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June 11, 2015

Aboriginal Affairs and Northern Development Canada  
Water Resources Division  
Nunavut Regional Office  
Bldg 918, PO Box 100  
Iqaluit, NU X0A 0H0  
**Attn: Ian Parsons, Regional Coordinator**

Nunavut Water Board  
1 Water Street  
Gjoa Haven, NU X0B 1J0  
**Attn: Phyllis Beaulieu, Manager of Licensing**

**Re: NWB File: 1BR-CUL1118 – Letter from Aboriginal Affairs and Northern Development Canada (“AANDC”) to Barrick Gold Inc. (“Barrick”) dated April 4<sup>th</sup>, 2014 (the “AANDC Letter”)**

Dear Mr. Parsons and Ms Bealieu,

It was a pleasure meeting with you and your colleagues in Iqaluit on April 15, 2015 to discuss Barrick's Cullaton Lake legacy site, and Barrick's responses to the AANDC Letter. This letter represents Barrick's formal response to the AANDC Letter. Detailed responses to each of the items raised in the AANDC Letter are set out in Schedule “A” to this letter.

By way of summary, and consistent with what was presented to you at the April 15 meeting, Barrick proposes as follows:

1. Barrick will not be seeking to relinquish the tenures comprising the Cullaton Lake property in the short term. Barrick intends to continue holding and monitoring the Cullaton Lake property until an appropriate time for relinquishment.
2. Barrick will commence regular monitoring and maintenance of the airstrip, commencing in 2015.
3. Barrick will commence regular vegetation cut back on the road and minor maintenance of the access road, commencing in 2017.
4. Barrick agrees that a dam safety review for Tailings Dam #1 based on CDA Dam Safety Guidelines is a valid recommendation and will be conducting such a review in 2015. There will be a number of conclusions and recommendations from this review, which Barrick will share with AANDC and the Nunavut Water Board.
5. Barrick will implement an adaptive management plan (the “Adaptive Management Plan”), which contemplates additional monitoring in 2016 to refine the Mass Loading Assessment (PECG, 2015), surface water quality monitoring, benthic community and sediment sampling, and general chemistry and metals testing. Barrick's proposed Adaptive Management Plan is described in further detail in Schedule “B” to this letter.

Additionally, Barrick reviewed the *Mine Site Reclamation Policy for Nunavut* (Indian and Northern Affairs Canada, 2002) and the Reclaim User Manual provided to us on April 20, 2015 and used the RECLAIM spreadsheet to calculate the reclamation costs for Cullaton Lake. The reclamation cost calculation is attached to this letter as Schedule "C". Barrick has also agreed to investigate the feasibility of installing thermistors in the dry tailings cover at the Cullaton Lake tailings facility.

Please do not hesitate to contact me if you have any questions about the content of this letter.

Sincerely,

A handwritten signature in black ink, appearing to read 'M. Bornstein', with a large, stylized flourish extending from the end.

M. Daniel Bornstein, Environment, Closure Strategy

cc. Jim Alto, Director, Environment  
Walter Baumann, Manager, Environment  
Paul Brugger, Closure Manager

