

**CULLATON LAKE GOLD MINES LTD.**

**WATER LICENCE 1BR-CUL0911**

**ANNUAL WATER LICENCE REPORT 2008**

**PREPARED on behalf of:**

**BARRICK GOLD INC.**

**By P.J. Brugger and Associates  
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**March 2009**

## **Table of Contents**

Executive Summary (Inuktitut)	i
Executive Summary (English)	ii
1.0 Site Background / Location	1
1.1 Closure and Maintenance History	1
2.0 Water Licence Supplemental Conditions and Notes	5
3.0 2008 Activities	7
3.1 Annual Site Inspection Findings	9
3.2 Water Quality Monitoring	10
3.3 Thermistor Monitoring	11
3.4 Geotechnical Inspection	11
4.0 Annual Review of Spill Response Plan	12
5.0 Annual Review of Abandonment and Restoration Plan	12
6.0 Annual Review of Quality Assurance / Quality Control	12
7.0 2009 Proposed Program	12
Appendix 1 – Site Photos	
Appendix 2 – Water Quality Monitoring Results June 28, 2008	
Appendix 3 – Thermistor Monitoring Results September 2, 2008	
Appendix 4 – 2009 Spill Response Plan	

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## **EXECUTIVE SUMMARY**

The Cullaton Lake Gold mine is a recognized closed mine site located in the southern part of the Kivalliq Region in the Nunavut Territory. The property is 645 km north of Thompson, Manitoba and 250 km west of Arviat, Nunavut.

During 2008, activities at the site included conducting the annual site inspection, water quality and thermistor monitoring and the tailings dam geotechnical inspection required pursuant to then current Water Licence No. NWB1CUL0708. In addition field data was collected in May, June, August and September to support the Ecological Risk Assessment currently being finalized. This data included a fish community and tissue study at Shear Lake and associated tributaries, benthic and periphyton surveys, additional water quality monitoring, meteorology, hydrology and ARD testing.

Summarized, the results of the annual site inspection and monitoring indicate that:

- Water quality continues to remain within the guidelines specified in the Water Licence.
- The tailings storage facility continues to remain stable.
- The tailings thermistors continue to provide erroneous readings. The permafrost in the tailings cover was found at 2.0m on September 2, 2008 by test pit at T4.

Also in 2008, to facilitate ongoing discussions with INAC and field studies to support returning the property to the government, an amendment to the expiry date for Water Licence 1BR-CUL0708 was requested and granted. The property is now licensed under 1BR-CUL0911, which expires on January 31, 2011.

## **1.0 SITE BACKGROUND / LOCATION**

Cullaton Lake Gold Mines Ltd. is a wholly owned subsidiary of Barrick Gold Inc. (Barrick) which in turn is a wholly owned subsidiary of Barrick Gold Corporation.

The Cullaton Lake Gold mine is a recognized closed mine site located in the south central part of the Kivalliq Region in the Nunavut Territory. The property is 250 km west of Arviat, Nunavut, 400 km northwest of Churchill, Manitoba, and 645 km north of Thompson, Manitoba (see figure 1). The mine was in operation for four years from 1981 to 1985. Following operation, the mine was in a care and maintenance mode from 1985 to 1991.

### **1.1 CLOSURE AND POST CLOSURE MAINTENANCE HISTORY**

Decommissioning was initiated in 1991 with the rehabilitation of Tailings Pond No. 1, which included construction of a spillway in the dam and the covering of exposed tailings with water or till/mine rock. In addition, the water level in Tailings Pond No. 2 (the polishing pond) was lowered by partial removal of the dam (see figures 2 and 3 for site features).

Between 1991 and 1993, the fresh water intake, pump house and pipelines at the old diamond drill camp on the Kognak River were dismantled and removed. In 1995 and 1996 the mill buildings were dismantled. Some of the inert, non-salvageable material was crushed and placed in the quarry pit. In 1997, additional cover material was placed over the tailings area and the area was seeded and fertilized with a special arctic seed mix, as was the former mill site. During the winter of 1998/99 some salvageable equipment and material was removed from the property.

During the summer of 2001, all remaining inert material was placed in the former quarry pit and covered with 2 meters of till. All waste oils and hydraulic fluids, as well as tires and batteries were removed from equipment prior to burial and subsequently airlifted to Thompson, Manitoba for proper disposal. In addition, waste rock at the Shear Lake Portal area, which had been determined to be acid generating, was collected and encapsulated in till adjacent to the portal.

During the 2005 annual inspection, minor maintenance items identified during the 2004 inspection were corrected. These included a second application of seed and fertilizer on the Encapsulated Waste Rock (EWR) cover at Shear Lake and erosion repairs to the EWR cover, Tailings Pond No. 1 spillway and the quarry pit landfill cover.

During the 2006 annual inspection, a small above-water exposed section of rubber liner on the upstream side of the tailings dam south of the No.1 Spillway was removed.

In response to a request from Barrick in 2006 to return the property to the crown, Indian and Northern Affairs Canada (INAC) initiated a review to assess closure conditions. INAC visited the site in Sept 2006 and commissioned BGC Consulting Ltd. (BGC) to conduct a desk top review of the closure history and monitoring results.

The BGC report indicated for a variety of reasons that INAC should not accept return of the property. In response, INAC, BGC, Barrick and Trow Consulting personnel met on

the site during the 2007 annual inspection on July 5, to discuss the report findings and confirm a new pH issue at Shear Lake. In addition Barrick volunteered to complete an Ecological Risk Assessment (ERA) to determine a) whether the mitigation efforts at Cullaton Lake have adequately addressed the requirements of the approved 1996 Abandonment and Reclamation Plan, and b) whether the new ARD issue at Shear Lake is having any significant ecological effects.

Barrick and Gartner Lee personnel returned to the site in September 2007 to conduct further investigations and gather preliminary field data for completing the ERA.

