

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

GROUND WATER DISCHARGE PERMIT

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

**Denison Mines (USA) Corp.
Independence Plaza, Suite 950
1050 17th Street
Denver, Colorado 80265**

is granted a ground water discharge permit for the operation of a uranium milling and tailings disposal facility located approximately 6 miles south of Blanding, Utah. The facility is located on a tract of land in Sections 28, 29, 32, and 33, Township 37 South, Range 22 East, Salt Lake Base and Meridian, San Juan County, Utah.

The permit is based on representations 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.

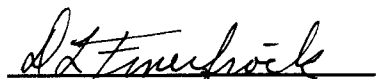
The milling and tailings disposal facility shall be operated and revised in accordance with conditions set forth in the permit and the Utah Ground Water Quality Protection Regulations.

This modified Ground Water Quality Discharge Permit amends and supersedes all other Ground Water Discharge permits for this facility issued previously.

This permit shall become effective on _____.

This permit shall expire March 8, 2010.

Signed this 17th day of MARCH, 2008



Co-Executive Secretary
Utah Water Quality Board

Table of Contents

PART I. SPECIFIC PERMIT CONDITIONS.....	1
A. GROUND WATER CLASSIFICATION.....	1
B. BACKGROUND WATER QUALITY.....	1
C. PERMIT LIMITS.....	2
1. Ground Water Compliance Limits.....	2
2. Tailings Cell Operations.....	2
3. Prohibited Discharges.....	2
D. DISCHARGE MINIMIZATION AND BEST AVAILABLE TECHNOLOGY STANDARDS.....	8
1. DMT Design Standards for Existing Tailings Cells 1, 2, and 3.....	8
2. Existing Tailings Cell Construction Authorized.....	10
3. Existing Facility DMT Performance Standards.....	10
4. Best Available Technology Requirements for New Construction.....	12
5. BAT Design Standards for Tailings Cell 4A.....	13
6. BAT Performance Standards for Tailings Cell 4A.....	15
7. Definition of 11e.(2) Waste.....	16
8. Closed Cell Performance Requirements.....	16
9. Facility Reclamation Requirements.....	16
10. Stormwater Management and Spill Control Requirements.....	16
11. DMT Requirements for Feedstock Material Stored Outside the Feedstock Storage Area.....	17
E. GROUND WATER COMPLIANCE AND TECHNOLOGY PERFORMANCE MONITORING.....	17
1. Routine Groundwater Compliance Monitoring.....	17
2. Groundwater Monitoring: Monitoring Wells MW-20 and MW-22.....	18
3. Groundwater Head Monitoring.....	18
4. Groundwater Monitoring Well Design and Construction Criteria.....	19
5. Monitoring Procedures for Wells.....	19
6. White Mesa Seep and Spring Monitoring.....	19
7. DMT Performance Standard Monitoring.....	20
8. BAT Performance Standard Monitoring.....	20
9. On-site Chemicals Inventory.....	21
10. Tailings Cell Wastewater Quality Monitoring.....	21
11. Groundwater Monitoring Modifications.....	22
F. REPORTING REQUIREMENTS.....	22
1. Routine Groundwater Monitoring Reports.....	22
2. Routine DMT Performance Standard Monitoring Report.....	23
3. Routine BAT Performance Standard Monitoring Reports.....	23
4. DMT and BAT Performance Upset Reports.....	23
5. Other Information.....	23
6. Groundwater Monitoring Well As-Built Reports.....	23
7. White Mesa Seep and Spring Monitoring Reports.....	24
8. Chemicals Inventory Report.....	24
9. Tailings Cell Wastewater Quality Reports.....	24
10. Revised Hydrogeologic Report.....	24
11. Annual Slimes Drain Recovery Head Report.....	25
G. OUT OF COMPLIANCE STATUS.....	25
1. Accelerated Monitoring Status.....	25
2. Violation of Permit Limits.....	25
3. Failure to Maintain DMT or BAT Required by Permit.....	26
4. Facility Out of Compliance Status.....	26