## Schedule "A"

### Table of Responses to Recommendations of AANDC

AANDC Letter of April 4, 2014		Barrick Response
Reference <sup>1</sup>	Issue / Recommendations	
3.1	<p><b>Air Strip –</b></p> <p>To safely access the mine site in the future and be able to carry out yearly water quality sampling as per the water license (#1BR-CUL1118) as well as carrying out other possible reclamation activities maintenance of the runway and apron area will be required.</p>	Barrick agrees that regular maintenance of the airstrip and apron areas is important for continued access for on-site monitoring purposes and intends to perform maintenance activities on the airstrip starting with the 2015 campaign.
3.2	<p><b>Area Adjacent to Air Strip –</b></p> <p>It is recommended that Barrick store their fuel drums in such a way as to minimize the risk of a spill (i.e., store fuel drums off the ground, in secondary containment, etc). Barrick should also collect and remove any empty fuel drums adjacent to the apron area belonging to them.</p>	All of the fuel drum caches at the Cullaton site belong to third parties and it is apparent that most have been abandoned. As a result Barrick has initiated a program to identify the owners and demand immediate removal.
4.1	<p><b>Access Road –</b></p> <p>All road reclamation work appears to be complete in accordance with the Final approved A&amp;R Plan. AANDC however recommends a plan to monitor the condition and accessibility of the road until abandonment and reclamation activities have been completed should be outlined in a revised A&amp;R Plan.</p>	The access road condition will be added as a documented inspection and maintenance item during annual inspections.
5.1.2	<p><b>Shear Zone Encapsulated Waste Rock –</b></p> <p>AANDC recommends that Barrick provide a plan on how to monitor and maintain cover stability to ensure that erosion rills and cracks do not develop in the cover until vegetation becomes re-established. The re-vegetation plan should be</p>	As noted in Section 5.1.1 of the AANDC Letter, vegetation is becoming re-established on the EWR cover. As part of Barrick's Adaptive Management Plan, the physical condition of the cover will continue to be monitored during the annual inspection and any observed deficiencies will be addressed

<sup>1</sup> All references herein are to Sections or the Executive Summary in the AANDC Letter

AANDC Letter of April 4, 2014		Barrick Response
Reference <sup>1</sup>	Issue / Recommendations	
	included in a new A&R Plan. AANDC suggests that a 25 year monitoring period may be applicable (i.e. from 2001 to 2026).	during the following annual inspection.
5.2.1, 7.1.2	<p>Shear Lake Waste Rock Pile –</p> <p>... a pile of waste rock containing visible sulphides (pyrite) and identified as being PAG is situated along the east shoreline of Shear Lake, south of the portal. The high acidity (pH of about 2.0) of a pool of standing water adjacent to the waste rock is an indication that acid generation is occurring and that the waste rock presents a risk to the water quality of Shear Lake and Shear Creek.</p> <p>AANDC recommends further assessment of the waste rock and development of mitigation and remediation options as may be required to maintain geochemical stability, and that suitable options be included in a revised A&amp;R Plan.</p>	<p>Mass Loading analysis performed by PEGC in advance of April 15 Meeting and the Ecological Risk Assessment performed by AECOM in 2009 demonstrated that neither the pH of the water nor the concentrations of constituents of concern within the water pose a concern for the environment.</p> <p>Barrick will institute an Adaptive Management Plan to ensure that any loading will remain within the assimilative capacity of the receiving environment.</p>
Exec Summary	<p>Shear Lake – Water Balance</p> <p>A water balance should be established for Shear Lake so that a mass balance can be carried out to predict the effect of ARD/ML on water quality. This would include a sampling program for all streams draining into Shear Lake.</p>	<p>The Ecological Risk Assessment performed by AECOM in 2009 included a water balance. Results suggest that further loadings of metals or acid generating material to the environment from the site should be minimal and in equilibrium with the current water balance.</p> <p>In advance of the April 15 meeting, PEGC performed a desk-top mass loading assessment (PEGC, 2015) to quantify the potential for water quality impacts to the receiving environment, the results of which were related to AANDC and NWB at the April 15 meeting. PEGC reported that mine loading sources are not likely to lead to exceedance of water quality guidelines in the Kognac River.</p> <p>As part of Barrick's proposed Adaptive Management Plan, Barrick will conduct an enhanced surface water quality</p>

