



# **Canada – Ulu Advanced Exploration Site NWB Water License No: 2BM-ULU0914 2010 Annual Report to the Nunavut Water Board**

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March 31, 2011

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## DOCUMENT CONTROL

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**2010 NWB Annual Report - Water License 2BM-ULU0914**

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## **EXECUTIVE SUMMARY**

MMG Resources Inc. operates the Ulu Advanced Exploration Site. The site was purchased from Wolfden Resources Inc. by Zinifex Ltd. in the summer of 2007. Zinifex Limited subsequently merged with Oxiana Ltd. to form OZ Minerals in 2008 and the Canadian assets of OZ Minerals were purchased in 2009 by China Minmetals Ltd. An operating company named MMG Resources Inc. was established to administer the operations of the company in Canada. There have been no exploration operations based out of the Ulu site since 2006 and the site remains dormant and in Care and Maintenance status. There has been no occupation of the site and the site is visited once per year in the summer to conduct the annual geotechnical inspection of various earth structures and to monitor the state of repair of the facilities. This report is submitted to fulfil the requirements of Part B, Item 5 of the renewed Water License NWB-2BM-ULU0914 issued by the Nunavut Water Board on October 8, 2009.

### **A REPORTING REQUIREMENTS**

Operations have been suspended on the project since 2006 and the site has been in care and maintenance in this time period. Annual visits to the site have been restricted to the annual geotechnical inspection only. Given the lack of activity at the site, this report covers operations from the years 2008 to 2010 and contains information required for Part B, Items 8(a) through 8(l) of the Ulu water license.

#### **A.1 TABULAR SUMMARIES AND ANALYSIS OF ALL DATA COLLECTED UNDER THE MONITORING PROGRAM, PART J;**

There have been no operations consuming water or discharging waste, therefore the monitoring programs have not been executed over the 2008-2010 time period.

#### **A.2 A SUMMARY OF CONSTRUCTION WORK, MODIFICATION AND/OR MAJOR MAINTENANCE WORK CARRIED OUT ON THE WATER SUPPLY FACILITIES AND SEWAGE TREATMENT FACILITY, INCLUDING ALL ASSOCIATED STRUCTURES, AND AN OUTLINE OF ANY WORK ANTICIPATED FOR THE NEXT YEAR;**

There has been no construction work, modification and/or major maintenance work carried out in the time frame 2008-2010. MMG plans to conduct maintenance and repair work to the camp and fuel storage facilities only in 2012 without major modifications.

#### **A.3 RESULTS FROM ACID GENERATING SAMPLES COLLECTED ON ORE AND WASTE ROCK AS REFERRED TO IN PART D, ITEM 10.**

There have been no site operations therefore samples have not been required.

#### **A.4 A LIST OF UNAUTHORIZED DISCHARGES AND FOLLOW-UP ACTION TAKEN;**

There have been no unauthorized discharges from the site in the 2008-2010 time period.



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**A.5 UPDATES OR REVISIONS TO THE WASTE MANAGEMENT PLAN, SPILL CONTINGENCY PLAN, ABANDONMENT AND RESTORATION PLAN, OPERATIONS AND MAINTENANCE PLAN AND CARE AND MAINTENANCE PLAN. REVISIONS MAY BE SUBJECT TO BOARD APPROVAL;**

There have been no site operations in the 2008 to 2010 time frame; therefore, these plans have not been updated. These documents will be updated and submitted for approval a minimum of 90 days prior to any contemplated resumption of activities ore with the next annual report in March of 2012.

**A.6 AN UPDATED ESTIMATE OF THE RESTORATION LIABILITY, AS REQUIRED UNDER PART B, ITEM 5 AND 6, BASED UPON THE RESULTS OF THE RESTORATION RESEARCH, PROJECT DEVELOPMENT MONITORING, AND ANY MODIFICATIONS TO THE SITE PLAN;**

The current restoration liability is estimated to be \$1,943,500. A spreadsheet with the calculations is submitted with this report for approval. This estimate has been simply inflated from the 2004 estimate by applying a 4% per annum inflation rate to labour and equipment rates and material costs and making adjustments for current fuel and air charter costs. A full engineering update the Abandonment and Restoration Plan based on an engineering site inspection and report is planned for this summer and this will be submitted on the next annual report interval in 2012. A full RECLAIM estimate will also be completed prior to the next annual report interval in 2012.