5.	Accelerated Monitoring Status for New Wells	27
H.	COMPLIANCE SCHEDULE REQUIREMENTS.	27
1.	Installation of New Groundwater Monitoring Wells.....	27
2.	Revised Hydrogeologic Report	27
3.	Background Ground Water Quality Report: Existing Wells.....	28
4.	Background Groundwater Quality Report: New Monitoring Wells.....	29
5.	Tailings Cells Wastewater Quality Sampling Plan.....	29
6.	Monitoring Well Remedial Action and Report	30
7.	Monitoring Well MW-3 Verification, Retrofit, or Reconstruction Report	30
8.	White Mesa Seeps and Springs Sampling Work Plan and Report.....	30
9.	On-site Chemicals Inventory Report	31
10.	Infiltration and Contaminant Transport Modeling Work Plan and Report	31
11.	Plan for Evaluation of Deep Supply Well WW-2	33
12.	Liner Maintenance Provisions.....	33
13.	<Reserved>.....	33
14.	< Reserved >.....	33
15.	Contingency Plan.....	33
16.	Revised Stormwater Best Management Practices Plan	34
17.	<Reserved>.....	34
18.	Repair of Monitor Well MW-5	34
19.	Cell 4A BAT Monitoring Operations and Maintenance Plan	34
20.	<Reserved>.....	34
21.	Feedstock Material Stored Outside the Feedstock Storage Area Management Plan....	34
22.	QAP Non-Conformance	34
	PART II. REPORTING REQUIREMENTS	35
A.	REPRESENTATIVE SAMPLING.....	35
B.	ANALYTICAL PROCEDURES.....	35
C.	PENALTIES FOR TAMPERING.....	35
D.	REPORTING OF MONITORING RESULTS.....	35
E.	COMPLIANCE SCHEDULES	35
F.	ADDITIONAL MONITORING BY THE PERMITTEE	35
G.	RECORDS CONTENTS.....	35
H.	RETENTION OF RECORDS.....	35
I.	NOTICE OF NONCOMPLIANCE REPORTING	36
J.	OTHER NONCOMPLIANCE REPORTING.....	36
K.	INSPECTION AND ENTRY.....	36
	PART III. COMPLIANCE RESPONSIBILITIES.....	37
A.	DUTY TO COMPLY	37
B.	PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS	37
C.	NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE	37
D.	DUTY TO MITIGATE.....	37
E.	PROPER OPERATION AND MAINTENANCE.....	37
	PART IV. GENERAL REQUIREMENTS	38
A.	PLANNED CHANGES	38
B.	ANTICIPATED NONCOMPLIANCE.....	38
C.	PERMIT ACTIONS.....	38
D.	DUTY TO REAPPLY	38
E.	DUTY TO PROVIDE INFORMATION	38
F.	OTHER INFORMATION.....	38
G.	SIGNATORY REQUIREMENTS	38

H.	PENALTIES FOR FALSIFICATION OF REPORTS	39
I.	AVAILABILITY OF REPORTS	39
J.	PROPERTY RIGHTS	39
K.	SEVERABILITY	39
L.	TRANSFERS	39
M.	STATE LAWS	40
N.	REOPENER PROVISIONS	40

List of Tables

Table 1.	Ground Water Classification	1
Table 2.	Groundwater Compliance Limits.....	3
Table 3.	DMT Engineering Design and Specifications	8
Table 4.	Feedstock Storage Area Coordinates	12
Table 5.	Approved Tailings Cell 4A Engineering Design and Specifications.....	13
Table 6.	Groundwater Monitoring Reporting Schedule.....	22

PART I. SPECIFIC PERMIT CONDITIONS

A. **GROUND WATER CLASSIFICATION** - the ground water classification of the shallow aquifer under the tailings facility has been determined on a well-by-well basis, as defined in Table 1, below:

Table 1. Ground Water Classification

Class II Groundwater					Class III Groundwater				
Well ID	Average TDS (mg/l)				Well ID	Average TDS (mg/l)			
	Permittee Data		DRC Data			Permittee Data		DRC Data ⁽²⁾	
	Avg. Conc. ⁽¹⁾	No. of Data ⁽³⁾	Avg. Conc. ⁽²⁾	No. of Data ⁽³⁾		Avg. Conc. ⁽¹⁾	No. of Data ⁽³⁾	Avg. Conc. ⁽²⁾	No. of Data ⁽³⁾
Historic Monitoring Wells									
MW-1	1,276	68	1,268	4	MW-2	3,031	67	3,103	4
MW-5	2,081	69	2,068	4	MW-3	5,200	67	5,289	4
MW-11	1,834	50	2,039	4	MW-12	3,939	50	3,756	4
MW-18	2,545	9	2,611	4	MW-14	3,582	30	3,589	4
MW-19 ⁽⁴⁾	2,697	9	3,120	4	MW-15	3,855	30	3,847	4
MW-20 ⁽⁵⁾	2,977	1	n/a	0	MW-17	4,538	11	4,542	4
					MW-22 ⁽⁵⁾	5,105	1	n/a	0
Recent Monitoring Wells									
					MW-26 ⁽⁶⁾	3,120	1	3,206	1
					TW4-16 ⁽⁷⁾	2,930	1	3,430	1
					MW-32 ⁽⁸⁾	3,190	1	3,650	1