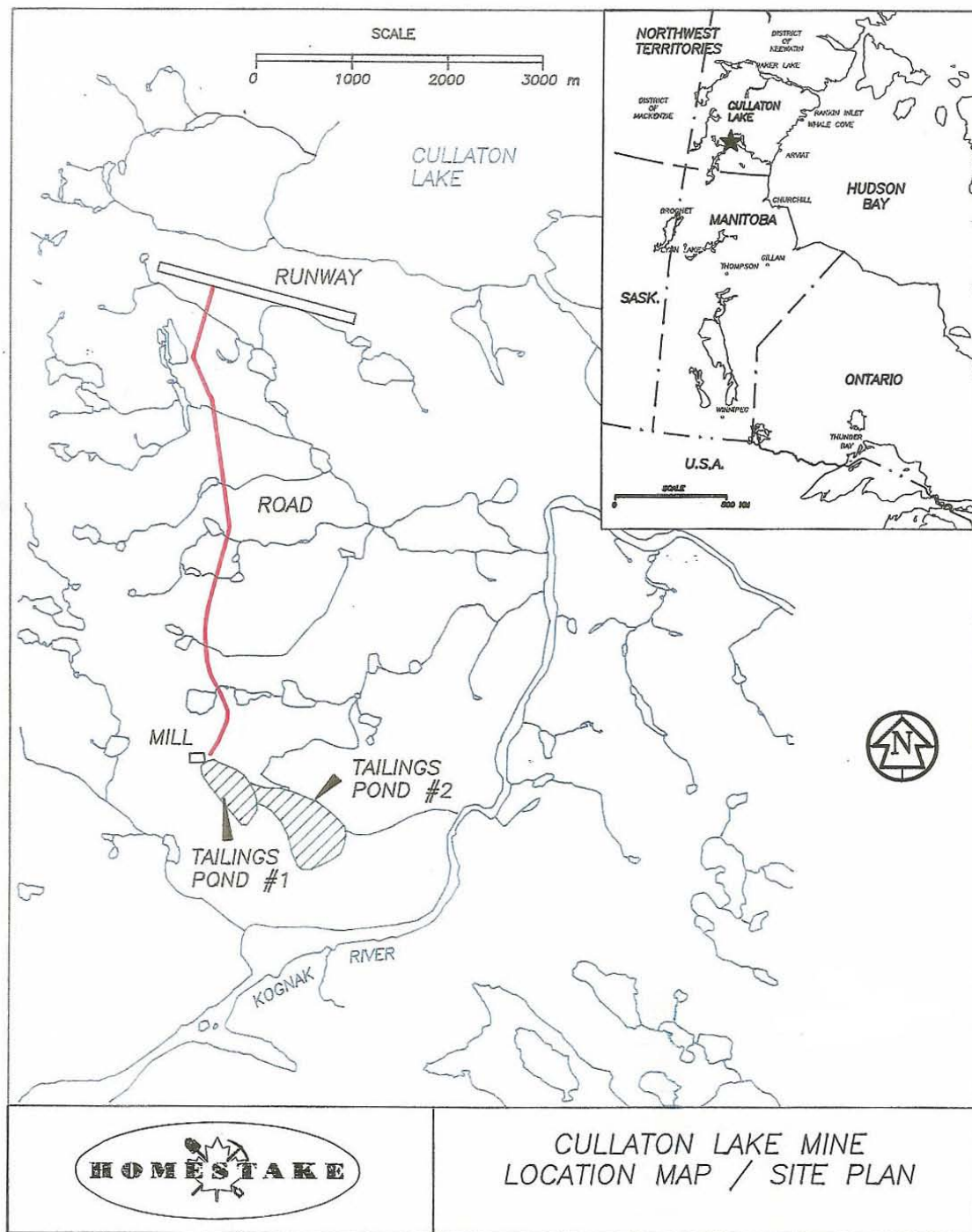
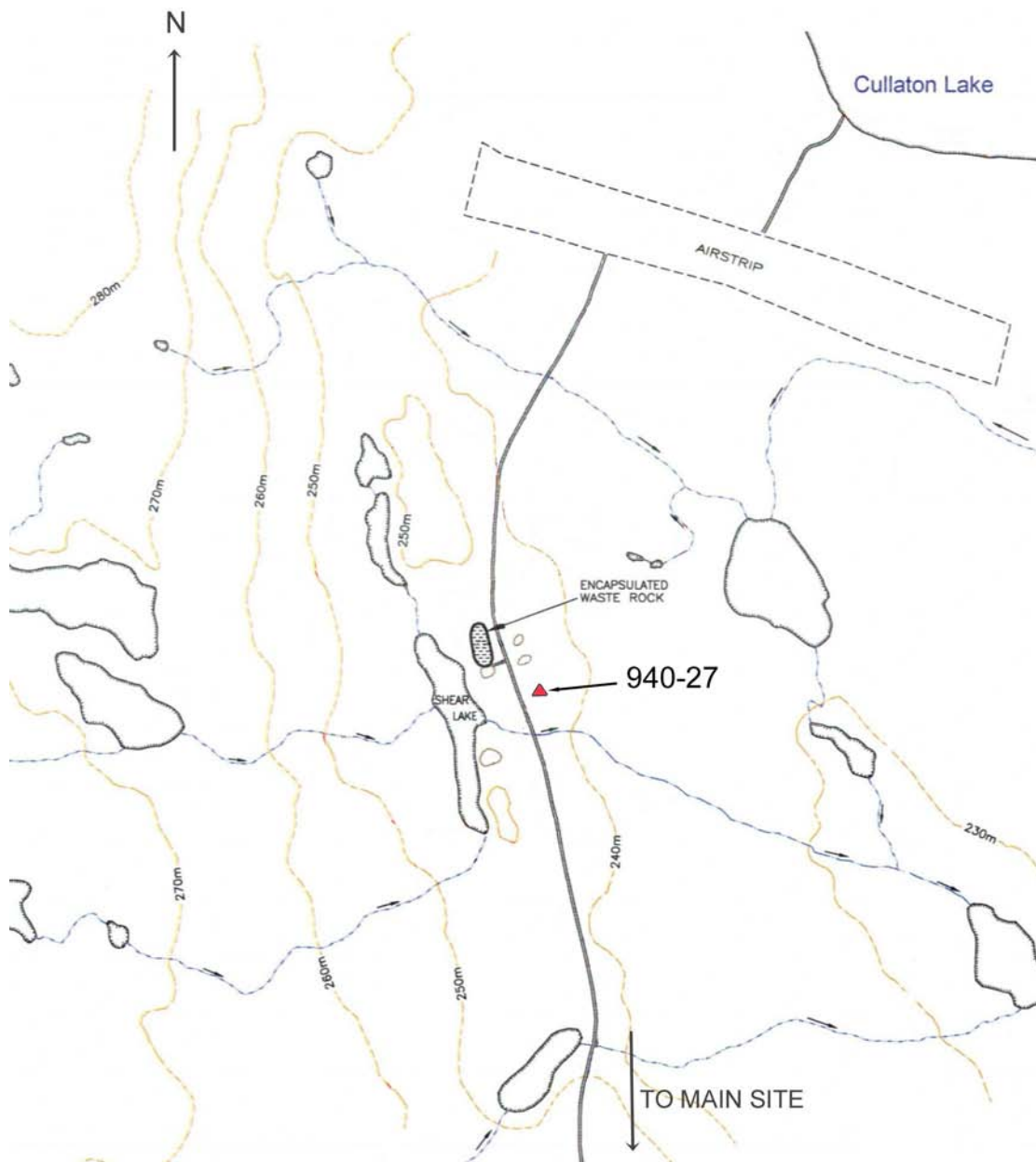


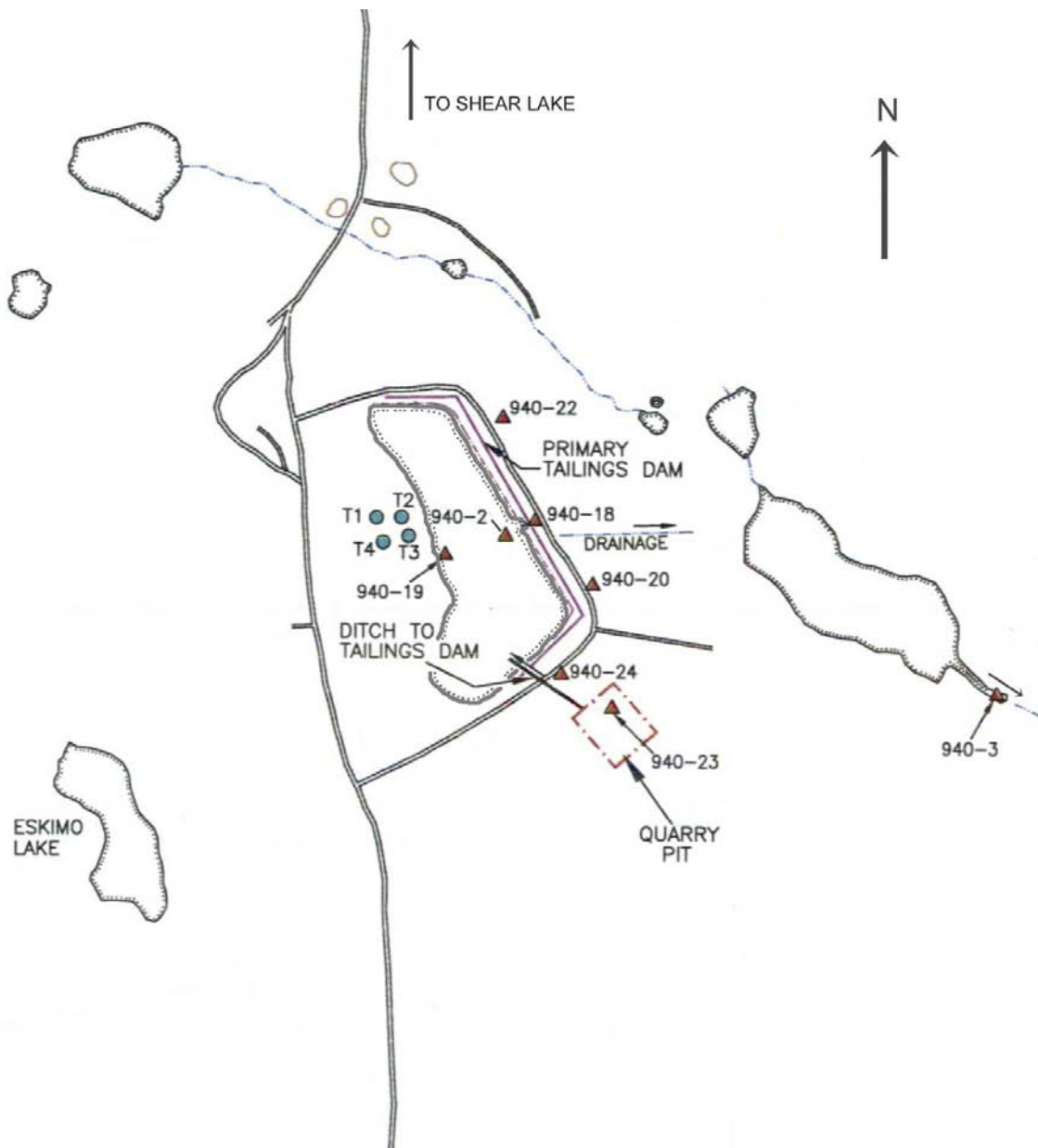
Figure 1: Cullaton Lake Mine location and general site layout



Legend:  
940-27 Water sample station

Figure 2: Cullaton Lake Shear Lake site showing features and water sampling station (not to scale).





Legend:  
 T1: Thermistor station  
 940-2: Water sample station

Figure 3: Cullaton Lake main site showing features, water sampling and thermistor stations (not to scale).

