CULLATON LAKE GOLD MINES LTD.

WATER LICENCE 1BR-CUL1118

ANNUAL WATER LICENCE REPORT 2016

PREPARED on behalf of:

BARRICK GOLD INC.

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ᐅᑭᓂ 2016 ᓄᓇᒥ ᐊᐅᓚᑦᓯᖃᑦᑕᔪᑦ ᒪᕿᐊᑎᖅᓱᑎᒃ ᐳᓵᕆᐊᖃᑦᑕᔪᑦ ᑕᑯᔭᖅᑐᖅᓯᑎᒃ ᓄᓇᒥ; ᓯᕗᓪᓕᕐᒥ ᐅᑭᓂ ᔫᓂ 27, 2016-ᒥ ᓄᐊᑦᓯᔪᑦ ᐃᒥᕐᒥᒃ ᖃᓄᐃᑦᑑᓂᖓᓂᒃ ᖃᐅᔨᓴᕋᒃᓴᒥᒃ ᐊᔾᔨᒌᓐᓂᖃᔪᖅ ᕿᒥᕐᕈᔭᖅ ᐊᒻᒪᓗ ᐊᐅᓚᑦᓯᔪᑦ ᒥᕝᕕᐅᑉ ᒪᑭᒪᒍᑎᖏᓐᓂᒃ ᓴᓇᓯᒪᑦᓯᐊᕈᑎᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐊᐃᑉᐹᓂ ᑕᐃᒃᖓᔪᑦ ᐅᑭᓂ ᔫᑏᕝᕙᓚ 7-9 ᐊᐅᓚᑦᓰᓪᓗᑎᒃ ᐃᓚᒋᓕᐅᑦᑐᓂᒃ ᐃᖃᓕᕆᔾᔪᑎᓂᒃ ᐊᒻᒪᓗ ᐃᒥᖅ ᖃᐅᔨᓴᖅᑕᐅᓪᓗᓂ ᐃᑲᔪᕐᓂᖃᒪᑦ ᐊᑏᑕᐅᓰᓄᑦ ᐊᐅᓚᑦᓱᑎᓄᑦ ᐋᕿᒃᓯᒪᑏᑦ, ᐊᐅᓚᑕᐅᔪᑦ ᐊᕿᒍᓕᒫᖅᓯᐅᑎᑦ ᓄᓇᒥᒃ ᖃᐅᔨᓴᖅᓱᑎᒃ, ᐃᒥᕐᒥᒡᓗ ᐊᒻᒪᓗ ᓄᓇᒥ ᑲᑉᐳᑎᓯᒪᔪᓂᒃ ᖃᐅᔨᓴᕈᑎᓂᒃ ᐊᒻᒪᓗ ᐅᔭᕋᒃᓴᓕᕆᔾᔪᑎᒥᓂᖅᑕᓕᒃ ᐊᒃᑕᒃᑯᕕᒃ ᖄᒥᖀᒃᑯᑐᓕᒃ ᓄᓇᒥ ᖃᐅᔨᓴᖅᑕᐅᔪᖕᒥᔪᖅ ᒪᓕᒃᑐᓂᒃ ᐃᒥᓕᕆᔾᔪᑎᓂᒃ ᐱᔪᓇᐅᑎᓂᒃ ᐅᑯᓂᖓ No. 1BR-CUL1118. ᐊᑑᑕᐅᕇᕈᒪᔪᑦ ᐸᕐᓇᑕᑦ ᑕᐃᑯᖓᓃᖅᑐᑦ ᐊᐅᖅᑐᓯᒥ ᓄᐊᑦᓯᔭᖅᑐᕐᓗᑎᒃ ᐃᓚᒋᓕᐅᑎᓛᖅᑐᓂ ᐃᒥᕐᒥᒃ ᖃᐅᔨᓴᕈᑎᓂᒃ ᑖᒃᑯᐊ ᐊᑑᑕᐅᓛᖓᔪᑦ ᕿᔭᓈᖅᑕᐅᔪᑦ ᐱᔾᔪᑎᖃᖅᓱᑎᒃ ᓯᓚᒥᒃ.

ᓇᐃᓈᖅᓯᒪᔪᑦ ᑐᓴᒐᒃᓴᑦ, ᓴᕿᖅᑐᑦ ᓄᓇᒥᒃ ᖃᐅᔨᓴᕈᑎᒥᓂᑦ ᐊᒻᒪᓗ ᖃᐅᔨᓴᕈᑏᑦ ᖃᐅᔨᒪᔾᔪᑎᒃᓴᓂᒃ ᓱᕋᔪᖃᒪᙱᖅ ᒪᑯᓂᖓ:

- ᐃᒥᐅᑉ ᖃᓄᐃᑦᑑᓂᖓ ᓱᓕ ᑕᐃᒪᐃᑐᐃᓐᓇᖅᑐᖅ ᖃᐅᔨᓴᕈᑎᑦ ᒪᓕᒃᓱᕆᑦ ᓇᓗᓇᐃᔭᐃᒍᑎᑦ ᖃᓄᐃᑦᑐᓪᓚᕆᓐᓂᒃ ᐱᑕᕐᓕᑦ ᐃᒥᕐᒥᒃ ᐱᔪᓇᐅᑎᖃᕈᑏᑦ ᐊᑐᖅᑕᐅᓪᓗᑎᒃ.
- ᐲᔭᖅᑕᐅᓂᒃᑯᕕᑦ ᐅᔭᕋᒃᑕᕆᐊᑦ ᐱᓕᕆᕕᐊᓐᓂ ᕿᒪᑯᐃᑦ ᓄᐊᑕᐅᓯᒪᔪᑦ ᐊᒃᑕᑦ ᐃᓂᒥᓃᑦᑐᑦ ᓱᕋᒃᓯᒪᖕᒋᑦᑐᑦ ᐃᓯᒫᓗᙱᓇᕋᓂ ᐊᑦᑕᑎᙵ.
- ᓄᓇᒧᑦ ᕿᐊᖑᐃᓐᓇᖅᑑᖕᒐᔪᑦ ᐊᒃᑕᑯᒃᑯᕕᙵ ᒥᓕᒃᓯᒪᔪᑦ ᖃᐅᔨᔭᐅᓚᐅᖅᑐᑦ ᐃᒪᐃᓪᓗᐊᕐᒪᑦ ᐃᓗᒻᒧᐊᖓᓂᖓ ᖄᖓᓂᒃ ᐅᑭᓂ ᓯᑏᕝᕙᓚ 9, 2016 ᖃᐅᔨᓴᖅᑕᐅᒪᑦ ᐃᑎᖅᓴᒦᑦᑐᓂᖅ ᓄᓇᒥ ᖃᐅᔨᓴᕐᑦ T4.

ᐃᓄᓕᕆᔨᑐᖃᒃᑯᑦ ᑲᓇᑕᒥ ᐃᓚᐅᔪᖕᒥᔪᑦ ᐅᑭᓂ ᔫᓂ 27, 2016-ᒥ ᓄᓇᒥ ᑕᑯᔭᖅᑐᖅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᓯᓪᓗᑎᒃ ᐃᒥᓕᕆᔾᔪᑭᓂᒃ ᓚᐃᓴᓂᒃ ᐊᒻᒪᓗ ᐊᑭᓕᖅᑐᒐᕐᓂᒃ ᖃᐅᔨᓴᖅᓱᑎᒃ. ᖃᐅᔨᓴᖅᑐᑦ ᑐᓴᒐᒃᓴᓕᐊᖏᑦ ᑐᓂᔭᐅᔪᑦ ᐊᐅᒃᑐᓯᒥ ᐃᓚᖃᖅᓱᑎᒃ ᐊᒥᓱᓂᒃ ᖃᐅᔨᔭᐅᔪᓂᒃ ᐊᒻᒪᓗ ᐊᑑᑕᐅᖁᔭᑦ ᑲᒪᒋᔭᐅᖁᔭᐅᓪᓗᑎᒃ.

ᓅᐅᑭᓂ 2016 ᐃᓚᒋᓕᐅᑎᔪᑦ 5 ᑕᐃᒪᙵᕐᓂᑕᐃᑦ ᐅᖅᓱᐊᓗᖃᐅᑎᕕᓃᑦ ᓅᑕᐅᔪᑦ ᐃᓚᒋᔭᐅᓂᐊᕈᓐᓃᖅᑐᑦ ᓈᓴᖅᑕᐅᕙᒃᑐᓄᑦ, ᐊᒥᐊᒃᑯᑦ 13 ᑕᑕᑦᑐᑦ ᖃᑦᑕᐅᔭᐃᑦ ᓅᑕᐅᕆᐊᖃᒻᒥᔪᑦ ᑕᐃᒍᖓᖅᑐᖃᓕᕐᒃᐸᑦ. ᒪᕐᕉᒃ ᖃᑦᑕᐅᔫᒃ ᓇᖕᒥᓂᖅᓵᕆᑦ ᐃᓄᓕᕆᔨᑐᖃᒃᑯᑦ ᖃᐅᔨᓴᐅᔫᒃ ᐃᖃᒪᖕᒋᑦᑑᒃ ᑎᑭᐅᑎᖕᒋᓐᓂ ᔫᓚᐃ 7-ᒥ.

ᐃᓄᓕᕆᔨᑐᖃᒃᑯᑦ ᑐᒃᓯᕋᔪᑦ ᖄᒥᖀᒃᑯᑦ ᐊᑦᑕᓇᖕᒋᒃᑲᓗᐊᕐᒪᖔᖅ ᖃᐅᔨᓴᖅᑕᐅᖁᓪᓗᒍ ᐱᕆᐊᖓᐅᑎᕆᓚᐅᖅᓯᒪᔭᖓᑦ ᓴᓇᔭᒃᓴᓂᒃ ᐋᕿᒃᓯᐃᔾᔨᑦ ᐅᑯᐊ Thurber Engineering Ltd.-ᑯᑦ ᐅᑭᓂ 2015-ᒥ ᐱᔭᕇᖅᑕᐅᔪᑦ ᐊᒻᒪᓗ ᑐᓂᔭᐅᓪᓗᑎᒃ ᐃᓄᓕᕆᔨᑐᖃᒃᑯᓐᓄᑦ ᐊᒻᒪᓗ ᓄᓇᕗᑦᒥ ᐃᒥᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ ᐅᑭᓂ 2, 2016. ᑐᓴᒐᒃᓴᑦ ᓇᐃᓈᖅᓯᒪᔪᑦ ᕿᒥᕐᕈᒍᑎᓂ ᐅᖃᐅᓯᑐᑦ:

1. ᐊᐅᓚᑦᓯᒍᑎᑦ ᐅᔭᕋᓕᕆᔾᔪᑎᒥᓂᖅᑕᓕᒃ ᐊᒃᑕᑯᖃᐅᑦ ᑕᓯᖅ No 1 ᖃᓄᐃᙵᑦᑐᖅ ᐅᕗᖓᖓᔪᕐᓗ 2) ᐊᑖ.ᓂ

2. ᐱᑕᕐᑲᒻᒪᑦ ᓈᒻᒪᖕᒋᑦᑐᒥᒃ ᖃᐅᔨᓴᕈᑕᐅᓲᒥᒃ ᐃᓱᒫᓗᒐᐃᕈᑕᐅᓲᒥᒃ ᐋᑐᑕᐅᓚᔪᒃᑐᑎᒍᑦ ᐊᓄᕆᒎᑦ ᓱᕐᕋᒃᑕᐅᔪᕐᑲᒻᒪᖕᓘᖅ ᖃᐅᔨᓴᕈᒻᒥᒃ ᐊᒻᒪᓗ ᐊᕐᑯᓇᓕᖅᐸᑦ ᐃᒪᖓ ᑕᒪᒃᑯᐊ ᐊᓯᐃᓪᓛᒃ ᖃᓄᖅᑑᕈᑕᐅᓲᑦ ᕿᓚᒥᕈᓗᒃ ᐊᒃᐸᓯᖕᓂᖃᕈᓐᓇᖅᑐᑦ ᑕᑕᑦᑐᒍᑦ ᐃᒪᖃᐅᒻᒥᒃ ᑕᒪᓐᓇ ᐋᑑᑕᐅᓲᖅ.
3. ᖃᓄᖅᑑᕈᑎᒃᓴᖅ ᐃᓱᒪᕆᔭᐅᕆᐊᓕᒃ ᐊᑯᓂ ᐋᑑᑕᐅᓂᐊᕐᑐᓄᑦ ᐱᓕᕆᕙᖕᒥᒃ ᒪᑐᔪᑎᓄᑦ ᖄᒥᕕᒃᑯᑎᑦ ᐋᑑᑕᐅᖕᕋᓐᓇᕐᓂᐊᕐᒪᑕ ᐃᒥᖅᑕᓖᑦ ᓱᓕ ᐊᑯᓂᐊᓗᒃ ᓯᕗᓂᒃᓴᒍᑦ ᐋᑑᑕᐅᔪᑦ ᐋᑐᑎᓂᖅᑲᖕᒋᒻᒪᑕ.

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.

The 2016 site activities consisted of two site visits; the first on June 27, 2016 to gather additional water quality data to refine a mass balance review and perform airstrip maintenance and the second on September 7- 9 to perform additional benthic and water quality surveys to support an adaptive management plan, conduct the annual site inspection, water quality and thermistor monitoring and the tailings dam geotechnical inspection pursuant to Water Licence No. 1BR-CUL1118. A planned interim August trip to collect additional water quality data was cancelled due to weather issues.

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 permafrost in the tailings cover was found 1.27m below surface on September 9, 2016 by test pit at thermistor T4.

Indigenous and Northern Affairs Canada (INAC, formerly AANDC) also attended during the June 27, 2016 site visit and performed a water license and lease inspection. Inspection reports were issued in August and included a number of findings and required actions.

During 2016 an additional 5 drums of historic fuel were removed from inventory, leaving 13 full drums for removal during future trips. Two drums owned by INAC were found empty on arrival on September 7.

The INAC requested Dam Safety Review initiated by Thurber Engineering Ltd. In 2015 was also completed and submitted to INAC and the NWB on August 2, 2016. Summarized the review indicated that:

1. Management of Tailings Pond No 1 is sound with the exception of 2) below.
2. There is insufficient freeboard to satisfy the criteria for wind set up and wave run up and therefore consideration should be given in the short term to lowering the full water supply level to allow for proper freeboard.
3. Consideration should be given in the long term to decommissioning the dams as continuing to store water for the foreseeable future serves no purpose.

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 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, low grade waste rock at the Shear Lake Portal area that 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 (now Indigenous 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.

In 2008 Barrick and Gartner Lee personnel visited the site on 4 occasions to collect field data for completing the ERA. During the August trip, a minor amount of scrap metal was also retrieved from the north bank of the Kognak river and from the former bunkhouse area.

The ERA was finalized and submitted to INAC in August 2009. The report indicated that the surface waters at the site were not significantly impacted by the former mine operation or existing conditions. The findings were not acknowledged by INAC. In April 2014, INAC issued a response letter to Barrick's request to return the property to the Crown, re-stating recommendations outlined by BGC in their March 2007 report. Following a subsequent meeting between the Nunavut Water Board, INAC and Barrick in Iqaluit in April 2015, Barrick proposed by letter dated June 11, 2015 (the June 2015 Letter) to undertake several of the recommendations in the April 2014 letter, including the completion of a Dam Safety Review, a financial assurance review and regular airstrip maintenance; and proposed to initiate an adaptive monitoring plan involving additional water quality and benthic /sediment monitoring aimed at producing additional support for the ERA. Barrick also indicated in the June 2015 letter that it will not be seeking to relinquish the property to the government for the immediate future.

The Dam Safety Review was completed by Thurber Engineering and submitted to INAC and the NWB in August 2016. Airstrip maintenance was initiated in 2015. Additional field work to support an adaptive monitoring plan was initiated in 2016.

The site continues to be inspected at least on an annual basis to confirm chemical and physical stability as per the conditions of the water license. The site visit to fulfill the monitoring conditions of the water license has been moved to September at the request of INAC.