**A.7 A BRIEF DESCRIPTION OF FOLLOW-UP ACTION TAKEN TO ADDRESS CONCERNS DETAILED IN INSPECTION AND COMPLIANCE REPORTS PREPARED BY THE INSPECTOR;**

As there have been no operations at the site, follow-up actions have yet to be implemented from the last inspection report that we have knowledge of provided in 2007. It is MMG's intention to open the site for general maintenance and repair actions in the summer of 2011. Follow up actions will be taken at this time. These will in general be to relocate containers inside of secondary containment and/or to relocate containers containing petroleum and other hazardous goods and products off of the site.

**A.8 A SUMMARY OF HAZARDOUS MATERIALS SHIPPED OUT, THE TREATMENT RECEIVED, AND THE LOCATION OF THE APPROVED TREATMENT FACILITY TO WHICH THEY WERE SENT;**

No hazardous materials have been shipped from the site for the time frame 2008-2010.

**A.9 A SUMMARY OF ANY ABANDONMENT AND RESTORATION WORK COMPLETED DURING THE YEAR AND AN OUTLINE OF ANY WORK ANTICIPATED FOR THE NEXT YEAR;**

There has been no abandonment and restoration work completed during the years 2008 to 2010.

**A.10 A SUMMARY OF ANY SPECIFIC STUDIES OR REPORTS REQUESTED BY THE BOARD, AND A BRIEF DESCRIPTION OF ANY FUTURE STUDIES PLANNED OR PROPOSED;**

A number of items were requested by the Board at the time of the License renewal in 2009. We acknowledge that the majority of these items remain outstanding and propose that these items be completed 60 days prior to any resumption of site operations. It is our general intention to carry out some



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more in-depth maintenance and repair work to the camp and underground portal in the summer of 2011; therefore we would undertake to provide the outstanding reports to the board on or before May 31, 2011.

These include:

- An update to the reclamation security calculations using the RECLAIM model
- A waste management strategy and plan
- Updated spill contingency plan reflecting current ownership
- Care and maintenance plan
- Updated Abandonment and Restoration Plan

**A.11 PUBLIC CONSULTATION/PARTICIPATION REPORT DESCRIBING CONSULTATION WITH LOCAL ORGANIZATIONS AND RESIDENTS OF THE NEARBY COMMUNITIES, IF ANY WERE CONDUCTED;**

No public consultation activities have been undertaken in the 2008-2010 time frame.

**A.12 ANY OTHER DETAILS ON WATER USE OR WASTE DISPOSAL REQUESTED BY THE BOARD BY NOVEMBER 1ST OF THE YEAR BEING REPORTED. PART B, ITEM 5(A) - THE MONTHLY AND ANNUAL QUANTITIES (IN CUBIC METERS) OF WATER PUMPED FROM WEST LAKE FOR INDUSTRIAL AND CAMP PURPOSES.**

The site is in care and maintenance and there were zero cubic meters of water needed to maintain this state. No diamond drilling was conducted at Ulu in 2008-2010 therefore no additional water was consumed from lakes or ponds in the area.