AANDC Letter of April 4, 2014		Barrick Response
Reference	Issue / Recommendations	
		monitoring program (additional sites and, in 2016, an additional site visit – for details, please see Schedule “B”), and will continue to monitor the potential for future water quality impacts to ensure that any new loading will remain within the assimilative capacity of the receiving environment.
5.4.1, 5.4.2	<p>Shear Lake Diversion Dam –</p> <p>The breached remnants of the Shear Lake Diversion Dam are located at the north end of Shear Lake.</p> <p>AANDC recommends that since the Shear Lake Diversion Dam area was not included for reclamation under the original 1996 Final A&amp;R Plan it should be included in a revised A&amp;R Plan with reclamation options outlined.</p>	Presently there are no plans to remediate this feature further since no effect on the surrounding environment has been observed. Should any negative influences be detected in the future they will be addressed at that time.
5.5.1, 5.5.2	<p>Waste Rock Cover Borrow Area –</p> <p>On the east side of the mine access road, opposite the Shear Zone mine site, is an extensive cleared area stripped of topsoil. This area was the former waste rock dump, which has now been relocated into the EWR area. Reclamation of this area was not addressed in the 1996 Final A&amp;R Plan or carried out as part of the waste rock relocation work.</p> <p>AANDC recommends that options to help speed up the natural re-vegetation process should be explored for the EWR borrow area at the Shear Zone Mine site area, and a re-vegetation reclamation strategy should be developed and included in a revised A&amp;R Plan.</p>	Previous attempts in 2005 to artificially restart the vegetation on the encapsulated waste rock failed and for this reason Barrick elected to leave the site to re-vegetate naturally. Recent site photos indicate that this strategy is effective and the growth rate is acceptable given the short growing season. In the 2014 annual geotechnical report inspection notes (EXP, 2014), Exp noted that the sparse areas of vegetation are helping to reduce erosion.
6.2.1, 6.2.2	<p>Covered Tailings Area –</p> <p>AANDC recommends further assessment of the tailings cover and development of mitigation and remediation options as may be required to maintain geochemical</p>	In advance of the April 15 meeting, PECG performed a desk-top mass loading assessment of the Cullaton Lake site (PECG, 2015) to quantify the potential for water quality impacts to the receiving environment, the results of which

AANDC Letter of April 4, 2014		Barrick Response
Reference <sup>1</sup>	Issue / Recommendations	
	<p>stability. Appropriate mitigation and remediation should be included in a revised A&amp;R Plan.</p>	<p>were provided to AANDC and NWB at the April 15 meeting. PECG reported that mine loading sources are not likely to lead to exceedance of water quality guidelines in the Kognac River.</p> <p>As part of Barrick's proposed Adaptive Management Plan, Barrick will implement an enhanced water quality monitoring program (additional sites and, in 2016, an additional site visit – for details, please see Schedule "B") to verify the mass loading balance results and conclusions. These results will demonstrate whether or not the tailings cover is operating effectively. Additional remedial measures may be adopted, if warranted, based on observed results.</p> <p>In addition to the above, and further to our discussions at the April 15, 2015 meeting, Barrick will investigate the feasibility of cost-effectively installing replacement thermistors in the tailings dry cover that will provide meaningful data over a reasonably long period of time. A previous attempt at installing thermistors at the Cullaton Lake site was unsuccessful.</p>
6.3.1, 6.3.2	<p><b>Tailings Pond #1 –</b></p> <p>Currently there are a significant amount of tailings around the outer perimeter of Tailings Pond #1 that have less than 1 m of water cover. With water cover of less than 1m there is potential for the tailings to undergo oxidation. The geochemical stability of Tailings Pond #1 will depend on maintaining adequate water cover.</p> <p>AANDC recommends further assessment of the tailings cover and development of mitigation and remediation options as may be required to maintain geochemical stability. Appropriate mitigation and remediation should be</p>	<p>In advance of the April 15 meeting, PECG performed a desk-top mass loading assessment of the Cullaton Lake site (PECG, 2015) to quantify the potential for water quality impacts to the receiving environment, the results of which were provided to AANDC and NWB at the April 15 meeting. PECG reported that mine loading sources are not likely to lead to exceedance of water quality guidelines in the Kognac River.</p> <p>As part of Barrick's proposed Adaptive Management Plan, Barrick will implement an enhanced surface water monitoring program (additional sites and, in 2016, an additional site visit – for details, please see Schedule "B") to verify the mass</p>