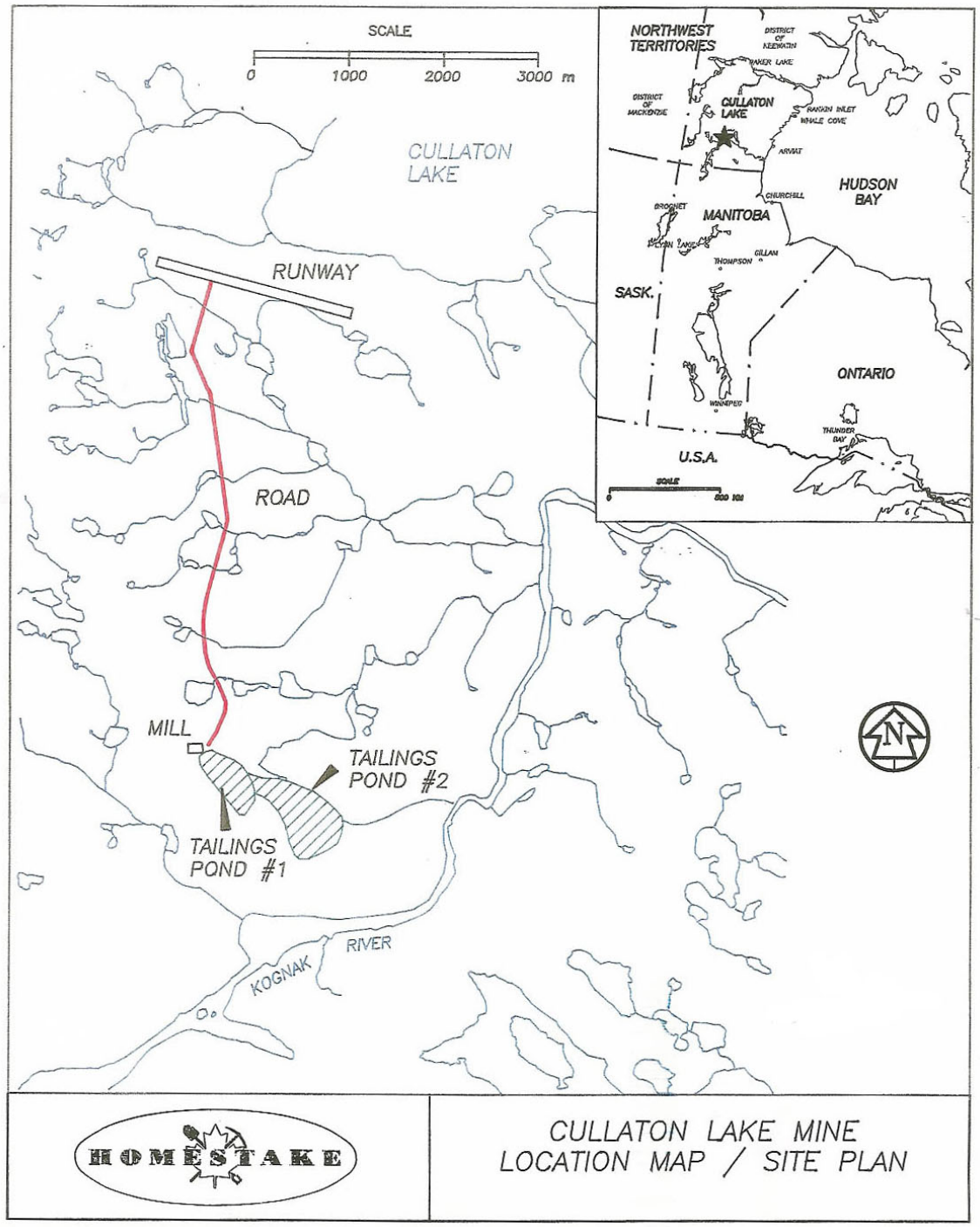
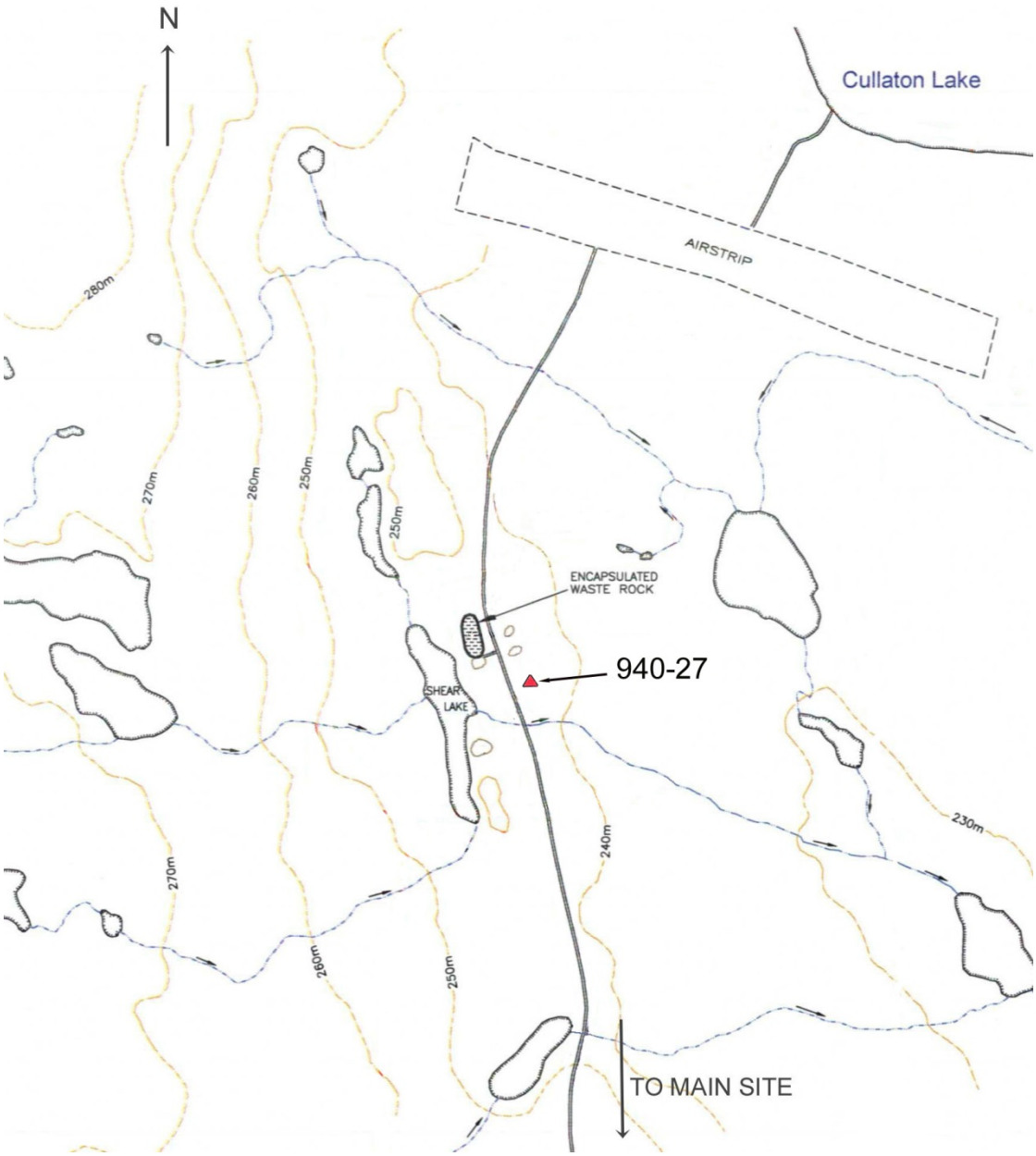
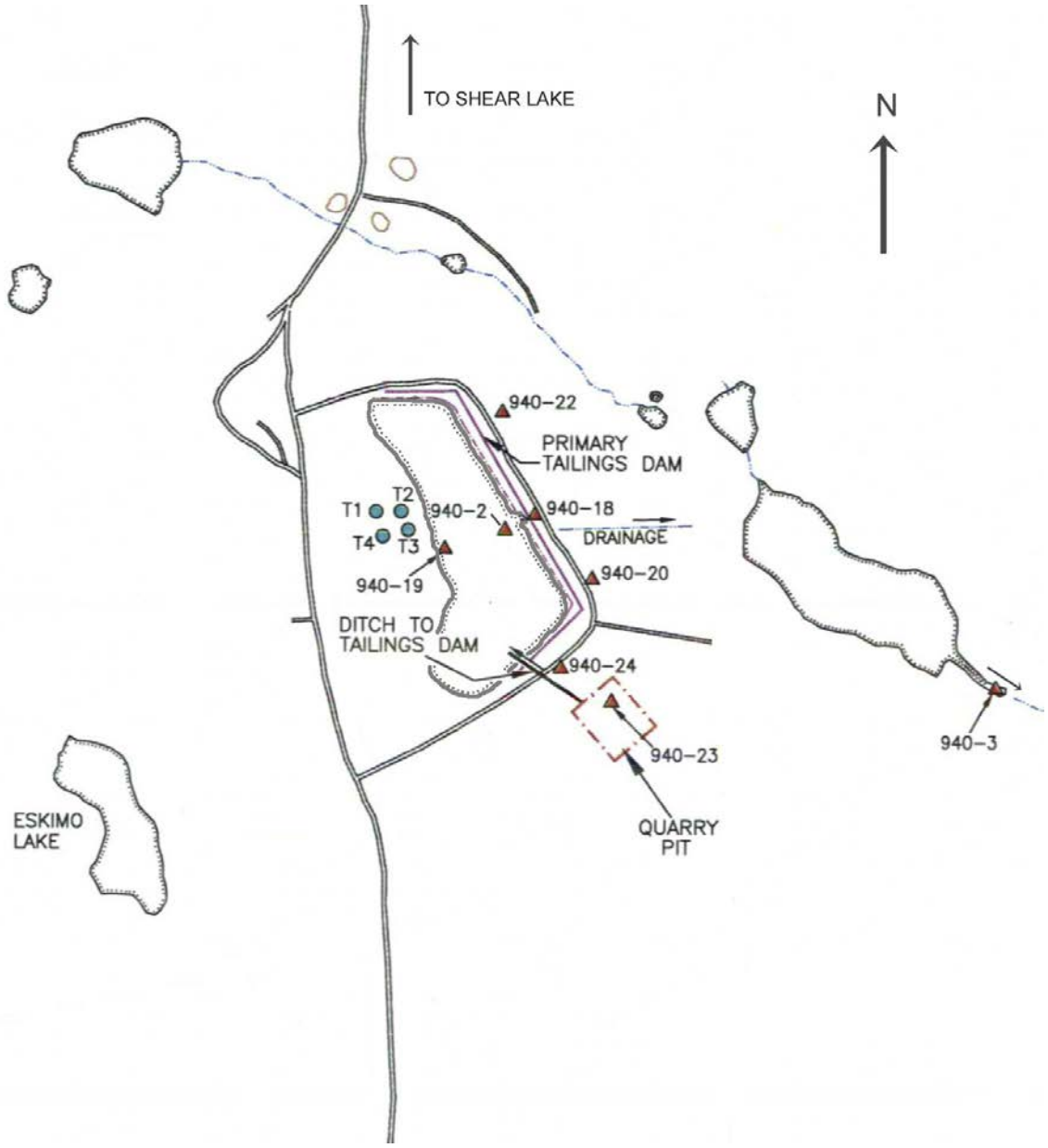


Figure 1: Cullaton Lake Mine location and general site layout



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 SUPPLEMENTAL CONDITIONS AND NOTES

Management of Cullaton Lake is conducted pursuant to Water Licence 1BR-CUL1118, which was issued on February 9, 2011 to renew previously issued license number 1BR-CUL0911. 1BR-CUL1118 will expire on January 31, 2018. The following provides a historic summary of supplemental conditions and notes pursuant to previous licences:

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 Licence NWB1CUL0207 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 Licence NWB1CUL0207 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 [1].

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

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 Licence NWB1CUL0207 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 Licence NWB1CUL0207 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:

Licence Parameter	Method Detection Limit
Total Suspended Solids	1 mg/l
Total Cyanide	0.005 mg/l
Total Arsenic	0.4 μg/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 and subsequent detection limits were equal to or lower than those shown above except for TSS in 2011 when the lab once again used a higher DL of 4mg/l. In addition to the foregoing, the lab also reported Weak Acid Dissociated (WAD) cyanide instead of the requested Total cyanide. Results were corrected for the 2012 monitoring round.

A new lab (ALS Environmental) was engaged in 2014 for logistical reasons and is the lab going forward for the foreseeable future. As a result detection limits have been adjusted slightly to reflect their standard. The new detection limits are:

Licence Parameter	Method Detection Limit
Total Suspended Solids	2 mg/l
Total Cyanide	0.002 mg/l
Total Arsenic	1 μg/l
Total Copper	1 μg/l
Total Lead	1 μg/l
Total Mercury	0.00001 mg/l
Total Nickel	2 μg/l
Total Zinc	3 μg/l

The 2016 surface water samples report detection limits were equal to or lower than the above.

2. The NWB commented on the 2005 anomalous zinc value at station 940-23 (.065 mg/l) Follow-up monitoring is summarized in the following table:

Station	Year	Zn (mg/l
940-23 (Quarry Pit)	2005	0.065
	2006	0.012
	2007	0.006
	2008	0.009
	2009	0.023
	2010	0.030
	2011	0.014
	2012	0.0504
	2013	0.0119
	2014	0.0140
	2015	0.024
	2016	0.032

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.

   On review of the 2008 annual report, the NWB requested that the NT-NU spill report form be included with the spill contingency plan. The form was included with the 2009 plan and subsequent plans.

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.

Water Licence 1BR-CUL1118 included a recommendation by Environment Canada and INAC to replace the non-functioning tailings cover thermistors. Subsequent research has indicated that, unless the thermistors are properly anchored in the permafrost, replacements will be susceptible to frost heave upward movement similar to the original installations. However, in light of the subsequent 2009 screening level risk assessment that indicated there are no significant impacts at the Cullaton site, the License holder intends to request that this recommendation is no longer necessary and that it be removed from the license.

3.0 2016 ACTIVITIES

Two of three site visits were completed in 2016. Access to the site for each trip was via a chartered aircraft from Thompson, Manitoba. The first visit occurred on June 27, 2016. Personnel attending the site during this trip included:

Barrick Personnel:

Paul Brugger, P. Eng., Closed Properties Manager, Eastern Canada

Rob Marsland, M.Sc., P.Eng., Senior Environmental Engineer, Palmer Environmental Consulting Group (PECG)

INAC Personnel (arrived separately from Rankin Inlet):

Ian Parson, Regional Coordinator

Christine Wilson, Water Resources Officer

During the June trip surface water samples were collected to assist in refining the mass balance review completed by PECG in 2015 and to support a proposed Adaptive Management Plan for the long term care and maintenance of the site. In addition, INAC, Barrick and PECG personnel completed a joint site inspection while discussing various site related issues.

Also during the June trip 5 drums of cached fuel were emptied into the charter plane.

On August 3-4, 2016 a second trip to collect a second round of surface water samples to support the above studies and perform airstrip maintenance was aborted due to protracted poor weather.

The annual site inspection was conducted during the September 7 - 9, 2016 trip. Personnel attending the site during this trip included:

Barrick Personnel:

Paul Brugger, P. Eng., Closed Properties Manager, Eastern Canada

Demetri Georgiou, MSc, P. Eng., Principle, qualified geotechnical engineer, **exp** Services Inc. (September 7 only)

Eric Cleveland, Environmental Technician, PECG.

Nick Smook, local carpenter from Thomson Manitoba (September 7 only)

During this trip Mr. Brugger conducted visual inspections of the quarry pit, tailings cover, all former underground access areas, EWR and the site in general, collected water samples and excavated the test pit at Thermistor T4 to determine the depth of permafrost pursuant to Water Licence 1BR-CUL1118.

Mr. Georgiou performed the annual geotechnical inspection on September 7th pursuant to Water Licence 1BR-CUL1118 and returned to Thompson the same day.

Mr. Brugger and Mr. Cleveland collected additional surface water samples and conducted benthic surveys to support the above mentioned studies during their stay on site from September 7 to 9.

Mr. Smook cleaned and repaired the airstrip survival shelter on September 7th and returned to Thompson the same day. Several bags of refuse and 10 empty fuel drums were backhauled on the September 7 return trip to Thompson.