RECLAMATION COSTS ESTIMATE FOR ULU MINESITE (present condition)							up dated March 30, 2010					2010 Ulu Reclamation Costs.xls			
Activity	Quantity	units	No.	Total	Rate/	Cost	Equip.	hrs	Rate/	Cost	Materials	Cost	Total	Cost/	
			men	hrs	hr	Labour			hr	eqpt			Cost	activity	
Cap vent raise	11.5	m^3	3	44	\$50.00	\$6,600	Zoom Boom	22	\$40.00	\$880	concrete	\$17,000	\$24,480	\$24,480	
Dismantle 350,000 gal fuel tanks	2	ea	5	154	\$50.00	\$132,000	Badger Crane	154	\$300.00	\$46,200			\$178,200		
			2	154	\$50.00	\$15,400	Zoom Boom	154	\$40.00	\$6,160			\$21,560	\$199,760	
Dismantle Weatherhaven camp			2	165	\$75.00	\$24,750	Badger Crane	11	\$300.00	\$3,300	Trav expens.	\$2,500	\$30,550		
			10	165	\$40.00	\$66,000	Flat deck	165	\$25.00	\$4,125			\$70,125	\$100,675	
Dismantle Ulu trailers, etc.			12	330	\$40.00	\$158,400							\$158,400		
Remove fence - powder mags			2	10	\$40.00	\$800	CAT966	10	\$55.00	\$550			\$1,350		
Labor crew			10	165	\$40.00	\$66,000							\$66,000		
Catering			3	660	\$50.00	\$99,000	incl food						\$99,000		
Re-supply flights							Dornier	5	\$12,500.00	\$62,500			\$62,500		
Crew change flights							Dornier	3	\$7,500.00	\$22,500			\$22,500	\$409,750	
Fuel															
Fuel purchase cost (Jet-B)	130,000	liters					For Buffalo aircraft		\$1.50	\$195,000			\$195,000		
Transportation cost to Ulu (Jet-B)	130,000	litres					Herules aircraft		\$1.50	\$195,000			\$195,000		
Fuel Handling - Ulu			2	66	\$40.00	\$5,280	Fuel truck	22	\$35.00	\$770			\$6,050	\$396,050	
Fly Ulu Fuel Inventory to High Lake	500,000						Buffalo aircraft	58	\$3,300.00	\$191,400	mob/demob	\$13,000	\$204,400	\$204,400	
Freight Haul - Ulu to High Lake (assume 1.0 million lbs)															
Ulu freight transfer crew			4	330	\$40.00	\$52,800	Forklift	56	\$40.00	\$2,240			\$55,040		
High Lake freight receiving crew			4	330	\$40.00	\$52,800	Forklift	56	\$40.00	\$2,240			\$55,040	\$110,080	
Freight flights - Ulu to High Lake							Buffalo aircraft	56	\$3,300.00	\$184,800	mob/demob	\$13,000	\$197,800	\$197,800	
Uncover portal															
dig	400	m^3	1	11	\$50.00	\$550	CAT966	11	\$55.00	\$605			\$1,155		
blast			1	11	\$55.00	\$605					explosives	\$1,200	\$1,805	\$2,960	
Block portal with waste (final)	800	m^3	1	22	\$50.00	\$1,100	CAT966	22	\$55.00	\$1,210			\$2,310	\$2,310	
Remove ore from pad to portal	1222	m^3	1	18	\$50.00	\$900	CAT966	18	\$55.00	\$990			\$1,890		
	1222	m^3	1	18	\$50.00	\$900	CAT769	18	\$65.00	\$1,170			\$2,070	\$3,960	
Grade sides of ore pad to 30deg	800	m^3	1	11	\$50.00	\$550	D8N	11	\$75.00	\$825			\$1,375	\$1,375	
Grade sides of camp pad to 30deg	400	m^3	1	6	\$50.00	\$300	D8N	6	\$75.00	\$450			\$750	\$750	
Grade road edges to 30deg slope	12500	m^3	1	22	\$50.00	\$1,100	D8N	22	\$75.00	\$1,650			\$2,750	\$2,750	
Grade airstrip edges to 30deg slope	400	m^3	1	4	\$50.00	\$200	D8N	4	\$75.00	\$300			\$500	\$500	
Grade sides of portal pad to 30deg	400	m^3	1	4	\$50.00	\$200	D8N	4	\$75.00	\$300			\$500	\$500	
Tram ore underground	1222	m^3	1	22	\$50.00	\$1,100	ST-7.5	22	\$95.00	\$2,090			\$3,190	\$3,190	
Dig out Camp 3 tank farm	617	m^3	1	22	\$50.00	\$1,100	CAT966	22	\$55.00	\$1,210			\$2,310		
Haul to portal			1	22	\$50.00	\$1,100	CAT769	22	\$65.00	\$1,430			\$2,530		
Haul u/g			2	14	\$50.00	\$1,400	ST-7.5	14	\$95.00	\$1,330			\$2,730	\$7,570	
Dig out Ulu tank farm	457	m^3	1	5	\$50.00	\$250	CAT966	5	\$55.00	\$275			\$525		
Haul to portal			1	5	\$50.00	\$250	CAT769	5	\$65.00	\$325			\$575		
Haul u/g			2	10	\$55.00	\$1,100	ST-7.5	10	\$95.00	\$950			\$2,050	\$3,150	

RECLAMATION COSTS ESTIMATE FOR ULU MINESITE (present condition)							up dated March 30, 2010					2010 Ulu Reclamation Costs.xls		
Activity	Quantity	units	No.	Total	Rate/	Cost	Equip.	hrs	Rate/	Cost	Materials	Cost	Total	Cost/
			men	hrs	hr	Labour			hr	eqpt			Cost	activity
Scarify														
Ulu Camp	26000	m^2	1	13	\$50.00	\$650	D8N	13	\$75.00	\$975			\$1,625	
Portal pad	8000	m^2	1	4	\$50.00	\$200	D8N	4	\$75.00	\$300			\$500	
Ore pad	19000	m^2	1	10	\$50.00	\$500	D8N	10	\$75.00	\$750			\$1,250	
Roads	140000	m^2	1	70	\$50.00	\$3,500	D8N	70	\$75.00	\$5,250			\$8,750	
Airstrip	23000	m^2	1	12	\$50.00	\$600	D8N	12	\$75.00	\$900			\$1,500	\$13,625
Remove road culverts	6	ea	1	22	\$48.43	\$1,065	backhoe	22	\$25.00	\$550			\$1,615	
			1	22	\$50.00	\$1,100	D8N	22	\$75.00	\$1,650			\$2,750	\$4,365
Subtotal													\$1,690,000	\$1,690,000
Contingency (15%)													\$253,500	\$253,500
TOTALS				2953		\$700,150				\$943,150		\$46,700	\$1,943,500	\$1,943,500