## **2.0 WATER LICENCE NWB1CUL0708 / 1BR-CUL0911 SUPPLEMENTAL CONDITIONS AND NOTES**

Management of Cullaton Lake is conducted pursuant to Water Licence 1BR-CUL0911, which was issued on February 9, 2009 to amend the expiry date of NWB1CUL0708, in order to facilitate additional divestiture discussions and studies. 1BR-CUL0911 will expire on January 31, 2011. The following provides a summary of supplemental conditions and notes pursuant to 1BR-CUL0708 / 1BR-CUL0911:

### *Name Change:*

On November 13, 2003, application was made to the Nunavut Water Board to change the name on Licence NWB1CUL0207 from Homestake Canada Inc. to Barrick Gold Inc. to reflect changes resulting from the 2001 merger of Barrick Gold Corporation and Homestake Mining Company.

### *Amendment for Encapsulated Waste Rock at Shear Lake:*

Part F, Item 5 of the Licence required submission of an application for amendment to the approved Abandonment and Restoration Plan by January 1, 2003 (subsequently extended to March 31, 2003) for the new waste rock disposal area on the shores of Shear Lake. The application for amendment with supporting documentation was submitted to the Nunavut Water Board on March 31, 2003. The amendment was granted on June 6, 2005. In addition, station 940-25 was removed from the monitoring program and replaced with station 940-27, intended to monitor any seepage from the encapsulated waste rock down-gradient to Shear Lake Creek.

The amendment required that suitable as-built drawings for the encapsulated waste rock be submitted within 6 months of the date of the amendment. Drawings were submitted on Dec 5, 2005.

The amendment also required that Section 4.4 of the Approved Abandonment and Restoration Plan be revised to incorporate the latest information with respect to the closure of the Shear Lake Waste Rock disposal area. The revision was submitted concurrent with the 2005 Annual Report.

### *Contingency Plan to Address Seepage Issues at the Encapsulated Waste Rock*

Part F, Item 6, Amendment No. 1 of the Licence required the submission of a Contingency Plan to address the potential of the permafrost not to re-aggrade into the waste rock pile / cover as anticipated, the clogging of the passive treatment system due to the relatively flat terrain and the remediation or mitigation of sediments contaminated with levels of metals in excess of CCME guidelines due to seepage from the encapsulated waste rock pile. The contingency plan for clogging of the passive treatment system and contamination remediation was submitted concurrent with the 2005 Annual Report and under separate cover. In the same document Barrick requested that the requirement for a Contingency Plan to address the possibility of permafrost not

re-aggrading into the waste rock be deleted from the Licence since this condition was identified as an “added benefit” and not a design parameter as specified by URS <sup>1</sup>.

*Amendment for Encapsulated Waste Rock Thermistors:*

Water Licence NWB1CUL0207 required the installation of thermistors in the encapsulated waste rock at Shear Lake. An unsuccessful attempt to install the thermistors was made in July 2003. A report detailing this attempt was submitted to the Nunavut Water Board on November 25, 2003 and requested that this requirement be removed from the Licence. The request was granted on June 6, 2005 and station 940-26 was removed from the monitoring program.

*Site Map:*

Part G, Item 4a of the Licence required submission to the Board of a Site Map of the Project Environmental Impact Area with active Surveillance Network Program (SNP) Stations within 60 days of issuance of the Licence. The required site map was submitted to the Nunavut Water Board on December 16, 2002.

*GPS Coordinates:*

Part G, Item 4b of the Licence required submission of GPS coordinates of all surface and subsurface sampling points. The required GPS coordinates were submitted to the Nunavut Water Board on August 29, 2003.

*Miscellaneous:*

The NWB noted the following in their October 10, 2006 review of the 2005 Annual Water Licence report:

1. While the 2004 reported detection limit for nickel had been lowered as previously requested, the detection limit for arsenic was now higher than previously reported (1µg/l compared to 0.1 µg/l). To clarify the issue the NWB requested that detection limits proposed for the 2007 monitoring be included in the 2006 annual report.

The variability in detection limits is largely the result of the many recent laboratory acquisitions / mergers and procedure changes. After discussing the issue with the present laboratory and reviewing the associated methods and equipment limitations, the 2007 proposed detection limits were as follows:

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<sup>1</sup> Assessment of Closure Options and Impacts, Shear Lake Zone Waste Rock Dump, Cullaton Lake Mine Nunavut, March 2003, URS Norecol, Dames & Moore Inc.

Licence Parameter	Method Detection Limit
Total Suspended Solids	1 mg/l
Total Cyanide	0.005 mg/l
Total Arsenic	0.4 µ/l
Total Copper	1 µg/l
Total Lead	0.5 µg/l
Total Mercury	0.00005 mg/l
Total Nickel	1 µg/l
Total Zinc	5 µg/l

Following the 2007 sampling, the lab erroneously used a TSS detection limit of 10mg/l for the 2007 results. According to the lab, a correction to 1mg/l was not possible due the volume of analysis being less than 500ml. In 2008 the license required water samples were collected by Gartner Lee personnel along with the additional samples required for supporting their ERA. The 2008 detection limits were equal to or lower than those shown above.

2. The NWB commented on the 2005 anomalous zinc value at station 940-23 (.065 mg/l) for follow – up in future monitoring.

The 2006 sampling at 940-23 reported a zinc concentration of 0.012 mg/l.

The 2007 sampling at 940-23 reported a zinc concentration of 0.006 mg/l.

The 2008 sampling at 940-23 reported a zinc concentration of 0.0086 mg/l.

3. The NWB requested that the Spill Response Plan contact number for the INAC Water Resources Inspector be changed.

The required change was made to the 2006 and subsequent versions.

4. The NWB requested that water quality and thermistor data be also provided in Excel format, in order to allow for easier data analysis

The 2006 data was provided in Excel format via e-mail on October 12, 2006. Subsequent results in Excel format are provided concurrent with the annual reports.

### **3.0 2008 ACTIVITIES**

During 2008, Barrick and Gartner Lee personnel visited the site four times in order to conduct various site investigations under different seasonal conditions. The investigations conducted during each visit are summarized as follows:

May 15-16, 2008:

Under-ice water quality (Shear Lake).

June 27-28, 2008

Surface water quality

Meteorology

ARD sample collection

August 2-5, 2008

Surface water quality

Sediment quality in Shear Lake

Meteorology

ARD sample collection

Annual site inspection

September 1-6, 2008

Surface water quality

Fish community assessment in Shear Lake

Fish tissue collection

Benthic survey

Periphyton survey

Meteorology

Annual Dam Inspection

INAC ARD sample collection

Test pit at Thermistor T4 to determine permafrost level in tailings cover

Tailings sediment collection at till cover / water cover interface

Data from the above programs were used or are currently being used to complete the following studies:

Hydrology balance

Geochemical loading

Screening Level Aquatic Ecological Risk Assessment

Personnel involved during the above activities included

Barrick Personnel:

Paul Brugger, Closed Properties Manager, Eastern Canada

Kolby Ozerkevich, assistant

Trow Associates Personnel:

Demetri Georgiou, Principle, qualified geotechnical engineer

Gartner Lee Personnel:

Jennifer Sarchuk, Aquatic biologist

Kai Woloshyn, Environmental scientist  
Eric Cleveland, Aquatic biologist

Lorax Limited:  
David Flather

Access for all visits was via chartered aircraft from Thompson, Manitoba.

During the June trip, water samples required pursuant to then current Water Licence NWB1CUL0708 were collected by Gartner Lee personnel in conjunction with their larger surface water sampling program.

Mr. Brugger completed the annual site inspection including visual inspections of the quarry pit, tailings area and dams, all former underground access areas, EWR and the site in general during the August visit.

Mr Georgiou completed the tailings dam inspection during the September visit. The test pit at tailings cover thermistor T4 was also reopened during the September visit.

There were no weather related issues affecting any of the inspections.

### **3.1 ANNUAL SITE INSPECTION GENERAL FINDINGS**

The annual site inspection performed on August 3, 2008 indicated that the site remains in good condition. Select photos are included in Appendix 1.

During the inspection the following maintenance items were completed / noted:

Scrap barrels identified by INAC in 2006 on the north bank of the Kognak river and minor demolition debris at the former bunkhouse area were retrieved during the September visit.

### 3.2 WATER QUALITY MONITORING

Duplicate water sampling was completed by Gartner Lee Ltd. on June 28, 2008 at 7 of the 9 stations identified in the Water Licence (see Figures 2 and 3 for locations). Results are provided in Appendix 2. Recent historic results are also included for comparison. The following is a brief description of the sampling activities and results:

**Station 940-2 (Tailings Pond No. 1 at discharge to Tailings Pond No. 2)** – Duplicate water samples were collected on June 28, 2008. Results indicated that all parameters were below the limits prescribed in the Water Licence.