AANDC Letter of April 4, 2014		Barrick Response
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	included in a revised A&R Plan.	loading balance results and conclusions. These results will demonstrate whether or not the water cover is operating effectively. Additional remedial measures may be adopted, if warranted, based on observed results.
6.4.2	<p>Dam #1 –</p> <p>AANDC recommends that if dam #1 is expected to act as a long term tailings retention structure for Tailings Pond #1, a dam safety review based on current Canadian Dam Association (CDA) dam safety guidelines should be carried out. AANDC also recommends inspections and maintenance of Dam #1 as long as it is acting as a retention structure for Tailings Pond #1 unless otherwise indicated by a safety review. These recommendations should be outlined in a revised A&amp;R Plan.</p>	Barrick agrees with AANDC's recommendation to conduct a dam safety review based on CDA Dam Safety Guidelines, and intends to complete such a review in 2015. Barrick will share this review with AANDC and the Nunavut Water Board and will be pleased to discuss the implementation of any recommendations with AANDC and the Nunavut Water Board.
6.4.3, 6.4.4	<p>Dam #1 Upstream Slope –</p> <p>Erosion is taking place along the entire upstream slope of the dam, with approximately 1 m of erosion having taken place near the spillway inlet. It is apparent that the eroded embankment materials are not self-armoring and may support a cycle of erosion by wave action, slumping and washing away of the material, followed by more wave action on the newly exposed slope. The crest of the dam is sufficiently wide such that there are no immediate concerns that erosion would breach across to the downstream side, but there may be longer term effects. Woody vegetation has also become established on the upstream slope of Dam #1.</p> <p>AANDC recommends that erosion protection measures be designed and implemented for the upstream slope area of Dam #1 to mitigate erosion. Ongoing vegetation</p>	The 2015 Dam Safety Review will evaluate the effects of the noted erosion on the upstream slope of the dam, and vegetation growth on the upstream dam slope. Barrick will review all recommendations (including any recommendations concerning erosion mitigation and vegetation management) in the Dam Safety Review with AANDC and the Nunavut Water Board.

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	management is also recommended to reduce upstream slope erosion. Erosion mitigation measures should be outlined in a revised A&R Plan.	
6.4.5, 6.4.6	<p><b>Dam #1 Crest –</b></p> <p>The crest of the dam is about 15 m wide and shows no signs of settlement or cracking at this time, however, there is a concern that evident ponding of water on the crest has the potential to degrade the integrity and stability of the dam.</p> <p>AANDC recommends grading of Dam #1 to prevent ponding of water on the crest and to ensure stability and integrity of the dam.</p>	The 2015 Dam Safety Review will evaluate the effects of the water ponding on the crest of the dam. Barrick will review all recommendations (including any recommendations concerning grading of the dam crest) in the Dam Safety Review with AANDC and the Nunavut Water Board.
6.4.8	<p><b>Dam #1 Downstream Slope / Downstream Toe Area –</b></p> <p>AANDC recommends further assessment of the integrity and effectiveness of the downstream slope and toe area of Dam #1 to determine if the seepage areas nearby are associated with Dam #1 and Tailings pond #1. AANDC also recommends that further assessment of the vegetation growth on Dam #1 be undertaken. AANDC recommends the development of mitigation and remediation options as may be required to maintain geochemical stability of Dam #1. The details of which should be outlined in an A&amp;R Plan.</p>	The 2015 Dam Safety Review will evaluate the effects of the noted seepage and vegetation growth on the downstream slope and toe area of the dam. Barrick will review all recommendations (including any recommendations concerning the seepage areas and vegetation management on the downstream slope and toe area of Dam #1) in the Dam Safety Review with AANDC and the Nunavut Water Board.
6.5.2	<p><b>Quarry Landfill –</b></p> <p>AANDC recommends that the quarry area should be backfilled to the design thickness required as per the approved 1996 Final A&amp;R Plan. AANDC recommends that a revised A&amp;R Plan include the quarry landfill and water filled pit along with remediation options to rectify the</p>	Barrick acknowledges that the landfill cover design thickness was not achieved and commits, as part of its Adaptive Management Plan, to monitor the quarry landfill as part of its inspections and to address any subsidence issues that are observed.