# 2010 Annual Geotechnical Inspection Various Earth Structures Ulu, Nunavut

**Prepared For:**  
**MMG Resources Inc.**

200-1159 Alloy Drive  
Thunder Bay, On  
P7B 6M8

**Prepared By:**  
**TBT Engineering Consulting Group**

Thunder Bay Testing & Engineering Limited  
1918 Yonge Street  
Thunder Bay, ON., P7E 6T9

November 3, 2010

Ref. No. 10-069



November 3, 2010  
TBTE Ref. No. 10-069

Andrew Mitchell, P.Geo.  
Development Manager - Canadian Operations  
MMG Resources Inc.  
200-1159 Alloy Drive  
Thunder Bay, Ontario, P7B 6M8

**Re:**

**2010 Annual Geotechnical Inspection  
Various Earth Structures  
ULU Mine, Nunavut**

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### **Introduction**

In order to fulfill terms of the Water License for the Ulu site, MMG Resources Inc. has requested geotechnical inspections be conducted for the 2010 season. The inspections were undertaken by TBT Engineering Limited on August 24, 2010. This report provides a summary of these inspections and documents the findings.

The Ulu Gold Project is an advanced exploration project, owned by MMG Resources Inc.. The Water Board License for the mine was transferred to MMG when MMG acquired OZ Minerals and ownership of the mine in 2009. The project is located in Nunavut, approximately 530 km north east of Yellowknife at 66°55'N and 110°58'W, as shown in Enclosure 1. Mine locations and layout have been illustrated on Enclosures 1-3.

The purpose of the annual geotechnical inspection is to visually evaluate the performance of water and waste retaining structures from a geotechnical perspective. Following the inspection, the owner (MMG) is to be notified of any deficiencies.



The following facilities and structures have been identified previously for the annual geotechnical inspection program:

- Ulu Main tank farm containment berm.
- Day tank containment berm.
- Camp 3 tank farm containment berm.
- Mine sump
- Ore storage pad.
- Portal laydown pad.

### **Background**

The following description of the mine history was provided in earlier inspection reports (BGC Engineering Inc. 2007)

“The Ulu Property was originally discovered by BHP Minerals in 1988, then there followed several years of additional exploration work. Mining consultant H.A. Simons Ltd. completed a pre-feasibility study of the project in September 1995, followed by the sale of the property to Echo Bay Mines Ltd. (Echo Bay) in November 1995. After receipt of appropriate permits and approvals in early 1996, Echo Bay mobilized camp and mining equipment over the winter road to their temporary Camp 3, located south of the Ulu site. Following from that initial mobilization, Echo Bay built the 8 km all-weather road to the Ulu airstrip and the Ulu camp facilities undertook surface diamond drilling and excavated a portal and completed a 632 m ramp to the 75 m level.

In February 1997, Echo Bay submitted an environmental assessment for the project. Also in 1997, additional ramp development was undertaken to the 155 m level, along with other development and diamond drilling work, but the project was shut down in August 1997 due to low gold prices. Echo Bay then provided updated Feasibility Studies



in December 1997 and October 1998, but the project activity generally remained dormant.

In December 2003, Wolfden purchased the Ulu Property from Echo Bay. Echo Bay's Water License for the site was transferred to Wolfden by the NWB in a letter dated March 23, 2004. Zinifex subsequently purchased Wolfden earlier in 2007, and then merged with Oxiana Ltd. in 2008 to form OZ Minerals. "

In 2009 the property was transferred to MMG Resources Inc. as a part of the acquisition of Oz Minerals.

No mining activity occurred at the site over the past two years.

### **Project Elements**

The Ulu project site consists of three main components, from south to north:

1. Camp 3 (fuel tank farm and maintenance building), borrow pits and explosives magazines located on an esker just northwest of Reno Lake North.
2. An airstrip, approximately 1350 m long x 30 m wide, located over bedrock exposures to the north.
3. The Ulu camp and portal, located at the north end of the site.