Footnotes:

- 1) Based on historic total dissolved solids (TDS) data provided by Permittee for period between October, 1979 and May, 1999. Average concentrations calculated by Utah Division of Radiation Control (DRC) staff in a November 29, 1999 memorandum.
- 2) Based on average of DRC split samples collected from the White Mesa facility between May, 1999 and September, 2002.
- 3) Number of IUC or DRC samples used in the evaluation of average TDS concentrations.
- 4) Classification of well MW-19 based on the conservatively lower IUC data.
- 5) Wells MW-20 and MW-22 are not point of compliance monitoring wells, but instead are groundwater head monitoring wells as per Part I.E.2.
- 6) Well MW-26 was originally named TW4-15 and was installed as a part of a recent chloroform contaminant investigation at the facility. Under this Permit, MW-26 is defined as a Point of Compliance (POC) well for the tailings cells (see Part I.E.1).
- 7) Well TW4-16 was installed as a part of a recent chloroform investigation at the facility, and has been included in the Permit as groundwater head monitoring well (Part I.E.2). Groundwater classification provided here based on average of both the IUC and DRC data (2 samples).
- 8) Well MW-32 was originally named TW4-17 and was installed as a part of a recent chloroform contaminant investigation at the facility. Under this Permit it is included as a POC well for the tailings cells in Part I.E.1.

B. **BACKGROUND WATER QUALITY** - background groundwater quality will be determined on a well-by-well basis, as defined by the mean plus second standard deviation concentration. After Executive Secretary approval of the Background Groundwater Quality Reports required by Part I.H.3 and 4, this permit will be re-opened and Table 2 revised to define background concentrations and groundwater compliance limits for all required contaminants.

- C. PERMIT LIMITS - the Permittee shall comply with the following permit limits:
1. Ground Water Compliance Limits – contaminant concentrations measured in each monitoring well shall not exceed the Ground Water Compliance Limits (GWCL) defined in Table 2, below. Ground water quality at the site must at all times meet all the applicable GWQS and ad hoc GWQS defined in R317-6 even though this permit does not require monitoring for each specific contaminant.
 2. Tailings Cell Operations - only 11.e.(2) by-product material authorized by Utah Radioactive Materials License No. UT-2300478 (hereafter License) shall be discharged to or disposed of in the tailings ponds.
 3. Prohibited Discharges – discharge of other compounds such as paints, used oil, antifreeze, pesticides, or any other contaminant not defined as 11e.(2) material is prohibited.

Table 2. Groundwater Compliance Limits (GWCL)