AANDC Letter of April 4, 2014		Barrick Response
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	outstanding issues with this area.	
6.6.2	<p><b>Borrow Area for Tailings Pond #1 –</b></p> <p>AANDC recommends that since this component was not specifically addressed in the approved 1996 Final A&amp;R Plan that it be included in a revised A&amp;R plan to address the potential remediation of the borrow area.</p> <p>It is also recommended that shoreline erosion in this area be remediated in conjunction with the till cover and the upstream slope of Dam #1.</p>	<p>Previous attempts in 2005 to artificially restart the vegetation on the borrowed area failed and for this reason Barrick elected to leave the site to re-vegetate naturally. Recent site photos indicate that this strategy is effective and the growth rate is acceptable given the short growing season.</p> <p>For Barrick's response to AANDC's second recommendation, please see response to AANDC recommendation in ss. 6.4.3-6.4.8.</p>
6.8.2	<p><b>Diversion Ditch –</b></p> <p>AANDC recommends that since this component was not specifically addressed in the approved 1996 Final A&amp;R Plan that it be included in a revised A&amp;R plan to address the potential remediation of the diversion ditch.</p>	<p>The diversion channel has re-vegetated and, as a result, no further work is planned.</p>
7.0	<p><b>General Water Chemistry of Site –</b></p> <p>There are three major areas of concern with respect to site water quality and geochemistry, 1) the long term impact of waste rock drainage on Shear Lake water quality, 2) the dry and sub-aqueous tailings ARD and/or metal leaching (ML) impact on the long term water quality of Tailings Pond #1, and 3) the water balance analyses of Shear Lake and Tailings Pond #1.</p> <p>The assessments of the water quality and geochemistry of the waste rock and tailings need to be critically evaluated to determine future requirements for mine closure. The potential for future water quality impacts related to ARD/ML is one of the major outstanding liability issues for this site.</p>	<p>The Ecological Risk Assessment performed by ERA (ERA, 2009) determined that the risk of potential future water quality impacts was low. PEGC performed a desk-top mass loading assessment (PEGC, 2015) to quantify the potential for water quality impacts to the receiving environment, the results of which were related to AANDC and NWB at the April 15 meeting. PEGC reported that mine loading sources are not likely to lead to exceedance of water quality guidelines in the Kognac River.</p> <p>Barrick proposes instituting the Adaptive Management Plan described above to continue to monitor the potential for future water quality impacts and manage any detected water quality impacts if and when they arise.</p>