As reported earlier (BGC Engineering Inc. 2007), the Ulu camp location is on a glacially modified bedrock outcrop bounded by West Lake and East Lake to the southeast. Ulu Lake is located to the northeast. The terrain consists of exposed bedrock, boulder fields, and occasional glacial erratics. Areas near the lakes and watercourses contain wetlands and sedge grasses. The majority of the surface drainage from the camp site, waste rock and ore storage pads drains into East Lake, which discharges into Ulu Lake. Some surface drainage from the northern end of the campsite pad flows overland and then into Ulu lake. A small southwestern portion of the ore storage pad flows west, possibly into West Lake.

The Ulu project site is located within the continuous permafrost zone of northern Canada. The Lupin Mine, approximately 150 km to the south is reported to have a permafrost depth of approximately 540 m. At High Lake, approximately 50 km to the north of Ulu, permafrost has been calculated from temperature measurements taken in exploration drill holes to be approximately 440 m deep.

### **Climatic Information**

No long term climate records are available for the Ulu site. Data provided to us based on regional correlations of nearby weather stations and suggests:

- One day Probable Maximum Precipitation (PMP) estimate of 157 mm.
- Mean annual precipitation amount of 280 mm
- Mean annual lake evaporation value of 240 mm.

### **Site Inspections**

The various earth structures at the Ulu Mine were inspected by TBT Engineering on August 24th, 2010. The inspections were completed by Gordon Maki, P.Eng. and Ernie Krause, Sr. Technologist of TBT Engineering.

Each of the earth structures was visually inspected, photographed and a standardized site inspection form was completed. Findings of the inspection were discussed with Andrew Mitchell of MMG via teleconference.

### **Findings And Conclusions**

Details of the various site inspections have been documented on the attached individual site reports (Appendix A). These have been updated in a standardized format to be consistent with previous Annual Inspections.

The inspections confirm the earth structures are generally in satisfactory condition with some liner related issues to be attended to. Repairs and restoration of the gravel covers at some locations which were identified last year have been carried out. However, at the Camp 3 Tank Farm Containment Berm, some exposed patches of liner exist and some repairs to the berm slope and an erosion gully have been recommended. In addition, one of the smaller tanks is now leaning due to a broken foundation timber which may need to be repaired to ensure stability of the tank. The mine sump pit remains in the same condition as last year with exposed liner with small holes and loose ends. This should be repaired before the sump is ever put back into operation. In addition, the existing silt curtain downstream of the Portal Laydown Pad is in need of repair / maintenance.

The above comments are based on the current Ulu operational conditions; the site is currently not being used, there are no mining activities. Prior to reinstatement of mine operations the earth structures should be re-evaluated to confirm their suitability to the specific operational situations.

**Closure**

We trust the above addresses your requirements at this time. Please contact us at your convenience should you have any questions.

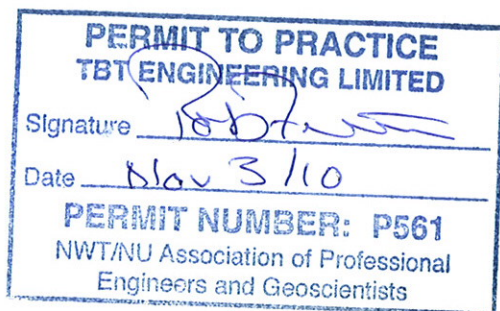
Yours truly,  
For TBT Engineering



Gordon Maki, P. Eng.  
Manager of Geotechnical Engineering

A handwritten signature in black ink, likely belonging to Wayne Hurley.

Wayne Hurley  
Principal



APPENDIX "A"

2010 ANNUAL GEOTECHNICAL INSPECTION  
OF SELECTED STRUCTURES

### **ULU TANK FARM CONTAINMENT BERM**

<b>LOCATION:</b>	Northeast corner of the Ulu camp pad.
<b>FUNCTION:</b>	Provides secondary containment for five large fuel tanks and numerous barrels of fuel.
<b>SIZE:</b>	~20 m wide by ~50 m long.
<b>BERM HEIGHT:</b>	~1.5 to 2 m above adjacent grade.
<b>CREST ELEVATION:</b>	No survey information available
<b>BERM CONDITION:</b>	Berm is constructed from esker sand and gravel and appears in good condition. Numerous animal burrows observed on the outside slope of the berm. Areas of exposed liner noted last year have now been covered.
<b>SEEPAGE:</b>	No evidence of seepage observed at the exterior berm toe. Small amounts of water with oil sheen are being retained within the storage area.
<b>MAINTENANCE/MONITORING RECOMMENDATIONS:</b>	None.
<b>CONCLUSIONS:</b>	The berm appears in generally satisfactory condition.