Contaminant	Upgradient Wells						Down or Lateral Gradient Wells					
	MW-1 (Class II)		MW-18 (Class II)		MW-19 (Class III)		MW-2 (Class III)		MW-3 (Class III)		MW-5 (Class II)	
	Mean ⁽⁶⁾	SD ⁽⁶⁾	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Nutrients (mg/l)												
Ammonia (as N)	25 ⁽³⁾	6.25		6.25			6.25			12.5		6.25
Nitrate + Nitrite (as N)	10	2.5		2.5			2.5			5		2.5
Heavy Metals (ug/l)												
Arsenic	50	12.5		12.5			12.5			25		12.5
Beryllium	4	1.0		1.0			1.0			2.0		1.0
Cadmium	5	1.25		1.25			1.25			2.5		1.25
Chromium	100	25		25			25			50		25
Cobalt	730 ⁽⁵⁾	182.5		182.5			182.5			365		182.5
Copper	1,300	325		325			325			650		325
Iron	11,000 ⁽⁵⁾	2,750		2,750			2,750			5,500		2,750
Lead	15	3.75		3.75			3.75			7.5		3.75
Manganese	800 ⁽⁴⁾	200		200			200			400		200
Mercury	2	0.5		0.5			0.5			1		0.5
Molybdenum	40 ⁽²⁾	10		10			10			20		10
Nickel	100 ⁽³⁾	25		25			25			50		25
Selenium	50	12.5		12.5			12.5			25		12.5
Silver	100	25		25			25			50		25
Thallium	2	0.5		0.5			0.5			1.0		0.5
Tin	17,000 ⁽⁶⁾	4,250		4,250			4,250			8,500		4,250
Uranium	30 ⁽³⁾	7.5		7.5			7.5			15		7.5
Vanadium	60 ⁽⁴⁾	15		15			15			30		15
Zinc	5,000	1,250		1,250			1,250			2,500		1,250
Radiologics (pCi/l)												
Gross Alpha	15	3.75		3.75			3.75			7.5		3.75
Volatile Organic Compounds (ug/l)												
Acetone	700 ⁽⁴⁾	175		175			175			350		175
Benzene	5	1.25		1.25			1.25			2.5		1.25
2-Butanone (MEK)	4,000 ⁽²⁾	1,000		1,000			1,000			2,000		1,000
Carbon Tetrachloride	5	1.25		1.25			1.25			2.5		1.25
Chloroform	70 ⁽⁴⁾	17.5		17.5			17.5			35		17.5
Chloromethane	30 ⁽²⁾	7.5		7.5			7.5			15		7.5
Dichloromethane	5 ⁽³⁾	1.25		1.25			1.25			2.5		1.25
Naphthalene	100 ⁽²⁾	25		25			25			50		25
Tetrahydrofuran	46 ⁽⁴⁾	11.5		11.5			11.5			23		11.5
Toluene	1,000	250		250			250			500		250
Xylenes (total)	10,000	2,500		2,500			2,500			5,000		2,500
Others												
Field pH (S.U.)	6.5 - 8.5	TBD ⁽⁹⁾		TBD			TBD			TBD		TBD
Fluoride (mg/l)	4.0	1.0		1.0			1.0			2.0		1.0
Chloride (mg/l)		TBD		TBD			TBD			TBD		TBD
Sulfate (mg/l)		TBD		TBD			TBD			TBD		TBD
TDS (mg/l)		TBD		TBD			TBD			TBD		TBD

Table 2 Continued. Groundwater Quality Compliance Limits (GWCL)

Contaminant	GWQS ⁽¹⁾	Down or Lateral Gradient Wells																	
		MW-11 (Class II)			MW-12 (Class III)			MW-14 (Class III)			MW-15 (Class III)			MW-17 (Class III)			MW-26 (Class III)		
		Mean ⁽⁶⁾	SD ⁽⁶⁾	GWCL ⁽⁷⁾	Mean	SD	GWCL	Mean	SD	GWCL	Mean	SD	GWCL	Mean	SD	GWCL	Mean	SD	GWCL
Nutrients (mg/l)																			
Ammonia (as N)	25 ⁽²⁾		6.25			12.5			12.5			12.5			12.5			12.5	
Nitrate + Nitrite (as N)	10		2.5			5			5			5			5			5	
Heavy Metals (ug/l)																			
Arsenic	50		12.5			25			25			25			25			25	
Beryllium	4.0		1.0			2.0			2.0			2.0			2.0			2.0	
Cadmium	5		1.25			2.5			2.5			2.5			2.5			2.5	
Chromium	100		25			50			50			50			50			50	
Cobalt	730 ⁽⁵⁾		182.5			365			365			365			365			365	
Copper	1,300		325			650			650			650			650			650	
Iron	11,000 ⁽⁵⁾		2,750			5,500			5,500			5,500			5,500			5,500	
Lead	15		3.75			7.5			7.5			7.5			7.5			7.5	
Manganese	800 ⁽⁴⁾		200			400			400			400			400			400	
Mercury	2		0.5			1			1			1			1			1	
Molybdenum	40 ⁽²⁾		10			20			20			20			20			20	
Nickel	100 ⁽³⁾		25			50			50			50			50			50	
Selenium	50		12.5			25			25			25			25			25	
Silver	100		25			50			50			50			50			50	
Thallium	2		0.5			1.0			1.0			1.0			1.0			1.0	
Tin	17,000 ⁽⁶⁾		4,250			8,500			8,500			8,500			8,500			8,500	
Uranium	30 ⁽³⁾		7.5			15			15			15			15			15	
Vanadium	60 ⁽⁴⁾		15			30			30			30			30			30	
Zinc	5,000		1,250			2,500			2,500			2,500			2,500			2,500	
Radiologics (pCi/l)																			
Gross Alpha	15		3.75			7.5			7.5			7.5			7.5			7.5	
Volatile Organic Compounds (ug/l)																			
Acetone	700 ⁽⁴⁾		175			350			350			350			350			350	
Benzene	5		1.25			2.5			2.5			2.5			2.5			2.5	
2-Butanone (MEK)	4,000 ⁽²⁾		1,000			2,000			2,000			2,000			2,000			2,000	
Carbon Tetrachloride	5		1.25			2.5			2.5			2.5			2.5			2.5	
Chloroform	70 ⁽⁴⁾		17.5			35			35			35			35			35	
Chloromethane	30 ⁽²⁾		7.5			15			15			15			15			15	
Dichloromethane	5 ⁽³⁾		1.25			2.5			2.5			2.5			2.5			2.5	
Naphthalene	100 ⁽²⁾		25			50			50			50			50			50	
Tetrahydrofuran	46 ⁽⁴⁾		11.5			23			23			23			23			23	
Toluene	1,000		250			500			500			500			500			500	
Xylenes (total)	10,000		2,500			5,000			5,000			5,000			5,000			5,000	
Others																			
Field pH (S.U.)	6.5 - 8.5		TBD			TBD			TBD			TBD			TBD			TBD	
Fluoride (mg/l)	4.0		1.0			2.0			2.0			2.0			2.0			2.0	
Chloride (mg/l)			TBD			TBD			TBD			TBD			TBD			TBD	
Sulfate (mg/l)			TBD			TBD			TBD			TBD			TBD			TBD	
TDS (mg/l)			TBD			TBD			TBD			TBD			TBD			TBD	