3.1 ANNUAL SITE INSPECTION GENERAL FINDINGS

The annual site inspection performed on September 7-9, 2016 indicated that the site remains undisturbed, stable and in good condition. The following findings were noted:

The minor subsidence areas on the quarry pit landfill remain largely unchanged. Two new minor subsidence areas were observed. Most of the affected areas are occupied by arctic ground squirrels.

The site access road is becoming difficult to negotiate due to continually encroaching shrub vegetation.

Select photos are included in Appendix 1.

3.2 WATER QUALITY MONITORING

Duplicate water sampling was completed on September 7, 2016 at 5 of the 9 stations identified in the Water Licence (see Figures 2 and 3 for locations). All other stations were dry during the visit. 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 September 7, 2016. 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 September 7, 2016. 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 September 7, 2016. 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 September 7, 2016. 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) – There was no flow observed on September 7, 2016 and consequently no samples were collected.

Station 940-22 (Tailings Pond No. 1 seepage at northeast corner) – There was no flow observed on September 7, 2016 and consequently no samples were collected.

Station 940-23 (Quarry Pit) – Duplicate water samples were collected on September 7, 2016. Results indicated that all parameters were below the limits prescribed in the Water Licence. There was also 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 September 7, 2016 and consequently no samples were collected.

Station 940-27 (Seepage from Encapsulated Waste Rock to Shear Lake Creek) - There was no flow observed on September 7, 2016 and consequently no samples were collected.

The results of the additional surface water quality and benthic surveys completed in 2016 will be included in the supporting documents accompanying the water license renewal application planned for submission by June 30, 2016.

3.3 THERMISTOR MONITORING

A test pit excavated at Thermistor T4 in 2007 indicated that the thermistors are no longer providing correct readings. As in years subsequent to 2007, a test pit was excavated in the vicinity of T4 on September 9, 2016 visit in order to visually ascertain the depth of permafrost. Thermistor readings were not recorded at any of the 4 historic stations as 2 were not functioning and the remaining 2 were inaccessible due to the casing having heaved upwards.

Based on the test pit finding, the permafrost was found at a depth of 1.27m on September 9, 2016. The thickness of the till cover is 90cm at this location. The thawed 37cm of tailings below the cover and above the permafrost was saturated (see field notes and photos in Appendix 3).

3.4 GEOTECHNICAL INSPECTION

Demetri Georgiou (exp Services Inc.) performed the geotechnical inspection on September 7, 2016, pursuant to Part D, Article 8d of Water Licence 1BR-CUL1118. A copy of the inspection report was submitted to the NWB on December 5, 2016 with a copy to INAC.

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 Part D, Article 8e of Water Licence 1BR-CUL1118, 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 2016 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.

As in the past 5 annual reports, the engineer has also recommended reducing the frequency of geotechnical inspections to once every 3 years.

4.0 ANNUAL REVIEW OF SPILL RESPONSE PLAN

Pursuant to Part H, Article 1a, b and c of Water Licence 1BR- CUL1118, a review and update of the Spill Response Plan was conducted in February. 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. A new Abandonment and Reclamation Plan will be submitted this year (see Section 7).

6.0 ANNUAL REVIEW OF QUALITY ASSURANCE / QUALTY CONTROL

A review of the approved quality assurance / quality control plan (QA/QC) was conducted with reference to the document “Quality Assurance (QA) and Quality Control (QC) Guidelines for use by Class B Licensees in Collecting Representative Water Samples in the Field and for Submission of a QA/QC Plan, July 1996. There were no changes made to the plan. Lab QC results for the 2016 samples are included in Appendix 2.

7.0 2017 PROPOSED PROGRAM

The 2017 program will consist of two visits to site in order to comply with the requirements of Water Licence 1BR-CUL1118, collect additional water quality pursuant to recommendations of the 2016 studies and perform maintenance and several corrective measures identified in the 2016 INAC site inspections. Specifically:

- a visit in late June – early July (depending on weather) to collect surface water samples, perform airstrip and access road maintenance, collect additional remote refuse identified by INAC and perform aerial surveys to identify surface lease boundaries.
- a visit during the first week of September to perform the annual site inspection, water quality monitoring, tailings dam geotechnical inspection, initiate maintenance work on the Quarry Pit landfill cover and replace water quality station markers.

In addition to the above, an application to renew the water license will be submitted, concurrent with a new Abandonment and Reclamation Plan and a proposed new monitoring plan based on the studies completed in 2016. The current license expires on January 31, 2018.

The removal of additional unauthorized third party fuel drums cached at the airstrip will continue as backhauls are made available.

Appendix 1
Cullaton Lake 2016 Site Photos

Photo 1: Cullaton Lake main site, looking west on September 7, 2016.

Photo 2: Shear Lake site, looking southwest with shrub covered EWR in foreground (courtesy of exp).

Photo 3: Tailings No.1 Pond spillway invert on September 7, 2016

Photo 4: Former Tailings Pond No. 2 spillway flowing on September 7, 2016

Photo 5: Former Shear Lake Portal, September 9, 2016.

Photo 6: Former B Zone Portal and Fresh Air Raise, looking north on September 8, 2016.

Photo 7: Encapsulated Waste Rock at Shear Lake 11 years after the application of additional seed and fertilizer.

Photo 8: Encapsulated Waste Rock cover top looking north on June 27, 2016

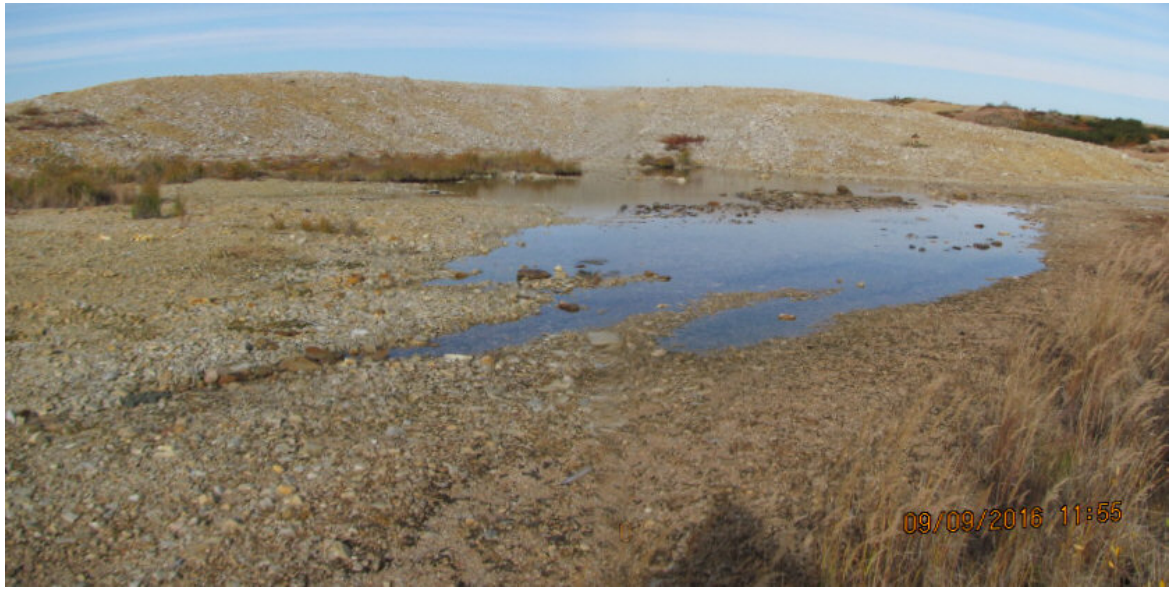


Photo 9: Shear Lake low pH pool area on September 9, 2016.

Photo 10: Vegetation on former low grade stockpile area at Shear Lake in June 2016.

Photo 11: New subsidence area in midsection of Quarry Pit landfill cover in June 2016.

Photo 12: Subsidence at southeast corner of Quarry Pit landfill cover in June 2016.

Appendix 2
September 7, 2016
Water Quality Monitoring Results

Cullaton Lake
Water Quality Monitoring Results
September 7, 2016

Location	Sample Number	Field PH	Temp ºC	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
Tailings Pond No. 1 (at discharge)	940-2A 940-2B	8.09	11.1	8.02 8.03	<2.0 <2.0	<0.0020 <0.0020	0.0036 0.0036	0.0012 0.0011	0.0011 0.0011	<0.000005 <0.000005	<0.0020 <0.0020	<0.003 <0.003
Tailings Pond No. 2	940-3A 940-3B	8.20	10.4	7.97 8.08	9.3 8.1	<0.0020 <0.0020	0.0036 0.0036	0.0032 0.0033	<0.0010 <0.0010	<0.000005 <0.000005	0.0038 0.0039	<0.003 <0.003
Tailings Pond No. 1 (spillway)	940-18A 940-18B	7.82	11.1	7.77 7.79	<2.0 <2.0	<0.0020 <0.0020	0.0024 0.0024	<0.0010 <0.0010	<0.0010 <0.0010	<0.000005 <0.000005	<0.0020 <0.0020	<0.003 <0.003
Tailings Pond No. 1 (at piezometer)	940-19A 940-19B	8.40	10.6	8.08 7.85	2.4 3.2	<0.0020 <0.0020	0.0031 0.0031	0.0011 0.0011	0.0011 0.0011	<0.000005 <0.000005	<0.0020 <0.0020	<0.003 <0.003
Tailings Pond No. 1 (seepage at east side)	940-20A 940-20B	Dry										
Tailings Pond No. 1 (seepage at northeast corner)	940-22A 940-22B	Dry										
Quarry Pit	940-23A 940-23B	8.19	10.2	8.17 8.19	<2.0 <2.0	<0.0020 <0.0020	0.0028 0.0028	0.0019 0.0019	<0.0010 <0.0010	<0.000005 <0.000005	0.0045 0.0045	0.0320 0.0315
Quarry Pit (flow to Tailings Pond No. 1)	940-24	Dry										
Seepage from Shear Lake Encapsulated Waste Rock to Shear Lake Creek	940-27	Dry										

Cullaton Lake
Water Quality Monitoring
September 7, 2016
Water Analysis Certificate and Quality Control Report

Barrick Gold of North America.
ATTN: Paul Brugger
2270 Corporate Circle, Suite 100
Henderson NV 89074

Date Received: 08-SEP-16
Report Date: 26-SEP-16 13:04 (MT)
Version: FINAL REV. 2

Client Phone: --

Certificate of Analysis

Lab Work Order #: L1825613

Project P.O. #: NOT SUBMITTED
Job Reference: CULLATON LAKE
C of C Numbers:
Legal Site Desc:

Comments: Re-uploaded Metals

Bobbie Caratti
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1825613-1 Surface Water 07-SEP-16 12:40 940-02A	L1825613-2 Surface Water 07-SEP-16 11:30 940-03A	L1825613-3 Surface Water 07-SEP-16 12:25 940-18A	L1825613-4 Surface Water 07-SEP-16 13:05 940-19A	L1825613-5 Surface Water 07-SEP-16 12:00 940-23A
Sample ID						
Description						
Sampled Date						
Sampled Time						
Client ID						
WATER						
Physical Tests	pH (pH)	8.02	7.97	7.77	8.08	8.17
	Total Suspended Solids (mg/L)	<2.0	9.3	<2.0	2.4	<2.0
Cyanides	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Metals	Arsenic (As)-Total (mg/L)	0.0036	0.0036	0.0024	0.0031	0.0028
	Calcium (Ca)-Total (mg/L)	48.3	34.1	50.4	51.0	39.2
	Copper (Cu)-Total (mg/L)	0.0012	0.0032	<0.0010	0.0011	0.0019
	Iron (Fe)-Total (mg/L)	0.180	0.476	0.069	0.153	0.159
	Lead (Pb)-Total (mg/L)	0.0011	<0.0010	<0.0010	0.0011	<0.0010
	Magnesium (Mg)-Total (mg/L)	18.9	15.6	18.8	19.4	15.0
	Mercury (Hg)-Total (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Nickel (Ni)-Total (mg/L)	<0.0020	0.0038	<0.0020	<0.0020	0.0045
	Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030	<0.0030	<0.0030	0.0320

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1825613-6 Surface Water 07-SEP-16 13:40 SHEAR CREEK A	L1825613-7 Surface Water 07-SEP-16 12:40 940-02B	L1825613-8 Surface Water 07-SEP-16 11:30 940-03B	L1825613-9 Surface Water 07-SEP-16 12:25 940-18B	L1825613-10 Surface Water 07-SEP-16 13:05 940-19B
Sample ID / **Description** / **Sampled Date** / **Sampled Time** / **Client ID**						
WATER						
Physical Tests	pH (pH)	7.11	8.03	8.08	7.79	7.85
	Total Suspended Solids (mg/L)	<2.0	<2.0	8.1	<2.0	3.2
Cyanides	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Metals	Arsenic (As)-Total (mg/L)	<0.0010	0.0036	0.0036	0.0024	0.0031
	Calcium (Ca)-Total (mg/L)	5.29	49.5	35.7	51.1	50.2
	Copper (Cu)-Total (mg/L)	0.0028	0.0011	0.0033	<0.0010	0.0011
	Iron (Fe)-Total (mg/L)	0.407	0.174	0.498	0.072	0.154
	Lead (Pb)-Total (mg/L)	<0.0010	0.0011	<0.0010	<0.0010	0.0011
	Magnesium (Mg)-Total (mg/L)	1.37	19.2	15.5	19.9	18.6
	Mercury (Hg)-Total (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Nickel (Ni)-Total (mg/L)	0.0036	<0.0020	0.0039	<0.0020	<0.0020
	Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1825613-11				
	Description	Surface Water				
	Sampled Date	07-SEP-16				
	Sampled Time	12:00				
	Client ID	940-23B				
Grouping	**Analyte**					
WATER						
Physical Tests	pH (pH)	8.19				
	Total Suspended Solids (mg/L)	<2.0				
Cyanides	Cyanide, Total (mg/L)	<0.0020				
Total Metals	Arsenic (As)-Total (mg/L)	0.0028				
	Calcium (Ca)-Total (mg/L)	39.4				
	Copper (Cu)-Total (mg/L)	0.0019				
	Iron (Fe)-Total (mg/L)	0.106				
	Lead (Pb)-Total (mg/L)	<0.0010				
	Magnesium (Mg)-Total (mg/L)	15.0				
	Mercury (Hg)-Total (mg/L)	<0.0000050				
	Nickel (Ni)-Total (mg/L)	0.0045				
	Zinc (Zn)-Total (mg/L)	0.0315				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Calcium (Ca)-Total	MS-B	L1825613-1, -10, -11, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1825613-1, -10, -11, -2, -3, -4, -5, -6, -7, -8, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
CN-T-CFA-TB	Water	Total Cyanide by CFA	ISO 14403-2:2012 (modified)

This analysis is carried out using procedures adapted from ISO Method 14403:2002 "Determination of Total Cyanide using Flow Analysis (FIA and CFA)". Total or strong acid dissociable (SAD) cyanide is determined by in-line UV digestion along with sample distillation and final determination by colourimetric analysis.
Method Limitation: This method is susceptible to interference from thiocyanate (SCN). If SCN is present in the sample, there could be a positive interference with this method, but it would be less than 1% and could be as low as zero.

HG-T-CVAF-TB	Water	Total Mercury in Water by CVAFS	EPA 1631E (mod)

Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAFS.

MET-T-CCMS-TB	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

PH-TITR-TB	Water	pH	APHA 4500-H

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode

TSS-TB	Water	Total Suspended Solids	APHA 2540 D (modified)

Aqueous matrices are analyzed using gravimetry

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
TB	ALS ENVIRONMENTAL - THUNDER BAY, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

L1825613-COFC

ALS Environmental

www.alsglobal.com

ly (COC) / Analytical iest Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 -

Page 1 of 2

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Barrick [redacted] GOLD INC.	Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Paul Brugger	Quality Control (QC) Report with Report	☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:		☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:		Email 1 or Fax	pbrugger@[redacted].net @ barrick.com	Specify Date Required for E2,E or P:
		Email 2		Analysis Request

Invoice To		Invoice Distribution	
	Same as Report To ☑ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
	Copy of Invoice with Report ☑ Yes ☐ No	Email 1 or Fax	pbrugger@[redacted].net @ barrick.com
Company:		Email 2	wbaumann@barrick.com
Contact:			

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:		Approver ID:	Cost Center:
Job #:	Cullaton Lake	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only): L1825613 | ALS Contact: BOBBIE CARATT | Sampler: PSB

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	pH, TSS, Total Cyanide, Total Mercury	Total Metals - As, Cu, Pb, Ni, Zn	Number of Containers
	940-02A	Sept 7/16	12:40	SW	x	x	5
	940-03A		11:30		x	x	
	904-18A		12:25		x	x	
	940-19A		13:05		x	x	
	940-20A (no sample - dry)	✕	✕	✕	x	x	✕
	940-23A		12:00		x	x	
	Shear Creek A		13:40		x	x	
	940-02b		12:40		x	x	
	940-03B		11:30		x	x	
	940-18B		12:25		x	x	
	940-19B		13:05		x	x	
	940-20-A (no sample - dry)	✕	✕	✕	x	x	✕

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☑ No	
Are samples for human drinking water use? ☐ Yes ☑ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No ☐	
Ice packs	Yes ☒	No ☐	Custody seal intact	Yes ☐	No ☐
Cooling Initiated	☒				

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
8.5					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received By:	Date	Time	Received by:	Date:	Time:
	Sept 8/16	12:15	CP	08-Sep-16	12:15	RP VP	8-Sept-16	14:50

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-FM-0376a v09 Front/Gd January 2014

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

L1825613-COFC

ALS Environmental

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

dy (COC) / Analytical
uest Form

Affix ALS barcode label here
(lab use only)

COC Number: 14 -

Page 2 of 2

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Barrick [redacted] GOLD INC.	Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Paul Brugger	Quality Control (QC) Report with Report	☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:		☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:		Email 1 or Fax	pbrugger@[redacted] barrick.com	Specify Date Required for E2,E or P:
		Email 2		

Invoice To		Invoice Distribution	
	Same as Report To ☑ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
	Copy of Invoice with Report ☑ Yes ☐ No	Email 1 or Fax	pbrugger@[redacted] barrick.com
Company:		Email 2	wbaumann@barrick.com
Contact:			

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:		Approver ID:	Cost Center:
Job #:	Cullaton Lake	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only)	L1825613	ALS Contact:	BOBBIE CARATTI	Sampler:	PJB

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	pH, TSS, Total Cyanide, Total Mercury	Total Metals - As, Cu, Pb, Ni, Zn	Number of Containers
	940-23B	Sept 7/16	12:00	SW	x	x	5

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No	
Are samples for human drinking water use? ☐ Yes ☐ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No ☐
Ice packs	Yes ☑	No ☐	Custody seal intact	Yes ☐	No ☐
Cooling Initiated	☒			

INITIAL COOLER TEMPERATURES °C		FINAL COOLER TEMPERATURES °C	
8.5			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received By:	Date	Time	Received by:	Date:	Time:
	8/08/16	12:15		08-Sep-16	12:15		8-Sept. 16	14:50

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-FM-0326e v09 FrontDH January 2014

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

Cullaton Lake
Water Quality Monitoring Results
2003 - 2016

CULLATON LAKE GOLD MINES LTD.

CULLATON LAKE MINE

WATER ANALYSIS REPORT

STATION 940-02A - TAILNGS POND NO. 1 DISCHARGE, 2003 - 2016

Physical and General	Units	Water License	CCME Guidelines	July 29 2003	July 7 2004	Aug. 5 2005	Aug. 2 2006	July 5 2007	June 28 2008	Aug. 5 2009	Aug. 4 2010	Aug. 4 2011	Aug. 2 2012	Aug. 15 2013	Aug 12 2014	Sept 3 2015	Sept 7 2016	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	**6.0 - 9.5**	**6.5-9.0**	8.07	7.77	7.8	8.0	7.7	7.5	8.0	7.8	7.8	7.7	8.1	8.25	7.98	8.02	7.5	8.3	7.9
Temperature	^{o}C			21.0	15.3	NR	14.5	15.2	12.5	15.8	13.6	13.3	14.7	18.6	15.0	11.0	10.4	10.4	21.0	14.7
Suspended Solids (105^{o}C)	mg/L	**25.0**		< 3	< 3	14	< 1	< 10	1	< 1	1	< 4	< 1	< 1	< 2	< 5	< 2	< 1	14	< 4
Total Cyanide (1)	mg/L	**0.80**		< 0.005	< 0.0050	0.006	< 0.005	< 0.005	0.0088	< 0.005	< 0.005	< 0.0005	0.00264	0.00150	< 0.0020	< 0.0020	< 0.0020	< 0.0005	0.0088	< 0.0040
Total Hardness	mg CaCO3/L				197	199	210	220	162	210	230	225	211	207	E	E	E	162	230	207
Minor Cations																				
Arsenic	mg/L	**0.30**	**0.005**	0.0025	0.00159	0.003	0.0018	0.0021	**0.00563**	0.0019	0.0027	0.0021	0.00212	0.00188	0.0023	0.0022	0.0036	0.00159	**0.00563**	0.00253
Copper	mg/L	**0.20**	**0.004**	0.002	0.0014	0.002	0.001	0.001	0.00136	0.0012	0.0010	0.0021	0.00115	0.00105	0.0018	< 0.0020	0.0012	0.00100	0.00210	0.00145
Lead	mg/L	**0.20**	**0.007**	< 0.001	< 0.0010	< 0.001	< 0.0005	< 0.0005	0.00146	0.00032	0.00038	0.00030	0.00033	< 0.00020	< 0.0010	< 0.0010	0.0011	< 0.00020	0.00146	0.00072
Mercury	mg/L		**0.0002**	< 0.00005	< 0.00005	< 0.0001	< 0.00005	< 0.00005	< 0.00001	< 0.00002	< 0.00001	< 0.00005	< 0.00005	< 0.00005	< 0.00001	< 0.00002	< 0.000005	< 0.000005	< 0.00010	< 0.00004
Nickel	mg/L	**0.30**	**0.150**	0.001	< 0.020	< 0.002	< 0.001	0.002	0.00258	0.001	0.0008	0.0010	< 0.001	< 0.001	< 0.0020	< 0.0020	< 0.0020	0.0008	< 0.020	< 0.00281
Zinc	mg/L	**0.30**	**0.030**	< 0.005	< 0.005	< 0.003	< 0.005	< 0.005	0.0011	< 0.0025	< 0.0025	0.006	< 0.005	< 0.005	< 0.0030	< 0.0200	< 0.0030	0.0011	< 0.0200	< 0.0051

( ) Laboratory replicate.
⌈ ⌉ Results re-checked.
(E) Not analyzed
NR: Not recorded due to equipment malfunction
(1) WAD Cn reported for 2011
Bold values indicate CCME exceedence

CULLATON LAKE GOLD MINES LTD.