Exterior Berm





Exterior Berm



Animal Burrow



Small amount of water with oily sheen



### **DAY TANK CONTAINMENT BERM**

<b>LOCATION:</b>	Adjacent to powerhouse area.
<b>FUNCTION:</b>	Provides secondary containment for one fuel tank.
<b>SIZE:</b>	~5 m wide by ~5 m long.
<b>BERM HEIGHT:</b>	~1 to 1.2 m above adjacent grade.
<b>CREST ELEVATION:</b>	No survey information available.
<b>BERM CONDITION:</b>	Berm is constructed from esker sand and gravel and appears in overall good condition. Where liner was exposed last year, it is now covered.
<b>SEEPAGE:</b>	No evidence of seepage observed at the berm toe.
<b>MAINTENANCE/MONITORING RECOMMENDATIONS:</b>	None.
<b>CONCLUSIONS:</b>	The berm appears in generally satisfactory condition.



Day Tank Berm





Area Exposed Liner Last Year - Now Covered



Inside of Berm Dry

---

**CAMP 3 TANK FARM CONTAINMENT BERM**

<b>LOCATION:</b>	Far southern end of the esker, west of Reno Lake North.
<b>FUNCTION:</b>	Provides secondary containment for two large fuel tanks and six smaller skid-mounted tanks.
<b>SIZE:</b>	~30 m wide by ~60 m long.
<b>BERM HEIGHT:</b>	~1.5 to 2 m above adjacent grade on one side and ~1 to 1.2 m on the other.
<b>CREST ELEVATION:</b>	No survey information available
<b>BERM CONDITION:</b>	Berm is constructed from esker sand and gravel and appears in good condition. It appears the some of the exposed liner areas have observed last year have now been covered. Could not confirm is small tears were repaired. Liner still exposed at one location between tanks and one location on downstream slope. There is also one area where it appears that some material has been cut from the toe of slope leaving an area with an over steepened slope. One erosion gully was observed near the toe of slope. It appears that one of the smaller tanks has a broken timber foundation support and the tank is now leaning. This should be repaired.
<b>SEEPAGE:</b>	No evidence of seepage observes at the berm toe.
<b>MAINTENANCE/MONTORING RECOMMENDATIONS:</b>	Two areas of exposed liner should be recovered with granular fill. The one area of cut slope near the toe and the one erosion gully should be repaired.
<b>CONCLUSIONS:</b>	The berm appears in generally satisfactory condition. See above maintenance items. The leaning tank should be repaired



Camp 3 Tank Farm



Last Year Exposed Liner – Now Covered





Exposed Liner Between Tanks



One Area of Exposed Liner on Downstream Slope



Area of Cut Into Downstream Slope



Leaning Tank





Broken Timber Support



Gap below tank



Erosion Gully Near Toe of Embankment S/E Corner

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**MINE SUMP**

<b>LOCATION:</b>	Directly outside the portal, uphill from both a local access road and the portal laydown pad.
<b>FUNCTION:</b>	Provides containment for settling and sediment retention of mine water pumped from the decline ramp.
<b>SIZE:</b>	~20 m wide by ~30 m long.
<b>BERM HEIGHT:</b>	~1.5 to 2 m above adjacent grade.
<b>CREST ELEVATION:</b>	No survey information available.
<b>BERM CONDITION:</b>	<p>Berm is constructed from rockfill (waste rock) and esker sand and gravel. The banks are over-steepened.</p> <p>Geomembrane liner within berm is exposed at numerous locations along the north, east and west sides. The liner at north end of the pond is loose. Small tears are developing in the liner.</p>
<b>SEEPAGE:</b>	No evidence of seepage observed at the berm toe. Current water depth inside sump is about 150 mm.
<b>MAINTENANCE/MONTORING RECOMMENDATIONS:</b>	Before the sump is put back into service the liner and side slopes should be repaired/restored.
<b>CONCLUSIONS:</b>	The berms are suitable for the interim. Before the sump is put back into use, the liner and slopes must be repaired.





