will be provided to the Director. In addition, a .pdf version of the full report, including analytical data, will be submitted through the DEQ Web Portal. All analytical data and updated tables will be provided in xlsx format. The data may be submitted through the online DEQ Submission Portal at <https://deq.utah.gov/water-quality/water-quality-electronic-submissions..>
4. Monitoring Well As-Built Report - For each new well-constructed the permittee shall submit diagrams and descriptions of the final completion of the monitoring well. The report is due within 60 days of the date of well completion. The report shall include:



- a. Casing: depth, diameter, and type of material.
  - b. Screen: length, depth interval, diameter, material type, slot size.
  - c. Sand Pack: depth interval, material type and grain size.
  - d. Annular Seals: depth interval, material type.
  - e. Surface Casing and Cap: depth, diameter, material type, protection measures constructed.
  - f. Elevation and Location: ground surface elevation, elevation of water level measuring point, latitude and longitude in hours, minutes and seconds.
  - g. Well construction description, well completion description, results of well pump tests or slug tests.
- 5) Failure to submit reports within the time frame due shall be deemed as noncompliance and may result in enforcement action.

H. COMPLIANCE SCHEDULE

1. *Future Modification of the Monitoring Network* - If at any time the Director determines the monitoring program to be inadequate for determining compliance with DMT, applicable permit limits or ground water protection levels, Materion Natural Resources 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.
2. A detailed closure plan for the tailings facility shall be submitted to the Director at least 12 months before final termination of operations at the facility. The details will follow the Tailings Pond Conceptual Closure Plan of October 28, 1993, and Interim Closure Plan amendments of July 1, 2001.
3. Mound growth stabilization and reduction – A technical study including a detailed plan outlining how the Permittee will stabilize the seepage mound growth and bring the tailings pond into water balance. In addition, the Permittee will provide a detailed plan on how the mound will be reduced to a 20 ft thick target as outlined in the Interim Closure Plan (July 1, 2001). The deliverables will be provided to the Director within one year of Permit renewal.

I. TAILINGS STORAGE FACILITY EXPANSION

1. The current tailings pond (TSF1) is nearing capacity. As of January 1, 2019 there is an estimated 495,000 dry tons available for solids storage. As Materion has an estimated 75+ years of reserves remaining, a tailings pond expansion (TSF2) will be required in the near future for the continuation of beryllium production. Tailings Storage Facility No. 2 Conceptual Design Report (February 2019) has been prepared and is included as an attachment to this permit renewal application.
2. A detailed engineered design of TSF2 Phase 1 shall be submitted to the Director at least **30 days** prior to the beginning of construction activities. The Director will then issue a construction permit.

3. It is understood that the conceptual design is purely conceptual at this time and there may be changes during the detailed engineering design. There shall be no changes to the issued discharge permit unless there is a significant deviation to the permitted conceptual design. A significant deviation may include:
  - a. Change in overall physical location
  - b. Change in overall water disposal method (evaporation)
  - c. Removal of liner/containment system from design

A significant deviation may NOT include:

  - a. Change in TSF2 Phase 1 dimensions or storage capacity
  - b. Method and/or location of enhanced evaporation
  - c. Tailings discharge locations within the designated tailings storage facility
  - d. Modifications to tailings underdrain system
  - e. Adjustments to tailings production rates or solution pumping rates
  - f. Adjustments to pipeline alignments or pipe sizes
4. The conceptual footprint of TSF2 Phase 1 could potentially impact monitoring wells DH-22, DH-23, DH-28, and/or DH-61. As defined previously in this report, the water level readings from these wells are used to recalculate the volume of the seepage mound on an annual basis. The construction permit application(s) will address how these wells and associated mound volume estimation methodology will be managed and provide alternative monitoring locations if necessary.
5. The detailed engineered design report will include details associated with future operations of TSF1 (current tailings pond)

**PART II      MONITORING, RECORDING AND REPORTING REQUIREMENTS**

A.      REPRESENTATIVE SAMPLING

Samples taken 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 R317-6-6.3.L, 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 during each reporting period specified in the permit, shall be submitted to the Director, Utah Division of Water Quality at the following address no later than the 15th day of the month following the completed reporting period:

State of Utah  
Division of Water Quality  
PO Box 144870  
Salt Lake City, Utah 84114-4870  
Attention: Ground Water Protection Section

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 REPORTING

1. The permittee shall verbally report any noncompliance which may endanger public health or the environment as soon as possible, but no later than 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, AND to the Division of Water Quality, Ground Water Protection Section at (801) 536-4300, during normal business hours (Monday through Friday 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.

**PART 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 reissuance, 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.



**PART 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 reissuance, 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 alternative compliance mechanisms are required.
3. If subsequent ground water monitoring data reveals the background water quality values in Part I Table 1 are not accurate.
4. If the design and implementation of the Tailings Storage Facility Expansion

(TSF2) does not meet requirements necessary for this Ground Water Permit as outlined by the Director.

**TABLE 1: Permit Limits for Compliance Monitoring Wells**

Materion Natural Resources				UGW270001			
Parameter	G.W. Standard	DH-55		DH-56		DH-57	
		Compliance Limit	Protection Level	Compliance Limit	Protection Level	Compliance Limit	Protection Level
Arsenic	0.05	0.036	0.036	0.035	0.035	0.049	0.052
Barium	2	0.050	0.500	0.070	0.500	0.075	0.500
Beryllium	0.004	n/a	0.001	n/a	0.001	n/a	0.001
Cadmium	0.005	n/a	0.001	n/a	0.001	n/a	0.001
Chromium	0.1	n/a	0.025	n/a	0.025	n/a	0.025
Copper	1.3	n/a	0.325	n/a	0.325	n/a	0.325
Lead	0.015	n/a	0.004	n/a	0.004	n/a	0.004
Mercury	0.002	n/a	0.0005	n/a	0.0005	n/a	0.0005
Selenium	0.05	0.003	0.013	0.002	0.013	0.002	0.013
Silver	0.1	n/a	0.025	n/a	0.025	n/a	0.025
Zinc	5	n/a	1.250	n/a	1.250	n/a	1.250
Flouride	4	0.660	1.000	0.900	1.000	1.250	1.000
Nitrate	10	0.402	2.500	0.100	2.500	n/a	2.500
Nitrite	1	0.025	0.250	0.005	0.250	n/a	0.250
Sulfate	250	75	88	65	74	62	76
TDS	500	532	615	544	640	575	669
pH	6.5 - 8.5	6.5 - 8.5	6.5 - 8.5	6.5 - 8.5	6.5 - 8.5	6.5 - 8.5	6.5 - 8.5
Radium 226 pCi/L	5	0.15	1.25	1.12	1.25	0.25	1.25
Radium 228 pCi/L	5	1.00	1.25	1.31	1.25	1.00	1.25
Thorium 230 pCi/L	5	n/a	1.25	0.24	1.25	0.15	1.25
Thorium 232 pCi/L	5	0.08	1.25	0.11	1.25	0.03	1.25
Uranium ug/L	30	7.0	7.5	0.934	7.5	0.65	7.5
Gross Alpha pCi/L	15	15	15	15	15	15	15

units: milligrams per liter (mg/L) unless otherwise noted. No units for pH

n/a = not applicable Monitoring well results were non-detect for these constituents, compliance limits cannot be calculated for non-detects

Groundwater Protection Levels established in accordance with R317-6-4.

A sampling result is non-compliant if it exceeds the higher of the Compliance Limit or Protection Level

Revision Date: June 2014 Revision by: Utah Division of Water Quality