CULLATON LAKE MINE

WATER ANALYSIS REPORT

STATION 940-03A - TAILNGS POND NO. 2 DISCHARGE, 2003 - 2016

Physical and General	Units	Water License	CCME Guidelines	July 29 2003	July 7 2004	Aug. 5 2005	Aug. 2 2006	July 5 2007	June 28 2008	Aug. 5 2009	Aug. 4 2010	Aug. 4 2011	Aug. 2 2012	Aug. 15 2013	Aug. 12 2014	Sept 3 2015	Sept 7 2016	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	**6.0 - 9.5**	**6.5-9.0**	8.07	7.96	7.7	7.9	7.8	7.7	8.0	8.2	7.9	7.8	8.4	8.56	7.93	7.97	7.7	8.6	8.0
Temperature	^{0}C			20.8	19.3	NR	17.4	13.7	17.0	15.4	11.4	12.4	14.6	18.5	16.3	10.4	11.1	10.4	20.8	15.3
Suspended Solids (105^{0}C)	mg/L	**25.0**		5	< 3	2	2	< 10	2	2	13	< 4	< 1	1.9	< 2	< 5	9.3	< 1	13	4
Total Cyanide (1)	mg/L	**0.80**		0.010	0.0072	< 0.0020	< 0.005	< 0.005	0.0016	< 0.005	< 0.005	< 0.0005	0.00192	0.00233	< 0.0020	< 0.0020	< 0.0020	< 0.0005	0.010	< 0.004
Total Hardness	mg CaCO3/L				92.4	100	90	88	82.3	94	99	95.2	118	109	E	E	E	82.3	118	96.8
Minor Cations																				
Arsenic	mg/L	**0.30**	**0.005**	**0.0059**	0.00305	0.004	0.0037	**0.0055**	0.0032	0.0027	0.0046	0.0029	0.00293	**0.00513**	0.0044	0.0025	0.0036	0.0025	**0.0059**	0.0039
Copper	mg/L	**0.20**	**0.002**	**0.003**	**0.0043**	**0.020**	**0.004**	**0.006**	**0.0037**	**0.0039**	**0.0035**	**0.0036**	**0.00367**	**0.00444**	**0.0046**	**0.0038**	**0.0032**	**0.003**	**0.020**	**0.0051**
Lead	mg/L	**0.20**	**0.002**	< 0.001	< 0.0010	< 0.001	< 0.0005	< 0.0005	0.00006	< 0.00005	0.00009	< 0.0002	< 0.0002	< 0.0002	< 0.0010	< 0.0010	< 0.0010	< 0.00005	0.00100	< 0.00056
Mercury	mg/L		**0.0002**	< 0.00005	< 0.00005	< 0.0001	< 0.00005	< 0.00005	0.00001	< 0.00002	< 0.00001	< 0.00005	< 0.00005	< 0.00005	< 0.00001	< 0.00002	< 0.000005	< 0.000005	< 0.00010	< 0.00004
Nickel	mg/L	**0.30**	**0.065**	0.004	< 0.020	0.003	0.005	0.005	0.00357	0.0036	0.0043	0.005	0.0034	0.0055	0.0048	0.0045	0.0038	0.003	< 0.020	< 0.0054
Zinc	mg/L	**0.30**	**0.030**	< 0.005	< 0.005	0.015	< 0.005	< 0.005	0.0009	< 0.0005	0.0005	0.006	< 0.005	< 0.005	< 0.0030	< 0.0200	< 0.0030	< 0.00050	< 0.020	< 0.0056

( ) Laboratory replicate.
[ ] Results re-checked.
(E) Not analyzed
NR: Not recorded due to equipment malfunction
(1) WAD Cn reported for 2011
Bold values indicate CCME exceedence

CULLATON LAKE GOLD MINES LTD.

CULLATON LAKE MINE

WATER ANALYSIS REPORT

STATION 940-18A - TAILNGS POND NO. 1 SPILLWAY, 2003 - 2016

Physical and General	Units	Water License	CCME Guidelines	July 29 2003	July 7 2004	Aug. 5 2005	Aug. 2 2006	July 5 2007	June 28 2008	Aug. 5 2009	Aug. 4 2010	Aug. 4 2011	Aug. 2 2012	Aug. 15 2013	Aug. 12 2014	Sept 3 2015	Sept 7 2016	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	**6.0 - 9.5**	**6.5-9.0**	8.87	7.89	8.1	8.4	7.8	7.5	7.8	8.7	8.7	9.3	D	8.69	7.97	7.77	7.5	9.3	8.3
Temperature	^{o}C			20.5	18.5	NR	21.4	15.2	15.8	15.8	12.8	12.6	16.9	D	15.0	10.0	11.1	10.0	21.4	15.5
Suspended Solids (105^{o}C)	mg/L	**25.0**		4	< 3	< 2	3	< 10	< 1	1	< 1	< 4	< 1	D	< 2	< 5	< 2	< 1	< 10	< 3
Total Cyanide (1)	mg/L	**0.80**		0.009	0.0096	0.004	0.037	0.005	0.0077	< 0.005	0.006	0.0043	0.00361	D	0.0022	0.0033	< 0.0020	< 0.0020	0.037	0.0076
Total Hardness	mg CaCO3/L				217	200	210	230	159	220	220	228	212	D	E	E	E	159	230	211
Minor Cations																				
Arsenic	mg/L	**0.30**	**0.005**	0.0029	0.00165	0.002	**0.0055**	0.0023	0.00133	0.0033	**0.0057**	0.0043	0.00375	D	**0.0055**	0.0049	0.0024	0.00133	**0.0057**	0.0035
Copper	mg/L	**0.20**	**0.004**	0.002	0.0018	0.001	**0.005**	0.002	0.00086	0.0012	0.0013	0.0021	0.0014	D	0.0026	< 0.0020	< 0.0010	0.00086	**0.005**	0.00187
Lead	mg/L	**0.20**	**0.007**	< 0.001	< 0.0010	< 0.001	< 0.0005	< 0.0005	0.00032	0.00011	0.00011	0.00030	< 0.00020	D	< 0.0010	< 0.0010	< 0.0010	0.00011	< 0.001	< 0.00062
Mercury	mg/L		**0.0002**	< 0.00005	< 0.00005	< 0.0001	< 0.00005	< 0.00005	< 0.00001	< 0.00002	< 0.00001	< 0.00005	< 0.00005	D	< 0.00001	< 0.00002	< 0.000005	< 0.000005	< 0.0001	< 0.00004
Nickel	mg/L	**0.30**	**0.150**	0.001	< 0.020	< 0.002	0.002	0.001	0.00124	0.001	0.0009	0.003	0.001	D	< 0.0020	< 0.0020	< 0.0020	0.00090	< 0.020	< 0.00301
Zinc	mg/L	**0.30**	**0.030**	< 0.005	< 0.005	< 0.003	< 0.005	< 0.005	0.0003	< 0.0025	< 0.0025	0.010	< 0.005	D	< 0.0030	< 0.0200	< 0.0030	0.00030	< 0.020	0.00533

( ) Laboratory replicate.
[ ] Results re-checked.
(E) Not analyzed
NR: Not recorded due to equipment malfunction
(1) WAD Cn reported for 2011
Bold values indicate CCME exceedence

CULLATON LAKE GOLD MINES LTD.

CULLATON LAKE MINE

WATER ANALYSIS REPORT

STATION 940-19A - TAILNGS POND NO. 1 AT PIEZOMETER LOCATION 2003 - 2016

Physical and General	Units	NWB Water License	CCME Guidelines	July 29 2003	July 7 2004	Aug. 5 2005	Aug. 2 2006	July 5 2007	June 28 2008	Aug. 5 2009	Aug. 4 2010	Aug. 4 2011	Aug. 2 2012	Aug. 15 2013	Aug. 12 2014	Sept 3 2015	Sept 7 2016	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	**6.0 - 9.5**	**6.5-9.0**	8.08	7.69	7.9	7.9	7.8	7.9	7.9	7.9	8.1	8.0	8.1	8.19	7.90	8.08	7.7	8.2	8.0
Temperature	^{o}C			20.8	16.3	NR	15.4	15.3	21.3	15.3	13.9	13.5	15.2	19.3	15.8	10.5	10.6	10.5	21.3	15.6
Suspended Solids (105^{o}C)	mg/L	**25.0**		8	< 3	2	< 1	< 10	< 1	< 1	3	7	1.3	< 1	< 2	7	2.4	< 1	< 10	< 4
Total Cyanide (1)	mg/L	**0.80**		< 0.005	0.0074	0.006	< 0.005	< 0.005	0.0009	< 0.005	< 0.005	0.0074	0.00238	0.00168	< 0.0020	< 0.0020	< 0.0020	0.0009	0.0074	0.0041
Total Hardness	mg CaCO3/L				206	201	210	220	749	220	230	246	210	210	E	E	E	201	749	270
Minor Cations																				
Arsenic	mg/L	**0.30**	**0.005**	0.0036	0.00209	0.002	0.0019	0.0016	0.0025	0.0019	0.0030	0.0021	0.00209	0.00195	0.0023	0.0024	0.0031	0.0016	0.0036	0.0023
Copper	mg/L	**0.20**	**0.004**	0.002	0.0015	0.002	0.001	0.001	0.00143	0.0015	0.0010	0.0010	0.00102	0.00097	0.0013	< 0.0020	0.0011	0.00097	0.002	0.0013
Lead	mg/L	**0.20**	**0.007**	< 0.001	< 0.0010	< 0.001	< 0.0005	< 0.0005	0.00182	0.00032	0.00036	< 0.0002	0.00034	< 0.0002	< 0.0010	< 0.0010	0.0011	< 0.0002	0.00182	< 0.0007
Mercury	mg/L		**0.0002**	< 0.00005	< 0.00005	< 0.0001	< 0.00005	< 0.00005	< 0.00001	< 0.00002	< 0.00001	< 0.00005	< 0.00005	< 0.00005	< 0.00001	< 0.00002	< 0.000005	< 0.000005	< 0.0001	< 0.00004
Nickel	mg/L	**0.30**	**0.150**	0.002	< 0.020	< 0.002	< 0.001	0.002	0.00858	0.001	0.0011	0.0010	< 0.001	< 0.001	< 0.0020	< 0.0020	< 0.0020	< 0.001	< 0.020	< 0.0033
Zinc	mg/L	**0.30**	**0.030**	< 0.005	< 0.005	< 0.003	< 0.005	< 0.005	0.0161	< 0.0025	< 0.0025	< 0.005	< 0.005	< 0.005	< 0.0030	< 0.020	< 0.0030	< 0.0025	< 0.020	< 0.0061

( ) Laboratory replicate.
[ ] Results re-checked.
(E) Not analyzed
NR: Not recorded due to equipment malfunction
(1) WAD Cn reported for 2011
Bold values indicate CCME exceedence

CULLATON LAKE GOLD MINES LTD.