Mine Sump Pit – Exposed Liner



Exposed and Loose End of Liner





Typical Small Tear in Liner



Typical Small Tear in Liner

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**PORTAL LAYDOWN (WASTE ROCK) PAD**

<b>LOCATION:</b>	Pad is located just downhill from the portal and local access road, approximately 150 m from East Lake.
<b>FUNCTION:</b>	Initially constructed from waste rock from the decline ramp development. Mine muck material was placed on the pad covers a portion of the silt control fence.
<b>SIZE:</b>	~50 m wide by ~200 m long.
<b>PAD THICKNESS:</b>	Ranges from 1 to 5 m above original topography.
<b>CREST ELEVATION:</b>	No survey information available.
<b>PAD CONDITION:</b>	Pad is constructed from rockfill (waste rock). Toe of the pad sits at the angle of repose for rockfill. Scarps and cracks have developed on downhill toe due to sloughing and erosion of loose fill.
<b>TOE DISCHARGE:</b>	No seepage observed at the toe of the pad. Any potential pad drainage heads downhill into East Lake.
<b>MAINTENANCE/MONTORING RECOMMENDATIONS:</b>	Existing downstream stream silt fencing is in need of repair.
<b>CONCLUSIONS:</b>	The pad appears to shows signs of instability and erosion on the downstream side. Re-grading and shaping will be required before the pad is put into use. Runoff from the pad is collected within East Lake that passes through a wetland before entering Ulu Lake. The existing down slope silt curtain is in need of repair and has been covered by the toe of the pad at some locations. The silt curtain should be restored.





Portal Laydown Pad

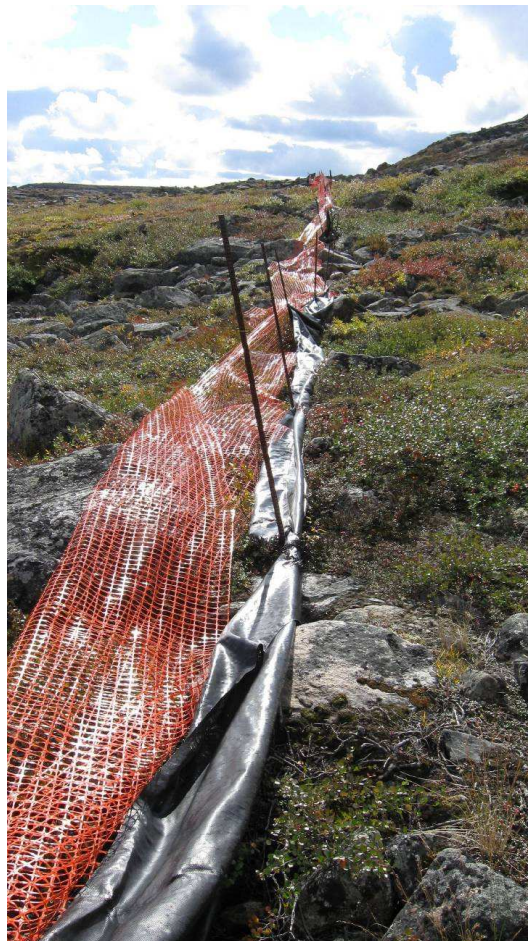


Downhill Face of Pad





Silt Fence



Silt Fence



Silt Fence



**TBT ENGINEERING**



Silt Fence



Slump Cracking Downhill Side

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**ORE STORAGE PAD**

<b>LOCATION:</b>	Pad is located southwest of the Portal Laydown Pad, approximately 325 m from East Lake.
<b>FUNCTION:</b>	Constructed from waste rock and then partially covered with esker sand and gravel. The pad was originally constructed for temporary storage of ore before its proposed shipment. Two small ore stockpiles are currently located on the pad.
<b>SIZE:</b>	~100 m wide by ~200 m long.
<b>PAD THICKNESS:</b>	Ranges from 1 to 3 m above original topography.
<b>CREST ELEVATION:</b>	No survey information available.
<b>PAD CONDITION:</b>	Pad is constructed from rockfill (waste rock) and esker sand and gravel. Two ore stockpiles located on the east corner of the pad. Toe of the pad sits at the angle of repose for rockfill.
<b>TOE DISCHARGE:</b>	None noted. Surficial pad drainage would head west from the southwest corner of the pad. No drainage was observed in this direction.
<b>MAINTENANCE/MONITORING RECOMMENDATIONS:</b>	No current concerns.
<b>CONCLUSIONS:</b>	The pad appears stable with no signs of erosion or instability.





Storage Pad Outside Edge



Storage Pad Area

ENCLOSURES





CLIENT:

MIN METALS GROUP LTD



DWG. TITLE:

ULU FACILITY - OVERVIEW MAP

PROJECT:

ULU MINE ANNUAL INSPECTION

ULU FACILITY, NUNAVUT

SCALE:

1:7,500

PROJECT NO.