**Station 940-3 (Tailings Pond No. 2)** – Duplicate water samples were collected on June 28, 2008. Results indicated that all parameters were below the limits prescribed in the Water Licence.

**Station 940-18 (Tailings Pond No. 1 spillway)** – Duplicate water samples were collected on June 28, 2008. Results indicated that all parameters were below the limits prescribed in the Water Licence.

**Station 940-19 (Tailings Pond No. 1 at piezometer)** – Duplicate water samples were collected on June 28, 2008. Results indicated that all parameters were below the limits prescribed in the Water Licence.

**Station 940-20 (Tailings Pond No. 1 seepage at east side)** – Duplicate water samples were collected on June 28, 2008. Results indicated that all parameters were below the limits prescribed in the Water Licence.

**Station 940-22 (Tailings Pond No. 1 seepage at northeast corner)** – Duplicate water samples were collected on June 28, 2008. Results indicated that all parameters were below the limits prescribed in the Water Licence.

**Station 940-23 (Quarry Pit)** – Duplicate water samples were collected on June 28, 2008. Results indicated that all parameters were below the limits prescribed in the Water Licence. In addition, there was no visible sheen indicating the presence of oil / grease.

**Station 940-24 (Quarry Pit flow to Tailings Pond No. 1)** - There was no flow from the Quarry Pit to Tailings Pond No. 1 on June 28, 2008 and consequently no samples were collected.

**Station 940-27 (Seepage from Encapsulated Waste Rock to Shear Lake Creek)** - There was no flow observed on June 28, 2008 and consequently no samples were collected.

### **3.3 THERMISTOR MONITORING**

A test pit excavated at Thermistor T4 in 2007 indicated that the thermistors are no longer providing correct readings. As a result the T4 test pit was re-opened during the September visit in order to obtain the permafrost level at the projected low point for the year.

Based on the test pit finding, the permafrost was found at a depth of 2.0m on September 2, 2008. The thawed upper 20cm of tailings was unsaturated. The thawed lower 90cm of tailings was saturated (see field notes and photo in Appendix 3).

### **3.4 GEOTECHNICAL INSPECTION**

Demetri Georgiou (Trow Associates) performed the geotechnical inspection on September 6, 2008, pursuant to Part D, Article 8d of Water Licence 1BR-CUL0708. A copy of the inspection report was submitted to the NWB on January 9, 2008.

In summary the report indicates that the tailings dam remains stable. Continued monitoring for erosion in the No. 1 Spillway channel is also recommended.

Pursuant to Licence No. NWB1CUL0207 amendment No.1 date June 6, 2005, Part C, Item 1(e), the condition of the encapsulated waste rock cover at Shear Lake is to be monitored by the geotechnical engineer for erosion until vegetation is sufficiently established so as to stabilize the cover. At the time of the 2008 site inspection, the engineer noted the vegetation continues to take hold and is helping to reduce erosion. A recommendation for additional monitoring was also made.

### **4.0 ANNUAL REVIEW OF SPILL RESPONSE PLAN**

Pursuant to Part H, Article 1 of the Water Licence, a review and update of the Spill Response Plan was conducted this month. An updated version is provided in Appendix 4.

### **5.0 ANNUAL REVIEW OF ABANDONMENT AND RESTORATION PLAN**

Pursuant to Part I, Article 2 of the Water Licence, an annual review of the Abandonment and Restoration Plan was completed. There were no changes to the plan.

### **6.0 ANNUAL REVIEW OF QUALITY ASSURANCE / QUALITY CONTROL**

Pursuant to Part J, Article 4, an annual review of the approved quality assurance / quality control plan (QA/QC) was conducted and found adequate. Field QA/QC is provided by duplicate sampling at each location. Lab QA/QC control is provided by Maxxam Analytics Inc., according to it's standard quality assurance/quality control plan. The laboratory QC involves duplicate analysis of at least one randomly selected sample from each sampling program. Lab QC results for the 2008 samples are provided in Appendix 2.



## **7.0 2009 PROPOSED PROGRAM**

The 2009 program will consist of a site inspection, water quality monitoring, tailings dam geotechnical inspection and EWR cover stability inspection pursuant to Water Licence 1BR-CUL0911. The program is tentatively scheduled to occur during the first week of July. Permafrost readings will be obtained by reopening the test pit at Thermistor No. 4.

In addition to the above, the following is planned:

Finalization and distribution of the Environmental Risk Assessment report with follow-up meetings to discuss the results and issues identified in the 2006 BGC report.

Minor maintenance activities including additional top dressing at previously filled areas of settlement and erosion channel repair as required.

**Appendix 1**  
**Cullaton Lake Site Photos**  
**August 3, 2008**



Photo 1: Cullaton Lake main site, looking west, July 5, 2007



Photo 2: Shear Lake site, looking northwest, August 3, 2008





Photo 3: Flooded portion of Tailings No.1 Pond, looking northwest from spillway, August 3, 2008



Photo 4: Flooded portion of former polishing pond, looking west from spillway, August 3, 2008





Photo 5: Former Shear Lake Portal, August 3, 2008.



Photo 6: Former B Zone Portal and Fresh Air Raise, looking north on August 3, 2008.



Photo 7: Encapsulated Waste Rock at Shear Lake 3 years after the application of additional seed and fertilizer. Erosion scars are visible due to being filled in with lighter coloured granular road material.





Photo 8: South side of former Shear Lake complex on August 3, 2008, with low pH pool in centre of photo.



Photo 9: Low pH pool looking northwest on August 3, 2008.





Photo 10: Minor settlement in quarry pit cover on August 3, 2008, 3 years after being filled in August, 2005.



Photo 11: Tailings cover, looking east on August 3, 2008.



**Appendix 2**  
**June 28, 2008**  
**Water Quality Monitoring Results**

**Cullaton Lake  
Water Quality Monitoring Results  
June 28, 2008**

Location	Sample Number	Field PH	Temp °C	Lab PH	Suspended Solids mg/L	Total Cyanide mg/L	Total Arsenic mg/L	Total Copper mg/L	Total Lead mg/L	Total Mercury mg/L	Total Nickel mg/L	Total Zinc mg/L
<b>Tailings Pond No. 1 (at discharge)</b>	940-2A	7.7	12.5	7.5	1	0.0088	0.00563	0.00136	0.00146	<0.00001	0.00258	0.0011
	940-2B			7.5	2	0.0089	0.00322	0.00110	0.000984	<0.00001	0.00194	0.0014
<b>Tailings Pond No. 2</b>	940-3A	8.2	17.0	7.7	2	0.0016	0.00320	0.00374	0.000055	0.00001	0.00357	0.0009
	940-3B			7.7	2	0.0016	0.00313	0.00364	0.000080	<0.00001	0.00366	0.0025
<b>Tailings Pond No. 1 (spillway)</b>	940-18A	7.3	15.8	7.5	<1	0.0077	0.00133	0.00086	0.000319	<0.00001	0.00124	0.0003
	940-18B			7.5	<1	0.0076	0.00129	0.00085	0.000329	<0.00001	0.00114	0.0005
<b>Tailings Pond No. 1 (at piezometer)</b>	940-19A	7.9	21.3	7.9	<1	0.0009	0.00250	0.00143	0.00182	<0.00001	0.00858	0.0161
	940-19B			7.9	1	0.0008	0.00239	0.00157	0.00186	<0.00001	0.00883	0.0182
<b>Tailings Pond No. 1 (seepage at east side)</b>	940-20A	8.2	19.6	8.1	4	0.0038	0.00337	0.00423	0.000229	<0.00001	0.00644	0.0016
	940-20B			8.1	6	0.0039	0.00330	0.00398	0.000201	<0.00001	0.00639	0.0011
<b>Tailings Pond No. 1 (seepage at northeast corner)</b>	940-22A	8.3	18.7	8.0	1	0.0015	0.00339	0.00239	0.000057	<0.00001	0.00415	0.0022
	940-22B			8.0	1	0.0013	0.00336	0.00238	0.000047	<0.00001	0.00420	0.0011
<b>Quarry Pit</b>	940-23A	7.9	14.5	7.4	<1	<0.0005	0.00084	0.00102	0.000085	0.00001	0.00141	0.0086
	940-23B			7.4	2	<0.0005	0.00084	0.00092	0.000085	<0.00001	0.00128	0.0077
<b>Quarry Pit (flow to Tailings Pond No. 1)</b>	940-24	Dry										
<b>Seepage from Shear Lake Encapsulated Waste Rock to Shear Lake Creek</b>	940-27	Dry										

**Cullaton Lake  
Water Quality Monitoring  
June 28, 2008  
Water Analysis Certificate and Quality Control Report**

Your Project #: 70562  
Your C.O.C. #: 28922-02, 28922-01

**Attention: Kai Woloshyn**

GARTNER LEE LTD.  
2251 - 2nd AVENUE  
WHITEHORSE, YT  
CANADA Y1A 5W1

**Report Date: 2009/03/17**

This report supersedes all previous reports with the same Maxxam job number

## CERTIFICATE OF ANALYSIS

**MAXXAM JOB #: A832412**

**Received: 2008/07/03, 09:15**

Sample Matrix: Water  
# Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide (Total)	14	N/A	2008/07/09	BRN SOP-00226 R2.0	Based on EPA 9012AR1
Hardness Total (calculated as CaCO <sub>3</sub> )	14	N/A	2008/07/10		
Elements by ICPMS Low Level (total) ¶	14	2008/07/09	2008/07/09	BRN SOP-00206 R7.0	Based on EPA 200.8
pH Water	14	N/A	2008/07/06	BRN SOP-00264 R4.0	Based on SM-4500H+B
Total Suspended Solids	14	N/A	2008/07/07	BRN SOP-00277 R5.0	Based on SM-2540 D

\* Results relate only to the items tested.