Table 2 Continued. Groundwater Quality Compliance Limits (GWCL)

Contaminant	Down or Lateral Gradient Wells			Future Wells To Be Installed ⁵									
	GWQS ⁽¹⁾	Mean ⁽⁶⁾	SD ⁽⁶⁾	GWCL ⁽⁷⁾	Mean	SD	GWCL	Mean	SD	GWCL	Mean	SD	GWCL
Nutrients (mg/l)													
Ammonia (as N)	25 ⁽²⁾			12.5			TBD			TBD			TBD
Nitrate + Nitrite (as N)	10			5			TBD			TBD			TBD
Heavy Metals (ug/l)													
Arsenic	50			25			TBD			TBD			TBD
Beryllium	4.0			2.0			TBD			TBD			TBD
Cadmium	5			2.5			TBD			TBD			TBD
Chromium	100			50			TBD			TBD			TBD
Cobalt	730 ⁽⁵⁾			365			TBD			TBD			TBD
Copper	1,300			650			TBD			TBD			TBD
Iron	11,000 ⁽⁵⁾			5,500			TBD			TBD			TBD
Lead	15			7.5			TBD			TBD			TBD
Manganese	800 ⁽⁴⁾			400			TBD			TBD			TBD
Mercury	2			1			TBD			TBD			TBD
Molybdenum	40 ⁽²⁾			20			TBD			TBD			TBD
Nickel	100 ⁽³⁾			50			TBD			TBD			TBD
Selenium	50			25			TBD			TBD			TBD
Silver	100			50			TBD			TBD			TBD
Thallium	2			1.0			TBD			TBD			TBD
Tin ⁽¹⁾	17,000 ⁽⁶⁾			8,500			TBD			TBD			TBD
Uranium	30 ⁽³⁾			15			TBD			TBD			TBD
Vanadium	60 ⁽⁴⁾			30			TBD			TBD			TBD
Zinc	5,000			2,500			TBD			TBD			TBD
Radiologics (pCi/l)													
Gross Alpha	15			7.5			TBD			TBD			TBD
Volatile Organic Compounds (ug/l)													
Acetone	700			350			TBD			TBD			TBD
Benzene	5			2.5			TBD			TBD			TBD
2-Butanone (MEK)	4,000 ⁽²⁾			2000			TBD			TBD			TBD
Carbon Tetrachloride	5			2.5			TBD			TBD			TBD
Chloroform	70 ⁽⁴⁾			35			TBD			TBD			TBD
Chloromethane	30 ⁽²⁾			15			TBD			TBD			TBD
Dichloromethane	5 ⁽³⁾			2.5			TBD			TBD			TBD
Naphthalene	100 ⁽²⁾			50			TBD			TBD			TBD
Tetrahydrofuran	46 ⁽⁴⁾			23			TBD			TBD			TBD
Toluene	1,000			500			TBD			TBD			TBD
Xylenes (total)	10,000			5,000			TBD			TBD			TBD
Others													
Field pH (S.U.)	6.5 - 8.5			TBD			TBD			TBD			TBD
Fluoride (mg/l)	4.0			2.0			TBD			TBD			TBD
Chloride (mg/l)				TBD			TBD			TBD			TBD
Sulfate (mg/l)				TBD			TBD			TBD			TBD
TDS (mg/l)				TBD			TBD			TBD			TBD