CULLATON LAKE MINE

WATER ANALYSIS REPORT

STATION 940-20A - TAILNGS POND NO. 1 EAST SIDE SEEPAGE, 2003 - 2016

Physical and General	Units	Water License	CCME Guidelines	July 29 2003	July 7 2004	Aug. 5 2005	Aug. 2 2006	July 5 2007	June 28 2008	Aug. 5 2009	Aug. 4 2010	Aug. 4 2011	Aug. 2 2012	Aug. 15 2013	Aug. 12 2014	Sept 3 2015	Sept 7 2016	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	**6.0 - 9.5**	**6.5-9.0**	D	8.13	7.8	8.1	8.2	8.1	8.3	8.7	8.3	D	D	9.14	7.81	D	7.8	9.1	8.3
Temperature	^{o}C			D	21.3	NR	22.0	17.9	19.6	18.9	13.8	13.3	D	D	21.0	10.0	D	10.0	22.0	15.8
Suspended Solids (105^{o}C)	mg/L	**25.0**		D	< 3	< 2	1	< 10	4	1	1	< 4	D	D	< 2	< 5	D	1	10	3
Total Cyanide (1)	mg/L	**0.80**		D	0.0104	0.118	< 0.005	< 0.005	0.0038	< 0.005	< 0.005	0.0014	D	D	< 0.0020	< 0.0020	D	0.001	0.118	0.016
Total Hardness	mg CaCO3/L				310	338	220	620	370	240	230	215	D	D	E	E	D	215	620	254
Minor Cations																				
Arsenic	mg/L	**0.30**	**0.005**	D	0.00297	0.001	0.0044	**0.0052**	0.00337	0.0028	0.0042	**0.0057**	D	D	0.0042	0.0017	D	0.0010	**0.0057**	0.0036
Copper	mg/L	**0.20**	**0.004**	D	**0.0041**	0.004	0.004	**0.005**	**0.00423**	0.0031	0.0029	**0.0044**	D	D	0.0040	0.0037	D	0.0029	**0.0050**	0.0039
Lead	mg/L	**0.20**	**0.007**	D	< 0.0010	< 0.001	< 0.0005	< 0.0005	0.00023	< 0.00005	0.00005	< 0.0002	D	D	< 0.0010	< 0.0010	D	< 0.0001	< 0.0010	< 0.0006
Mercury	mg/L		**0.0002**	D	< 0.00005	< 0.0001	< 0.00005	< 0.00005	< 0.00001	< 0.00002	< 0.00001	< 0.00005	D	D	< 0.00001	< 0.00002	D	< 0.00001	< 0.00010	< 0.00004
Nickel	mg/L	**0.30**	**0.150**	D	< 0.020	0.015	0.006	0.008	0.00644	0.0036	0.0033	0.006	D	D	0.0041	0.0040	D	0.0033	< 0.020	< 0.0076
Zinc	mg/L	**0.30**	**0.030**	D	< 0.005	< 0.003	< 0.005	< 0.005	0.0016	0.0038	< 0.0025	0.007	D	D	0.0036	< 0.0200	D	0.0016	< 0.0200	< 0.0057

( ) Laboratory replicate.
[ ] Results re-checked.
D Dry
NR: Not recorded due to equipment malfunction
(1) WAD Cn reported for 2011
Bold values indicate CCME exceedence

CULLATON LAKE GOLD MINES LTD.

CULLATON LAKE MINE

WATER ANALYSIS REPORT

STATION 940-22A - TAILNGS POND NO. 1 NORTH SIDE SEEPAGE, 2003 - 2016

Physical and General	Units	Water License	CCME Guidelines	July 29 2003	July 7 2004	Aug. 5 2005	Aug. 2 2006	July 5 2007	Jun 28 2008	Aug. 5 2009	Aug. 4 2010	Aug. 4 2011	Aug. 2 2012	Aug. 15 2013	Aug. 12 2014	Sept 3 2015	Sept 7 2016	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	**6.0 - 9.5**	**6.5-9.0**	D	D	7.7	D	D	8.0	D	D	D	D	D	D	D	D	7.7	8.0	7.9
Temperature	^{o}C			D	D	NR	D	D	18.7	D	D	D	D	D	D	D	D	18.7	18.70	18.70
Suspended Solids (105^{o}C)	mg/L	**25.0**		D	D	6	D	D	1	D	D	D	D	D	D	D	D	1	6	4
Total Cyanide	mg/L	**0.80**		D	D	0.073	D	D	0.0015	D	D	D	D	D	D	D	D	0.0015	0.073	0.037
Total Hardness	mg CaCO3/L			D	D	515	D	D	546	D	D	D	D	D	D	D	D	515	546	531
Minor Cations																				
Arsenic	mg/L	**0.30**	**0.005**	D	D	0.001	D	D	0.00339	D	D	D	D	D	D	D	D	0.001	0.00339	0.0022
Copper	mg/L	**0.20**	**0.004**	D	D	0.004	D	D	0.00239	D	D	D	D	D	D	D	D	0.00239	0.004	0.0032
Lead	mg/L	**0.20**	**0.007**	D	D	< 0.001	D	D	0.00057	D	D	D	D	D	D	D	D	0.00057	< 0.001	< 0.0008
Mercury	mg/L		**0.0002**	D	D	< 0.0001	D	D	< 0.00001	D	D	D	D	D	D	D	D	< 0.00001	< 0.0001	< 0.00006
Nickel	mg/L	**0.30**	**0.150**	D	D	0.045	D	D	0.00415	D	D	D	D	D	D	D	D	0.00415	0.045	0.0246
Zinc	mg/L	**0.30**	**0.030**	D	D	< 0.010	D	D	0.0022	D	D	D	D	D	D	D	D	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, 2003 - 2016

Physical and General	Units	Water License	CCME Guidelines	July 29 2003	July 7 2004	Aug. 5 2005	Aug. 2 2006	July 5 2007	June 28 2008	Aug. 5 2009	Aug. 4 2010	Aug. 4 2011	Aug. 2 2012	Aug. 15 2013	Aug. 12 2014	Sept 3 2015	Sept 7 2016	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	**6.0 - 9.5**	**6.5-9.0**	8.07	7.56	7.8	8.1	7.7	7.4	8.1	8.0	8.0	7.9	8.0	8.26	8.15	8.17	7.4	8.3	7.9
Temperature	°C			20.7	15.7	NR	15.5	14.4	14.5	14.3	13.8	13.0	14.7	18.3	14.1	10.3	10.2	10.2	20.7	14.6
Suspended Solids (105°C)	mg/L	**25.0**		10	< 3	4	1	< 10	< 1	< 1	2	< 4	< 1	< 1	< 2	< 5	< 2	< 1	10	< 3
Total Cyanide (1)	mg/L	**0.80**		< 0.006	< 0.0050	< 0.002	< 0.005	< 0.005	< 0.0005	< 0.005	< 0.005	< 0.00050	0.00074	0.00117	< 0.0020	< 0.0020	< 0.0020	< 0.0005	< 0.006	< 0.003
Total Hardness	mg CaCO3/L				37.9	104.0	120.0	78.0	46.7	100.0	110.0	93.6	110.0	106.0	E	E	E	37.90	120.00	90.62
Minor Cations																				
Arsenic	mg/L	**0.30**	**0.005**	0.0019	0.00096	0.002	0.0014	0.0011	0.00084	0.0013	0.0020	0.0017	0.00175	0.00235	0.0033	0.0031	0.0028	0.00084	0.0033	0.0019
Copper	mg/L	**0.20**	**0.002**	0.002	< 0.0010	0.002	0.002	< 0.001	0.00102	**0.0024**	0.0016	**0.0022**	**0.00227**	0.00188	0.0024	< 0.0020	0.0019	< 0.001	**0.0024**	< 0.0018
Lead	mg/L	**0.20**	**0.002**	< 0.001	< 0.0010	< 0.001	< 0.0005	< 0.0005	0.00009	0.00014	0.00019	0.0003	0.00028	< 0.00020	< 0.0010	< 0.0010	< 0.0010	0.00009	0.00100	0.0006
Mercury	mg/L		**0.0002**	< 0.00005	< 0.00005	< 0.0001	< 0.00005	< 0.00005	0.00001	< 0.00002	< 0.00001	< 0.00005	< 0.00005	< 0.00005	< 0.00001	< 0.00002	< 0.000005	< 0.000005	< 0.0001	< 0.0000
Nickel	mg/L	**0.30**	**0.065**	0.002	< 0.020	0.002	0.002	0.001	0.00141	0.0023	0.0022	0.003	0.0026	0.0021	0.0034	0.0034	0.0045	0.001	< 0.020	< 0.004
Zinc	mg/L	**0.30**	**0.030**	0.007	0.0087	**0.065**	0.012	0.006	0.0086	0.0229	**0.0301**	0.0140	**0.0504**	0.0119	0.0140	0.0240	**0.0320**	0.006	**0.065**	0.022

( ) Laboratory replicate.
[ ] Results re-checked.
(E) Not analyzed
NR: Not recorded due to equipment malfunction
(1) WAD Cn reported for 2011
Bold values indicate CCME exceedence

CULLATON LAKE GOLD MINES LTD.