(1) SCC/CAEAL

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ROB MACARTHUR, BBY Customer Service  
Email: rob.macarthur@maxxamanalytics.com  
Phone# (604) 444-4808 Ext:253

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

Total cover pages: 1

Maxxam Job #: A832412  
Report Date: 2009/03/17

GARTNER LEE LTD.  
Client Project #: 70562

Sampler Initials: KW

### RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		K51982	K51989	K51990	K51991	K51992	K51993	K51994	K51995		
Sampling Date		2008/06/28	2008/06/28	2008/06/28	2008/06/28	2008/06/28	2008/06/28	2008/06/28	2008/06/28		
	Units	940-23A	940-23B	940-2A	940-2B	940-22A	940-22B	940-20A	940-20B	RDL	QC Batch
<b>CONVENTIONALS</b>											
Cyanide + Thiocyanate	mg/L	<0.0005	<0.0005	0.0088	0.0089	0.0015	0.0013	0.0038	0.0039	0.0005	2421190
<b>Physical Properties</b>											
pH	pH Units	7.4	7.4	7.5	7.5	8.0	8.0	8.1	8.1		2411975
<b>Physical Properties</b>											
Total Suspended Solids	mg/L	<1	2	1	2	1	1	4	6	1	2412781

Maxxam ID		K51996	K51997	K51998	K51999	K52000	K52001				
Sampling Date		2008/06/28	2008/06/28	2008/06/28	2008/06/28	2008/06/28	2008/06/28				
	Units	940-3A	940-3B	940-19A	940-19B	940-18A	940-18B	RDL		QC Batch	
<b>CONVENTIONALS</b>											
Cyanide + Thiocyanate	mg/L	0.0016	0.0016	0.0009	0.0008	0.0077	0.0076	0.0005		2421190	
<b>Physical Properties</b>											
pH	pH Units	7.7	7.7	7.9	7.9	7.5	7.5			2411975	
<b>Physical Properties</b>											
Total Suspended Solids	mg/L	2	2	<1	1	<1	<1	1		2412781	

### LOW LEVEL TOTAL METALS - WATER (WATER)

Maxxam ID		K51982	K51989	K51990	K51991	K51992	K51993	K51994			
Sampling Date		2008/06/28	2008/06/28	2008/06/28	2008/06/28	2008/06/28	2008/06/28	2008/06/28			
	Units	940-23A	940-23B	940-2A	940-2B	940-22A	940-22B	940-20A	RDL		QC Batch
<b>Calculated Parameters</b>											
Total Hardness (CaCO3)	mg/L	46.7	45.1	162	161	546	547	370	0.5		2408828
<b>Total Metals by ICPMS</b>											
Total Arsenic (As)	ug/L	0.84	0.84	5.63	3.22	3.39	3.36	3.37	0.02		2420160
Total Copper (Cu)	ug/L	1.02	0.92	1.36	1.10	2.39	2.38	4.23	0.05		2420160
Total Lead (Pb)	ug/L	0.085	0.085	1.46	0.984	0.057	0.047	0.229	0.005		2420160
Total Mercury (Hg)	ug/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01		2420160
Total Nickel (Ni)	ug/L	1.41	1.28	2.58	1.94	4.15	4.20	6.44	0.02		2420160
Total Zinc (Zn)	ug/L	8.6	7.7	1.1	1.4	2.2	1.1	1.6	0.1		2420160

RDL = Reportable Detection Limit

Maxxam Job #: A832412  
Report Date: 2009/03/17

GARTNER LEE LTD.  
Client Project #: 70562

Sampler Initials: KW

### LOW LEVEL TOTAL METALS - WATER (WATER)

Maxxam ID		K51995	K51996	K51997	K51998	K51999	K52000	K52001		
Sampling Date		2008/06/28	2008/06/28	2008/06/28	2008/06/28	2008/06/28	2008/06/28	2008/06/28		
	Units	940-20B	940-3A	940-3B	940-19A	940-19B	940-18A	940-18B	RDL	QC Batch
<b>Calculated Parameters</b>										
Total Hardness (CaCO <sub>3</sub> )	mg/L	361	82.3	79.7	749	765	159	160	0.5	2408828
<b>Total Metals by ICPMS</b>										
Total Arsenic (As)	ug/L	3.30	3.20	3.13	2.50	2.39	1.33	1.29	0.02	2420160
Total Copper (Cu)	ug/L	3.98	3.74	3.64	1.43	1.57	0.86	0.85	0.05	2420160
Total Lead (Pb)	ug/L	0.201	0.055	0.080	1.82	1.86	0.319	0.329	0.005	2420160
Total Mercury (Hg)	ug/L	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	2420160
Total Nickel (Ni)	ug/L	6.39	3.57	3.66	8.58	8.83	1.24	1.14	0.02	2420160
Total Zinc (Zn)	ug/L	1.1	0.9	2.5	16.1	18.2	0.3	0.5	0.1	2420160

RDL = Reportable Detection Limit

Maxxam Job #: A832412  
Report Date: 2009/03/17

GARTNER LEE LTD.  
Client Project #: 70562

Sampler Initials: KW

# QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spike		Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
2412781	Total Suspended Solids	2008/07/07			103	N/A	<1	mg/L		
2420160	Total Arsenic (As)	2008/07/09	94	75 - 125	97	75 - 125	<0.02	ug/L	2.9	25
2420160	Total Copper (Cu)	2008/07/09	94	75 - 125	98	75 - 125	<0.05	ug/L	5.7	25
2420160	Total Lead (Pb)	2008/07/09	99	75 - 125	103	75 - 125	<0.005	ug/L	6.7	25
2420160	Total Nickel (Ni)	2008/07/09	93	75 - 125	100	75 - 125	<0.02	ug/L	3.7	25
2420160	Total Zinc (Zn)	2008/07/09	NC	75 - 125	99	75 - 125	<0.1	ug/L	8.3	25
2420160	Total Mercury (Hg)	2008/07/09					<0.01	ug/L	NC	25
2421190	Cyanide + Thiocyanate	2008/07/09	105	80 - 120	99	80 - 120	<0.0005	mg/L	NC	35

N/A = Not Applicable  
NC = Non-calculable  
RPD = Relative Percent Difference

**Cullaton Lake  
Water Quality Monitoring Results  
2001- 2008**



**CULLATON LAKE GOLD MINES LTD.**  
CULLATON LAKE MINE

**WATER ANALYSIS REPORT**

**STATION 940-02A - TAILNGS POND NO. 1 DISCHARGE, JUNE 2008**

Physical and General	Units	Water License	CCME Guidelines	July 26 2001	July 3 2002	July 29 2003	July 7 2004	Aug 5 2005	Aug 2 2006	July 5 2007	June 28 2008	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	<b>6.0 - 9.5</b>	<b>6.5-9.0</b>	8.00	7.81	8.07	7.77	7.8	8.0	7.7	7.5	7.50	8.07	7.83
Temperature	°C			21.6	14.1	21.0	15.3	NR	14.5	15.2	12.5	12.5	21.6	16.3
Suspended Solids (105°C)	mg/L	<b>25.0</b>		4	< 3	< 3	< 3	14	< 1	< 10	1	< 1	14	< 5
Total Cyanide	mg/L	<b>0.80</b>		0.015	0.009	< 0.005	< 0.0050	0.006	< 0.005	< 0.005	0.0088	< 0.005	0.015	< 0.007
Total Hardness	mg CaCO <sub>3</sub> /L						197	199	210	220	162	162	220	198
<b>Minor Cations</b>														
Arsenic	mg/L	<b>0.30</b>	<b>0.005</b>	0.0025	0.0022	0.0025	0.00159	0.003	0.0018	0.0021	0.00563	0.0016	0.0056	0.0027
Copper	mg/L	<b>0.20</b>	<b>0.004</b>	0.002	0.002	0.002	0.0014	0.002	0.001	0.001	0.00136	0.0010	0.0020	0.0016
Lead	mg/L	<b>0.20</b>	<b>0.007</b>	0.001	< 0.001	< 0.001	< 0.0010	< 0.001	< 0.0005	< 0.0005	0.00146	< 0.0005	0.0015	< 0.0009
Mercury	mg/L		<b>0.0002</b>	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.0001	< 0.00005	< 0.00005	< 0.00001	< 0.00001	< 0.0001	< 0.00005
Nickel	mg/L	<b>0.30</b>	<b>0.150</b>	< 0.02	0.003	0.001	< 0.020	< 0.002	< 0.001	0.002	0.00258	0.001	< 0.020	< 0.006
Zinc	mg/L	<b>0.30</b>	<b>0.030</b>	< 0.005	< 0.005	< 0.005	< 0.005	< 0.003	< 0.005	< 0.005	0.0011	0.0011	< 0.005	< 0.0043

( ) Laboratory replicate.