10-069

DATE:

OCT.2010

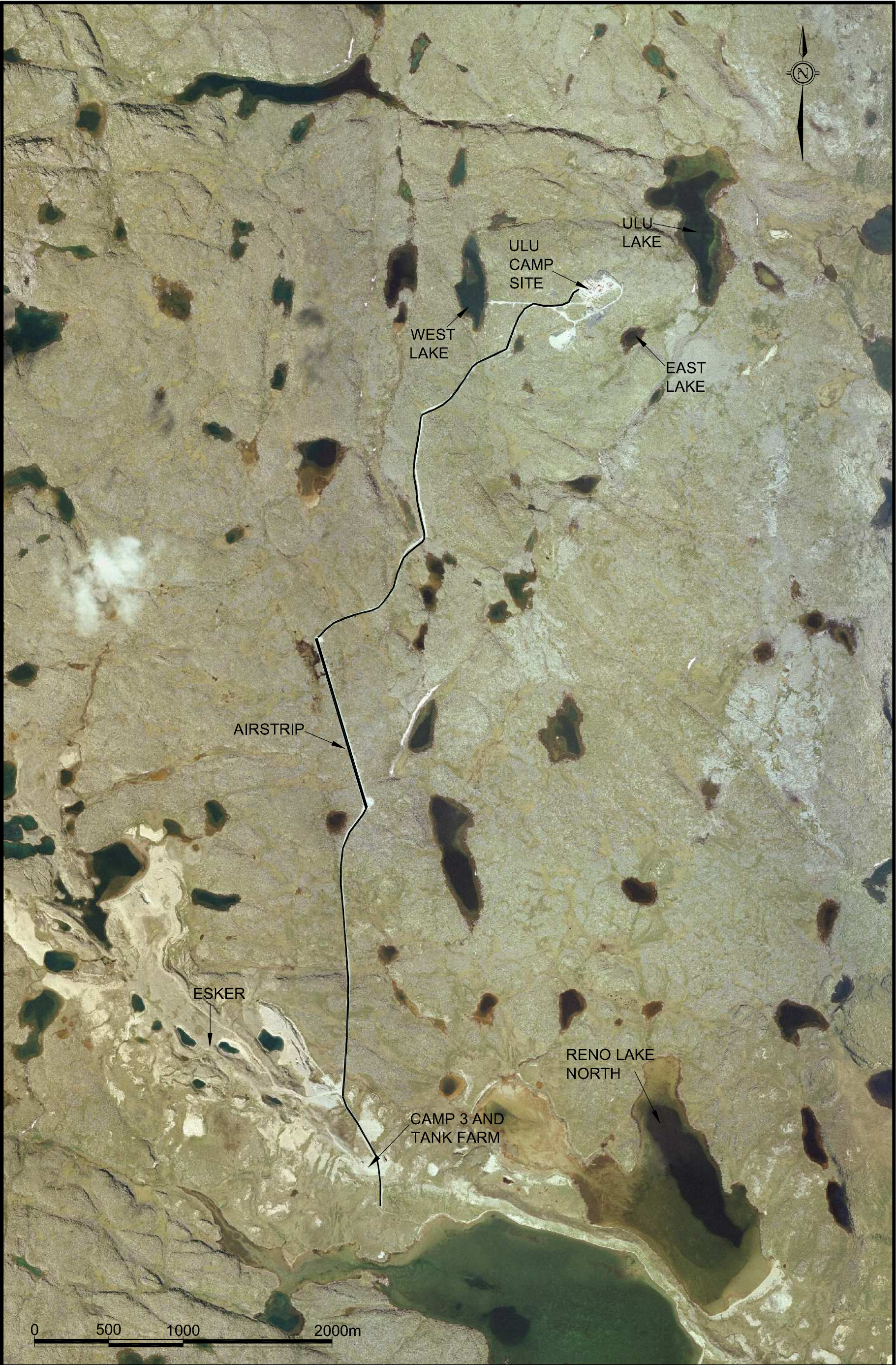
ENCLOSURE



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TBT ENGINEERING  
CONSULTING GROUP





<div>CLIENT:</div> <div>MIN METALS GROUP LTD</div> <div></div> <div> <b>TBT ENGINEERING</b> CONSULTING GROUP</div>	<div>DWG. TITLE:</div> <div>ULU FACILITY AREA PLAN</div>	<div>SCALE:</div> <div>1:25,000</div>	<div>PROJECT NO.</div> <div>10-069</div>
	<div>PROJECT:</div> <div>ULU MINE ANNUAL INSPECTION ULU FACILITY, NUNAVUT</div>	<div>DATE:</div> <div>OCT.2010</div>	
			<div>ENCLOSURE</div> <div>2</div>