CULLATON LAKE MINE

WATER ANALYSIS REPORT

STATION 940-24A - AREA OF SEEPAGE FROM QUARY PIT TO TAILINGS POND, 2003 - 2016

Physical and General	Units	Water License	CCME Guidelines	July 29 2003	July 7 2004	Aug. 5 2005	Aug. 2 2006	July 5 2007	June 28 2008	Aug. 5 2009	Aug. 4 2010	Aug. 4 2011	Aug. 2 2012	Aug. 15 2013	Aug. 12 2014	Sept 3 2015	Sept 7 2016	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	**6.0 - 9.5**	**6.5-9.0**	D	D	D	D	D	D	D	D	D	D	D	D	D	D			
Temperature	^{o}C			D	D	D	D	D	D	D	D	D	D	D	D	D	D			
Suspended Solids (105^{o}C)	mg/L	**25.0**		D	D	D	D	D	D	D	D	D	D	D	D	D	D			
Total Cyanide	mg/L	**0.80**		D	D	D	D	D	D	D	D	D	D	D	D	D	D			
Total Hardness	mg CaCO3/L			D	D	D	D	D	D	D	D	D	D	D	D	D	D			
Oil and Grease	mg/L	**Visible**		D	D	D	D	D	D	D	D	D	D	D	D	D	D			
Minor Cations																				
Arsenic	mg/L	**0.30**	**0.005**	D	D	D	D	D	D	D	D	D	D	D	D	D	D			
Copper	mg/L	**0.20**	**0.004**	D	D	D	D	D	D	D	D	D	D	D	D	D	D			
Lead	mg/L	**0.20**	**0.007**	D	D	D	D	D	D	D	D	D	D	D	D	D	D			
Mercury	mg/L		**0.0002**	D	D	D	D	D	D	D	D	D	D	D	D	D	D			
Nickel	mg/L	**0.30**	**0.150**	D	D	D	D	D	D	D	D	D	D	D	D	D	D			
Zinc	mg/L	**0.30**	**0.030**	D	D	D	D	D	D	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), 2003 - 2016

Physical and General	Units	Water License	CCME Guidelines	July 29 2003	July 7 2004	Aug 5 2005	Aug 2 2006	July 5 2007	June 28 2008	Aug 5 2009	Aug. 4 2010	Aug. 4 2011	Aug. 2 2012	Aug. 15 2013	Aug. 12 2014	Sept 3 2015	Sept 7 2016	MINIMUM	MAXIMUM	AVERAGE
pH (lab)	units	**6.0 - 9.5**	**6.5-9.0**			D	D	D	D	D	D	D	D	D	D	D	D			
Temperature	^{o}C					D	D	D	D	D	D	D	D	D	D	D	D			
Suspended Solids (105^{o}C)	mg/L	**25.0**				D	D	D	D	D	D	D	D	D	D	D	D			
Total Cyanide	mg/L	**0.80**				D	D	D	D	D	D	D	D	D	D	D	D			
Total Hardness	mg CaCO3/L					D	D	D	D	D	D	D	D	D	D	D	D			
Sulphate	mg/L					D	D	D	D	D	D	D	D	D	D	D	D			
Minor Cations																				
Arsenic	mg/L	**0.30**	**0.005**			D	D	D	D	D	D	D	D	D	D	D	D			
Copper	mg/L	**0.20**	**0.004**			D	D	D	D	D	D	D	D	D	D	D	D			
Lead	mg/L	**0.20**	**0.007**			D	D	D	D	D	D	D	D	D	D	D	D			
Mercury	mg/L		**0.0002**			D	D	D	D	D	D	D	D	D	D	D	D			
Nickel	mg/L	**0.30**	**0.150**			D	D	D	D	D	D	D	D	D	D	D	D			
Zinc	mg/L	**0.30**	**0.030**			D	D	D	D	D	D	D	D	D	D	D	D			

(1) Station added in 2005
( ) Laboratory replicate.
[ ] Results re-checked.
D: Dry

Appendix 3
September 9, 2016
Thermistor Monitoring Results

THERMISTOR MONITORING RESULTS
Station 940-21

Field notes for pit excavated on September 9, 2016 next to pit excavated in 2015 (immediately north of T4).

0 – 0.9m: till cover
0.9m – 1.27m: saturated tailings
1.27m: Permafrost

September 9, 2016 test pit next to (water ponded) 2015 pit with 1.27m probe bar.

Thermistor Reading - Test Pit Comparison

September 3, 2015 Test Pit Field Notes:

0 – 0.9m: till cover
0.9m – 1.42m: saturated tailings
1.42m: Permafrost

September 3, 2015 Thermistor readings (See Notes below)

Depth (m)	T1 (°C)	T2 (°C)	T3 (°C)	T4 (°C)
0.3	NR(3)	NR(2)	NR(2)	NR(3)
0.8	NR(3)	NR(2)	NR(2)	NR(3)
1.3	NR(3)	NR(2)	NR(2)	NR(3)
1.8	NR(3)	NR(2)	NR(2)	NR(3)
2.3	NR(3)	NR(2)	NR(2)	NR(3)
2.8	NR(3)	NR(2)	NR(2)	NR(3)

August 12, 2014 T4 Test Pit Field Notes:

0 -0.9m: till cover
0.9m -1.07m: saturated tailings
1.07m: permafrost

August 12, 2014 Thermistor Readings (See Notes Below)

Depth (m)	T1 (°C)	T2 (°C)	T3 (°C)	T4 (°C)
0.3	NR(3)	21.26	18.45	NR(3)
0.8	NR(3)	Nr	15.67	NR(3)
1.3	NR(3)	7.02	17.50	NR(3)
1.8	NR(3)	5.49	9.09	NR(3)
2.3	NR(3)	1.68	8.50	NR(3)
2.8	NR(3)	-0.66	NR(3)	NR(3)

Notes:

(1) Thermistor readings are suspect and are included for comparison with test pit findings. High temperature readings for the top 2 sensors (0.3m and 0.8m) indicate they are above ground level and reflect daytime heating in the exposed black plastic casing.
(2) Cable was not accessible.
(3) Reading indicated open circuit.

Appendix 4
2017 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.
1084 County Rd 8
Campbellford, Ontario
K0L 1L0
Phone: 705-632-1871
Cell: 807-631-4895
e-mail: pbrugger@barrick.com

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. A topographic map is attached as Figure 1.

PROJECT HISTORY AND CURRENT ACTIVITY:

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.

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

REVISIONS AND EFFECTIVE DATE OF PLAN:

This plan was reviewed and revised on February 21, 2017 and is effective until March 31, 2018.

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 spill from seeping away.

ACTION IN CASE OF FIRE:

a. Use $C0_2$, 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 igniting with fire. Remove vehicles with burning tires 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).

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

- INAC Manager of Field Operations at: (**867) 975-4295**
- Environment Canada at **(867) 920-8130**
- Government of Nunavut Environmental Protection at **(867) 975-7700**
- Kivalliq Inuit Association at **(867) 645-5733** or **1-800-220-6581 Contact Stephen Hartman**
- Barrick Gold Corporation :

  Paul Brugger,
  Site Manager
  Phone: **705-632-1871**
  Cell: 807-631-4895

  Alternate:
  Walter Baumann,
  Manager, Closure Sites
  Phone: 702-522-6941
  Cell: 801-244-3540
- If required:
  - RCMP – Arviat at **(867) 857-0123**
  - Arviat Hospital at **(867) 857-3100**
  - Arviat Fire Response at **(867) 857-9999**

(4) The attached NT-NU Spill Report will also be completed and submitted to the Nunavut spills reporting office at fax: (867) 873-6924 or email spills@gov.nt.ca

Cullaton Lake

AIRSTRIP

Shear Lake

See Inset A

Kognak River

Tailings Pond #1

Tailings Pond #2

Quarry Pit

A

Encapsulated Waste Rock Pile

Waste Rock Pile

Shear Lake

Shear Creek

0 50 100 m

CANADA

Project Location

Legend

- Quarry Pit
- Encapsulated Waste Rock Pile
- Waste Rock Pile
- Tailings Pond
- Flow Direction

Base Mapping

Contours
- Index (50m)
- Intermediate (10m)

Hydrology
- Waterbody
- Watercourse

- Vegetation
- Wetland
- Road (decommissioned)

Base data: National Topographic Database (NTDB) compiled by Natural Resources Canada at 1:50,000 scale. Sampling performed by Gartner Lee Ltd., June 2008. Road GPS-tracked by Gartner Lee Ltd., June 2008. Airport footprint approximate; for reference purposes only. EWR pile, tailings ponds and quarry outlines, BGC Engineering, Inc. (2006). All other data, AECOM 2009.

N W E S

0 0.5 1
Kilometres

1:30,000
UTM Zone 14N, NAD 83

File Name: 107651_By1_Fig1_CullatonLake_Mar17_2011.mxd

Prepared By: MM Date Issued: Mar, 2011
Reviewed By: KW Project Number: 107651

Barrick Gold

Project: Cullaton Lake Project
Location: Nunavut

Cullaton Lake Site

AECOM

Figure 1

File Location: P:\60146995\000-CADD\050 GIS WIP\By7_Grizzly_Habitat\107651_By1_Fig1_CullatonLake_Mar17_2011.mxd

Date Revised: March 17, 2011
Date Plotted: March 17, 2011

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

Government of Northwest Territories | Nunavut | Canada | Inuvialuit Land Administration

NT-NU 24-HOUR SPILL REPORT LINE
Tel: (867) 920-8130 • Fax: (867) 873-6924 • Email: spills@gov.nt.ca

REPORT LINE USE ONLY

A	Report Date: MM DD YY	Report Time:	☐ Original Spill Report **OR** ☐ Update # _____ to the Original Spill Report	**Report Number:**
B	Occurrence Date: MM DD YY	Occurrence Time:		
C	Land Use Permit Number (if applicable):		Water Licence Number (if applicable):	
D	Geographic Place Name or Distance and Direction from the Named Location:		Region: ☐ NT ☐ Nunavut ☐ Adjacent Jurisdiction or Ocean	
E	Latitude: _____ Degrees _____ Minutes _____ Seconds		Longitude: _____ Degrees _____ Minutes _____ Seconds	
F	Responsible Party or Vessel Name:		Responsible Party Address or Office Location:	
G	Any Contractor Involved:		Contractor Address or Office Location:	
H	Product Spilled: ☐ Potential Spill	Quantity in Litres, Kilograms or Cubic Metres:	U.N. Number:	
I	Spill Source:	Spill Cause:	Area of Contamination in Square Metres:	
J	Factors Affecting Spill or Recovery:	Describe Any Assistance Required:	Hazards to Persons, Property or Environment:	
K	Additional Information, Comments, Actions Proposed or Taken to Contain, Recover or Dispose of Spilled Product and Contaminated Materials:			

L	Reported to Spill Line by:	Position:	Employer:	Location Calling From:	Telephone:
M	Any Alternate Contact:	Position:	Employer:	Alternate Contact Location:	Alternate Telephone:

REPORT LINE USE ONLY

N	Received at Spill Line by:	Position:	Employer:	Location Called:	Report Line Number:

Lead Agency: ☐ EC ☐ CCG/TCMSS ☐ GNWT ☐ GN ☐ ILA ☐ AANDC ☐ NEB ☐ Other: _____

Significance: ☐ Minor ☐ Major ☐ Unknown

File Status: ☐ Open ☐ Closed

Agency:	**Contact Name:**	**Contact Time:**	**Remarks:**
Lead Agency:			
First Support Agency:			
Second Support Agency:			
Third Support Agency:			