[ ] Results re-checked.

(E) Not analyzed

NR: Not recorded due to equipment malfunction

**CULLATON LAKE GOLD MINES LTD.**  
CULLATON LAKE MINE

**WATER ANALYSIS REPORT**

**STATION 940-03A - TAILNGS POND NO. 2 DISCHARGE, JUNE 2008**

Physical and General	Units	Water License	CCME Guidelines	July 26 2001	July 3 2002	July 29 2003	July 7 2004	Aug 5 2005	Aug 2 2006	July 5 2007	June 28 2008	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	<b>6.0 - 9.5</b>	<b>6.5-9.0</b>	8.03	8.05	8.07	7.96	7.7	7.9	7.8	7.7	7.7	8.07	7.90
Temperature	°C			21.6	15.7	20.8	19.3	NR	17.4	13.7	17.0	13.7	21.60	17.93
Suspended Solids (105°C)	mg/L	<b>25.0</b>		< 3	< 3	5	< 3	2	2	< 10	2	2	10	4
Total Cyanide	mg/L	<b>0.80</b>		0.035	0.010	0.010	0.0072	< 0.0020	< 0.005	< 0.005	0.0016	0.0016	0.035	0.009
Total Hardness	mg CaCO <sub>3</sub> /L						92.4	100	90	88	82.3	82	100	91
<b>Minor Cations</b>														
Arsenic	mg/L	<b>0.30</b>	<b>0.005</b>	0.0042	0.0032	0.0059	0.00305	0.004	0.0037	0.0055	0.0032	0.0031	0.0059	0.0041
Copper	mg/L	<b>0.20</b>	<b>0.002</b>	0.003	0.003	0.003	0.0043	0.020	0.004	0.006	0.0037	0.003	0.020	0.006
Lead	mg/L	<b>0.20</b>	<b>0.002</b>	< 0.001	< 0.001	< 0.001	< 0.0010	< 0.001	< 0.0005	< 0.0005	0.00006	0.00006	< 0.001	< 0.0008
Mercury	mg/L		<b>0.0002</b>	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.0001	< 0.00005	< 0.00005	0.00001	0.00001	< 0.0001	< 0.0001
Nickel	mg/L	<b>0.30</b>	<b>0.065</b>	< 0.02	0.003	0.004	< 0.020	0.003	0.005	0.005	0.00357	0.003	< 0.020	< 0.008
Zinc	mg/L	<b>0.30</b>	<b>0.030</b>	< 0.005	< 0.005	< 0.005	< 0.005	0.015	< 0.005	< 0.005	0.0009	0.0009	0.015	0.006

( ) Laboratory replicate.

[ ] Results re-checked.

(E) Not analyzed

NR: Not recorded due to equipment malfunction

**CULLATON LAKE GOLD MINES LTD.**  
CULLATON LAKE MINE

**WATER ANALYSIS REPORT**

**STATION 940-18A - TAILNGS POND NO. 1 SPILLWAY, JUNE 2008**

Physical and General	Units	Water License	CCME Guidelines	July 26 2001	July 3 2002	July 29 2003	July 7 2004	Aug 5 2005	Aug 2 2006	July 5 2007	June 28 2008	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	<b>6.0 - 9.5</b>	<b>6.5-9.0</b>	8.10	7.86	8.87	7.89	8.1	8.4	7.8	7.5	7.50	8.87	8.07
Temperature	°C			21.5	14.2	20.5	18.5	NR	21.4	15.2	15.8	14.2	21.5	18.2
Suspended Solids (105°C)	mg/L	<b>25.0</b>		< 3	< 3	4	< 3	< 2	3	< 10	< 1	< 1	< 10	< 4
Total Cyanide	mg/L	<b>0.80</b>		0.009	0.008	0.009	0.0096	0.004	0.037	0.005	0.0077	0.004	0.037	0.011
Total Hardness	mg CaCO <sub>3</sub> /L						217	200	210	230	159	159	230	203
<b>Minor Cations</b>														
Arsenic	mg/L	<b>0.30</b>	<b>0.005</b>	0.0023	0.0021	0.0029	0.00165	0.002	0.0055	0.0023	0.00133	0.00133	0.0055	0.0025
Copper	mg/L	<b>0.20</b>	<b>0.004</b>	0.002	0.001	0.002	0.0018	0.001	0.005	0.002	0.00086	0.00086	0.005	0.0020
Lead	mg/L	<b>0.20</b>	<b>0.007</b>	< 0.001	< 0.001	< 0.001	< 0.0010	< 0.001	< 0.0005	< 0.0005	0.00032	0.00032	< 0.0010	< 0.0008
Mercury	mg/L		<b>0.0002</b>	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.0001	< 0.00005	< 0.00005	< 0.00001	< 0.00001	< 0.0001	< 0.0001
Nickel	mg/L	<b>0.30</b>	<b>0.150</b>	< 0.02	0.002	0.001	< 0.020	< 0.002	0.002	0.001	0.00124	0.001	< 0.020	< 0.006
Zinc	mg/L	<b>0.30</b>	<b>0.030</b>	< 0.005	< 0.005	< 0.005	< 0.005	< 0.003	< 0.005	< 0.005	0.0003	0.0003	< 0.005	< 0.0042

( ) Laboratory replicate.

[ ] Results re-checked.

(E) Not analyzed

NR: Not recorded due to equipment malfunction

**CULLATON LAKE GOLD MINES LTD.**  
CULLATON LAKE MINE

**WATER ANALYSIS REPORT**

**STATION 940-19A - TAILNGS POND NO. 1 AT PIEZOMETER LOCATION JUNE 2008**

Physical and General	Units	NWB Water License	CCME Guidelines	July 26 2001	July 3 2002	July 29 2003	July 7 2004	Aug 5 2005	Aug 2 2006	July 5 2007	June 28 2008	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	<b>6.0 - 9.5</b>	<b>6.5-9.0</b>	8.11	7.89	8.08	7.69	7.9	7.9	7.8	7.9	7.69	8.11	7.91
Temperature	°C			22.0	12.7	20.8	16.3	NR	15.4	15.3	21.3	12.7	22.0	17.7
Suspended Solids (105°C)	mg/L	<b>25.0</b>		< 3	< 3	8	< 3	2	< 1	< 10	< 1	< 1	< 10	< 4
Total Cyanide	mg/L	<b>0.80</b>		0.010	0.012	< 0.005	0.0074	0.006	< 0.005	< 0.005	0.0009	0.0009	0.012	0.0064
Total Hardness	mg CaCO <sub>3</sub> /L						206	201	210	220	749	201	749	317
<b>Minor Cations</b>														
Arsenic	mg/L	<b>0.30</b>	<b>0.005</b>	0.0024	0.0030	0.0036	0.00209	0.002	0.0019	0.0016	0.0025	0.0016	0.0036	0.0024
Copper	mg/L	<b>0.20</b>	<b>0.004</b>	0.002	0.002	0.002	0.0015	0.002	0.001	0.001	0.00143	0.001	0.002	0.002
Lead	mg/L	<b>0.20</b>	<b>0.007</b>	< 0.001	0.001	< 0.001	< 0.0010	< 0.001	< 0.0005	< 0.0005	0.00182	< 0.0005	0.00182	< 0.0010
Mercury	mg/L		<b>0.0002</b>	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.0001	< 0.00005	< 0.00005	< 0.00001	< 0.00001	< 0.0001	< 0.0001
Nickel	mg/L	<b>0.30</b>	<b>0.150</b>	< 0.02	0.003	0.002	< 0.020	< 0.002	< 0.001	0.002	0.00858	< 0.001	< 0.02	< 0.007
Zinc	mg/L	<b>0.30</b>	<b>0.030</b>	< 0.005	< 0.005	< 0.005	< 0.005	< 0.003	< 0.005	< 0.005	0.0161	< 0.003	0.0161	< 0.0061

( ) Laboratory replicate.

[ ] Results re-checked.

(E) Not analyzed

NR: Not recorded due to equipment malfunction

**CULLATON LAKE GOLD MINES LTD.**  
CULLATON LAKE MINE

**WATER ANALYSIS REPORT**  
**STATION 940-20A - TAILNGS POND NO. 1 EAST SIDE SEEPAGE, JUNE 2008**

Physical and General	Units	Water License	CCME Guidelines	July 26 2001	July 3 2002	July 29 2003	July 7 2004	Aug 5 2005	Aug 2 2006	July 5 2007	June 28 2008	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	<b>6.0 - 9.5</b>	<b>6.5-9.0</b>	8.43	D	D	8.13	7.8	8.1	8.2	8.1	7.8	8.43	8.13
Temperature	°C			24.3	D	D	21.3	NR	22.0	17.9	19.6	17.9	24.3	21.0
Suspended Solids (105°C)	mg/L	<b>25.0</b>		5	D	D	< 3	< 2	1	< 10	4	1	10	4
Total Cyanide	mg/L	<b>0.80</b>		0.019	D	D	0.0104	0.118	< 0.005	< 0.005	0.0038	0.0038	0.118	0.027
Total Hardness	mg CaCO <sub>3</sub> /L						310	338	220	620	370	220	620	372
<b>Minor Cations</b>														
Arsenic	mg/L	<b>0.30</b>	<b>0.005</b>	0.0028	D	D	0.00297	0.001	0.0044	0.0052	0.00337	0.001	0.0052	0.0033
Copper	mg/L	<b>0.20</b>	<b>0.004</b>	0.005	D	D	0.0041	0.004	0.004	0.005	0.00423	0.004	0.005	0.004
Lead	mg/L	<b>0.20</b>	<b>0.007</b>	< 0.001	D	D	< 0.0010	< 0.001	< 0.0005	< 0.0005	0.00023	0.00023	< 0.0010	< 0.0007
Mercury	mg/L		<b>0.0002</b>	< 0.00005	D	D	< 0.00005	< 0.0001	< 0.00005	< 0.00005	< 0.00001	< 0.00001	< 0.0001	< 0.0001
Nickel	mg/L	<b>0.30</b>	<b>0.150</b>	< 0.02	D	D	< 0.020	0.015	0.006	0.008	0.00644	0.006	< 0.02	< 0.013
Zinc	mg/L	<b>0.30</b>	<b>0.030</b>	< 0.005	D	D	< 0.005	< 0.003	< 0.005	< 0.005	0.0016	0.0016	< 0.005	< 0.0041

( ) Laboratory replicate.

[ ] Results re-checked.

D Dry

NR: Not recorded due to equipment malfunction

**CULLATON LAKE GOLD MINES LTD.**  
**CULLATON LAKE MINE**

**WATER ANALYSIS REPORT**

**STATION 940-22A - TAILNGS POND NO. 1 NORTH SIDE SEEPAGE, JUNE 2008**

Physical and General	Units	Water License	CCME Guidelines	July 26 2001	July 3 2002	July 29 2003	July 7 2004	Aug 5 2005	Aug 2 2006	July 5 2007	Jun 28 2008	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	<b>6.0 - 9.5</b>	<b>6.5-9.0</b>	D	D	D	D	7.7	D	D	8.0	7.7	8.0	7.9
Temperature	°C			D	D	D	D	NR	D	D	18.7	18.7	18.70	18.70
Suspended Solids (105°C)	mg/L	<b>25.0</b>		D	D	D	D	6	D	D	1	1	6	4
Total Cyanide	mg/L	<b>0.80</b>		D	D	D	D	0.073	D	D	0.0015	0.0015	0.073	0.037
Total Hardness	mg CaCO <sub>3</sub> /L			D	D	D	D	515	D	D	546	515	546	531
<b>Minor Cations</b>														
Arsenic	mg/L	<b>0.30</b>	<b>0.005</b>	D	D	D	D	0.001	D	D	0.00339	0.001	0.00339	0.0022
Copper	mg/L	<b>0.20</b>	<b>0.004</b>	D	D	D	D	0.004	D	D	0.00239	0.00239	0.004	0.0032
Lead	mg/L	<b>0.20</b>	<b>0.007</b>	D	D	D	D	< 0.001	D	D	0.00057	0.00057	< 0.001	< 0.0008
Mercury	mg/L		<b>0.0002</b>	D	D	D	D	< 0.0001	D	D	< 0.00001	< 0.00001	< 0.0001	< 0.00006
Nickel	mg/L	<b>0.30</b>	<b>0.150</b>	D	D	D	D	0.045	D	D	0.00415	0.00415	0.045	0.0246
Zinc	mg/L	<b>0.30</b>	<b>0.030</b>	D	D	D	D	< 0.010	D	D	0.0022	0.0022	< 0.010	< 0.0061

( ) Laboratory replicate.

[ ] Results re-checked.

D Dry

NR: Not recorded due to equipment malfunction

**CULLATON LAKE GOLD MINES LTD.**  
**CULLATON LAKE MINE**

**WATER ANALYSIS REPORT**  
**STATION 940-23A - QUARRY PIT, JUNE 2008**

Physical and General	Units	Water License	CCME Guidelines	July 26 2001	July 3 2002	July 29 2003	July 7 2004	Aug 5 2005	Aug 2 2006	July 5 2007	June 28 2008	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	<b>6.0 - 9.5</b>	<b>6.5-9.0</b>	D	7.82	8.07	7.56	7.8	8.1	7.7	7.4	7.4	8.1	7.8
Temperature	°C			D	12.7	20.7	15.7	NR	15.5	14.4	14.5	12.7	20.7	15.58
Suspended Solids (105°C)	mg/L	<b>25.0</b>		D	< 3	10	< 3	4	1	< 10	< 1	< 1	10	5
Total Cyanide	mg/L	<b>0.80</b>		D	< 0.005	< 0.006	< 0.0050	< 0.002	< 0.005	< 0.005	< 0.0005	< 0.0005	< 0.006	< 0.004
Total Hardness	mg CaCO <sub>3</sub> /L						37.9	104	120	78	46.7	37.9	120	77.3
<b>Minor Cations</b>														
Arsenic	mg/L	<b>0.30</b>	<b>0.005</b>	D	0.0020	0.0019	0.00096	0.002	0.0014	0.0011	0.00084	0.00084	0.0020	0.0015
Copper	mg/L	<b>0.20</b>	<b>0.003</b>	D	0.003	0.002	< 0.0010	0.002	0.002	< 0.001	0.00102	< 0.001	0.003	< 0.0017
Lead	mg/L	<b>0.20</b>	<b>0.002</b>	D	< 0.001	< 0.001	< 0.0010	< 0.001	< 0.0005	< 0.0005	0.00009	< 0.00009	< 0.001	< 0.0007
Mercury	mg/L		<b>0.0002</b>	D	< 0.00005	< 0.00005	< 0.00005	< 0.0001	< 0.00005	< 0.00005	0.00001	< 0.00001	< 0.0001	< 0.0001
Nickel	mg/L	<b>0.30</b>	<b>0.065</b>	D	0.003	0.002	< 0.020	0.002	0.002	0.001	0.00141	0.001	< 0.020	< 0.0045
Zinc	mg/L	<b>0.30</b>	<b>0.030</b>	D	0.008	0.007	0.0087	0.065	0.012	0.006	0.0086	0.006	0.065	0.0165

( ) Laboratory replicate.

[ ] Results re-checked.

(E) Not analyzed

NR: Not recorded due to equipment malfunction

# CULLATON LAKE GOLD MINES LTD.

## CULLATON LAKE MINE

### WATER ANALYSIS REPORT

#### STATION 940-24A - AREA OF SEEPAGE FROM QUARY PIT TO TAILINGS POND, JUNE 2008

Physical and General	Units	Water License	CCME Guidelines	July 26 2001	July 3 2002	July 29 2003	July 7 2004	Aug 5 2005	Aug 2 2006	July 5 2007	June 28 2008	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	6.0 - 9.5	6.5-9.0	D	D	D	D	D	D	D	D			
Temperature	°C			D	D	D	D	D	D	D	D			
Suspended Solids (105°C)	mg/L	25.0		D	D	D	D	D	D	D	D			
Total Cyanide	mg/L	0.80		D	D	D	D	D	D	D	D			
Total Hardness	mg CaCO <sub>3</sub> /L			D	D	D	D	D	D	D	D			
Oil and Grease	mg/L	Visible		D	D	D	D	D	D	D	D			
<b>Minor Cations</b>														
Arsenic	mg/L	0.30	0.005	D	D	D	D	D	D	D	D			
Copper	mg/L	0.20	0.004	D	D	D	D	D	D	D	D			
Lead	mg/L	0.20	0.007	D	D	D	D	D	D	D	D			
Mercury	mg/L		0.0002	D	D	D	D	D	D	D	D			
Nickel	mg/L	0.30	0.150	D	D	D	D	D	D	D	D			
Zinc	mg/L	0.30	0.030	D	D	D	D	D	D	D	D			

( ) Laboratory replicate.

[ ] Results re-checked.

D: Dry



**CULLATON LAKE GOLD MINES LTD.**  
CULLATON LAKE MINE

**WATER ANALYSIS REPORT**

**STATION 940-27A - AREA OF SEEPAGE FROM EWR TO SHEAR LAKE CREEK (1), JUNE 2008**

Physical and General	Units	Water License	CCME Guidelines	July 26 2001	July 3 2002	July 29 2003	July 7 2004	Aug 5 2005	Aug 2 2006	July 5 2007	June 28 2008	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	6.0 - 9.5	6.5-9.0					D	D	D	D			
Temperature	°C							D	D	D	D			
Suspended Solids (105°C)	mg/L	25.0						D	D	D	D			
Total Cyanide	mg/L	0.80						D	D	D	D			
Total Hardness	mg CaCO <sub>3</sub> /L							D	D	D	D			
Sulphate	mg/L							D	D	D	D			
<b>Minor Cations</b>														
Arsenic	mg/L	0.30	0.005					D	D	D	D			
Copper	mg/L	0.20	0.004					D	D	D	D			
Lead	mg/L	0.20	0.007					D	D	D	D			
Mercury	mg/L		0.0002					D	D	D	D			
Nickel	mg/L	0.30	0.150					D	D	D	D			
Zinc	mg/L	0.30	0.030					D	D	D	D			

(1) Station added in 2005

( ) Laboratory replicate.

[ ] Results re-checked.

D: Dry

**Appendix 3**  
**September 2, 2008**  
**Thermistor Monitoring Results**

## THERMISTOR MONITORING RESULTS

Station 940-21

Temperature °C

**September 2, 2008:**

Field notes for pit excavated at same location as last year (immediately north of T4)

0 – 0.9m: till cover

0.9m – 1.1m: unsaturated Tailings

1.1m – 2m: saturated tailings

**2m: Permafrost**



Test pit excavated at T4 on September 2, 2008, showing till cover / tailings interface and water level.

**July 5, 2007 (See Note 1 below)**

Depth (m)	T1 (°C)	T2 (°C)	T3 (°C)	T4 (°C)
0.3	18.78	18.78	16.29	16.88
0.8	8.89	7.93	17.19	10.32
1.3	4.53	5.18	12.83	6.67
1.8	0.16	3.05	7.38	0.65
2.3	-1.23	1.68	0.90	-1.56
2.8	-1.45	Error (87.72)	-20.89	-0.55

**August 2, 2006**

Depth (m)	T1 (°C)	T2 (°C)	T3 (°C)	T4 (°C)
0.3	26.91	26.41	27.93	25.46
0.8	9.49	8.31	25.46	11.65
1.3	6.15	6.32	16.00	7.38
1.8	4.22	5.65	7.74	4.22
2.3	0.65	3.19	4.69	-0.89
2.8	-0.66	3.48	4.07	-0.43

**August 3, 2005**

Depth (m)	T1 (°C)	T2 (°C)	T3 (°C)	T4 (°C)
0.3	18.45	20.16	22.03	20.52
0.8	12.34	10.75	20.89	10.11
1.3	7.38	7.56	13.32	7.56
1.8	3.48	5.82	8.12	2.62
2.3	-0.43	2.21	3.63	-1.56
2.8	-1.45	-0.43	No reading	-2.10

**July 7, 2004**

Depth (m)	T1 (°C)	T2 (°C)	T3 (°C)	T4 (°C)
0.3	25.46	22.43	26.91	24.99
0.8	9.69	8.12	21.26	8.89
1.3	2.76	3.48	10.54	2.76
1.8	-0.66	0.16	2.62	-0.66
2.3	-2.10	-0.55	-0.78	-2.21
2.8	-3.23	-1.67	No reading	-1.89

**Notes:**

**(1) Test pit completed at T4 on July 5, 2007 found permafrost at 1.2m depth. Therefore all historic readings shown are suspect.**

**Appendix 4**  
**2009 Spill Response Plan**

## **CULLATON LAKE ENVIRONMENTAL SPILL RESPONSE PLAN**

### **COMPANY INFORMATION**

Cullaton Lake Gold Mines Ltd. is wholly owned by Barrick Gold Inc. The Barrick head office responsible for the site is located at:

Barrick Gold Inc.  
BCE Place, Canada Trust Tower, Suite 3700  
161 Bay Street, P.O. Box 212  
Toronto, Ontario  
M5J 2S1

The site manager is:

Paul Brugger,  
Barrick Gold Inc.  
171 Copper Cliff Road East  
Neebing, Ontario  
P7L 0B6  
Phone: 807-964-1657 (Thunder Bay, Ontario)  
Cell: 807-473-7947  
e-mail: [p.brugger@sympatico.ca](mailto:p.brugger@sympatico.ca)

### **SITE LOCATION:**

The Cullaton Lake property is located in the southern part of the District of Keewatin in the Nunavut Territory. The property is 250 km west of Arviat, NU, 400 km northwest of Churchill, Manitoba and 645 km north of Thompson, Manitoba.

### **FACILITY:**

Cullaton Lake operated as an underground gold mine for four years from 1981 to 1985. Decommissioning and reclamation began in 1991 and was completed in 2001. By the end of 2001, all mine buildings had been removed, roads were decommissioned and the tailings impoundment area was reclaimed. No chemicals, fuels or reagents remain on site.

Remaining activities on the site consist of a one-day annual visit for inspection and monitoring purposes. The site is dormant and uninhabited for the remainder of the year.

## **SPILL CONTROL AND REPORTING PROCEDURES:**

Should it be necessary to mobilize contractors to the site for any reason in the future, the contractor will be required to supply spill control and clean up materials, have a spill control plan and train personnel in spill response procedures.

Upon discovery of a spill, the person discovering the spill will take the following actions:

### **INITIAL ACTIONS:**

- a. Stop the flow if possible.
- b. Eliminate open flame ignition sources (i.e. extinguish cigarettes, shut off motors (from a remote location if surrounded by vapours)).
- c. Contain flow of fuel by dyking, barricading or blocking flow by any means available. Use earth-moving equipment if available. A dam made of earth or other available fill can be quickly constructed to contain and prevent a spill from spreading. If the ground is permeable, it may be necessary to excavate a shallow depression and line it with plastic to prevent the oil from seeping away.

### **ACTION IN CASE OF FIRE:**

- a. Use CO<sub>2</sub>, dry chemical, foam or water spray (fog), although water may spread the fire.
- b. Use jet streams to wash away burning gasoline.
- c. Use fog streams to protect any rescue team and trapped people.
- d. Use water to cool surface of tanks.
- e. Divert the oil or gasoline to an open area and let it burn off under control. If the fire is put out before all the fuel is consumed, beware of re-ignition. Rubber tires are almost impossible to extinguish after involvement with a fire. Have vehicles with burning tires removed from the danger area.

### **RECOVERY PROCEDURE:**

- a. Unburned oil or gasoline can be soaked up by sand and peat moss, or by commercial absorbents such as Graboil.
- b. If necessary, contaminated soil should be excavated and disposed of as per the following section.
- c. Fuel entering the ground can be recovered by digging sumps or trenches.

### **DISPOSAL:**

- a. Evaporation may be used if appropriate.
- b. Disposal as per the approved Abandonment and Restoration (1996) Plan.

## REPORTING:

An individual discovering a spill must report it as soon as possible to the 24 hour Spill Report Line by calling:

**(867) 920-8130**

(1) A person reporting a spill shall give as much of the following information as possible:

- date and time of spill
- location of spill
- direction spill is moving
- name and phone number of a contact person close to the location of the spill
- type and description of contaminant spilled including an estimate of the quantity
- cause of spill
- status of spill (i.e. continuing or stopped)
- action taken to contain, recover, clean-up, and dispose of contaminant
- name, address and phone number of person reporting the spill
- name of owner, or person in charge or control of contaminant at time of spill

(2) No person shall delay reporting a spill because of lack of knowledge of the factors listed in subsection (1).

(1) The person reporting the spill shall also contact:

- INAC Water Resources Inspector at: **(867) 975-4295**
- Environment Canada at **(867) 975-4644** and emergency pager **(867) 920-5131**
- Government of Nunavut Environmental Protection at **(867) 857-2828**
- Kivalliq Inuit Association at **(867) 645-2810** or **1-800-220-6541** Contact **Stephen Hartman**
- If required:
  - RCMP – Arviat at **(867) 857-0123**
  - Arviat Hospital at **(867) 857-3100**
  - Arviat Fire Response at **(867) 857-2538**

(4) Barrick Gold Corporation :

Paul Brugger,  
Site Manager  
Phone: **807-964-1657**  
Cell: 807-473-7947

Alternate:  
Bill Ferdinand  
Director, Environment, Health and Safety,  
North American Region  
Phone: **801-990-3746**  
Cell: 801-244-3540