AANDC Letter of April 4, 2014		Barrick Response
Reference <sup>1</sup>	Issue / Recommendations	
7.2.1, 7.2.2	<p><b>Tailings Impact on Water Quality of Tailings Pond #1 –</b></p> <p>Studies from a Barrick contractor have shown that recent water quality samples of Tailings Pond #1 have met Water Licence criteria despite the fact that the dry cover was not constructed as designed and has failed to prevent oxidation and to maintain the tailings in a frozen condition. There appears to be no immediate threat to surface water quality associated with the tailings impoundment area, however, there is an apparent longer term risk from ongoing oxidation of the tailings under the cover, which may lead to acid production, and from ongoing metal leaching into Tailings Pond #1.</p> <p>A significant amount of tailings around the outer perimeter of Tailings Pond #1 is covered with less than the 1 m of water required under the approved 1996 Final A&amp;R Plan. The water quality in Tailings Pond #1 did not exceed any of the Water Licence limits, however the concentration of several parameters, including cyanide, did exceed CCME guidelines for the protection of freshwater aquatic life.</p> <p>AANDC recommends further assessment of the tailings cover and development of mitigation and remediation options as may be required to maintain geochemical stability. Suitable mitigations should be contained in a revised A&amp;R Plan. AANDC also recommends that the dry cover should be re-designed or constructed to meet the approved 1996 Final A&amp;R plan design criterion of 1.4 m to prevent further oxidation of tailings.</p>	<p>In advance of the April 15 meeting, PEEG performed a desk-top mass loading assessment of the Cullaton Lake site (PEEG, 2015) to quantify the potential for water quality impacts to the receiving environment, the results of which were provided to AANDC and NWB at the April 15 meeting. PEEG reported that mine loading sources are not likely to lead to exceedance of water quality guidelines in the receiving environment.</p> <p>As part of Barrick's proposed Adaptive Management Plan, Barrick will implement an enhanced surface water monitoring program (additional sites and, in 2016, an additional site visit – for details, please see Schedule "B") to verify the mass loading balance results and conclusions. Additional remedial measures may be adopted, if warranted, based on observed results.</p> <p>Accordingly, Barrick does not believe that the dry cover needs to be re-designed or constructed to meet the approved 1996 Final A&amp;R plan design criteria of 1.4m.</p>
7.3.2.	<p><b>Water Balance Analysis of Shear Lake and Tailings Pond #1 –</b></p> <p>AANDC recommends that any revised A&amp;R plan submitted</p>	<p>The appropriate inflow design flood will be discussed in connection with the 2015 Dam Safety Review. Barrick will review all recommendations (including any recommendations to upgrade the dam and spillway) in the Dam Safety Review</p>

AANDC Letter of April 4, 2014		Barrick Response
Reference <sup>1</sup>	Issue / Recommendations	
	to the Nunavut Water Board should contain a hydrological assessment of Shear Lake and Tailings Pond #1 to establish a design flood based on a long term closure design of Dam #1. The dam and spillway should be upgraded accordingly to ensure that the dam can safely pass extreme flood events. Inconsistencies found throughout the water balance study for the tailings impoundment area should be reviewed and re-validated.	with AANDC and the Nunavut Water Board.
8.0, 8.1	<p>Security Estimate –</p> <p>The current security being held for the property is \$50,000. This amount is insufficient to cover the design and remediation requirements noted above or to address the range of potential liabilities still associated with the site.</p> <p>AANDC recommends that Barrick prepare an updated security estimate based on an updated closure plan and in accordance with the Nunavut Surface Rights Tribunal and Nunavut Waters Act and AANDC's Mine Site Reclamation Policy for Nunavut.</p>	Barrick has prepared an updated security estimate in accordance with the Nunavut Surface Rights Tribunal and Nunavut Waters Act and AANDC's Mine Site Reclamation Policy for Nunavut. That estimate is provided, as indicated earlier, as Schedule "C" to our letter.
9.0	<p>Submission of a Revised A&amp;R Plan –</p> <p>AANDC recommends that a revised A&amp;R plan should be submitted to the Nunavut Water Board which addresses the issues and recommendations identified in this letter. Climate change considerations, not addressed in the previous approved Final 1996 A&amp;R plan, should be incorporated into any revised A&amp;R Plan.</p>	Barrick respectfully disagrees with the AANDC's recommendation that Barrick submit a revised A&R Plan. Barrick closed the Cullaton Lake site substantially in accordance with the approved A&R Plan for the site. Barrick's proposed Adaptive Management Plan can address any new risks that might arise at the site in the future.
Executive Summary	<p>Objectives of A&amp;R Plan –</p> <p>There is a need to re-visit the original objectives and design criteria in the approved Final Abandonment &amp; Reclamation (A&amp;R) Plan versus observed performance to</p>	The observed performance to-date indicates that the site is chemically stable, notwithstanding that some of the design criteria in the Final A&R Plan was not met. The additional monitoring data will indicate whether the same will hold true

AANDC Letter of April 4, 2014		Barrick Response
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	identify additional reclamation or remedial measures.	for the foreseeable future.

**Schedule "B"**  
**Adaptive Management Plan**  
**-See Attached-**

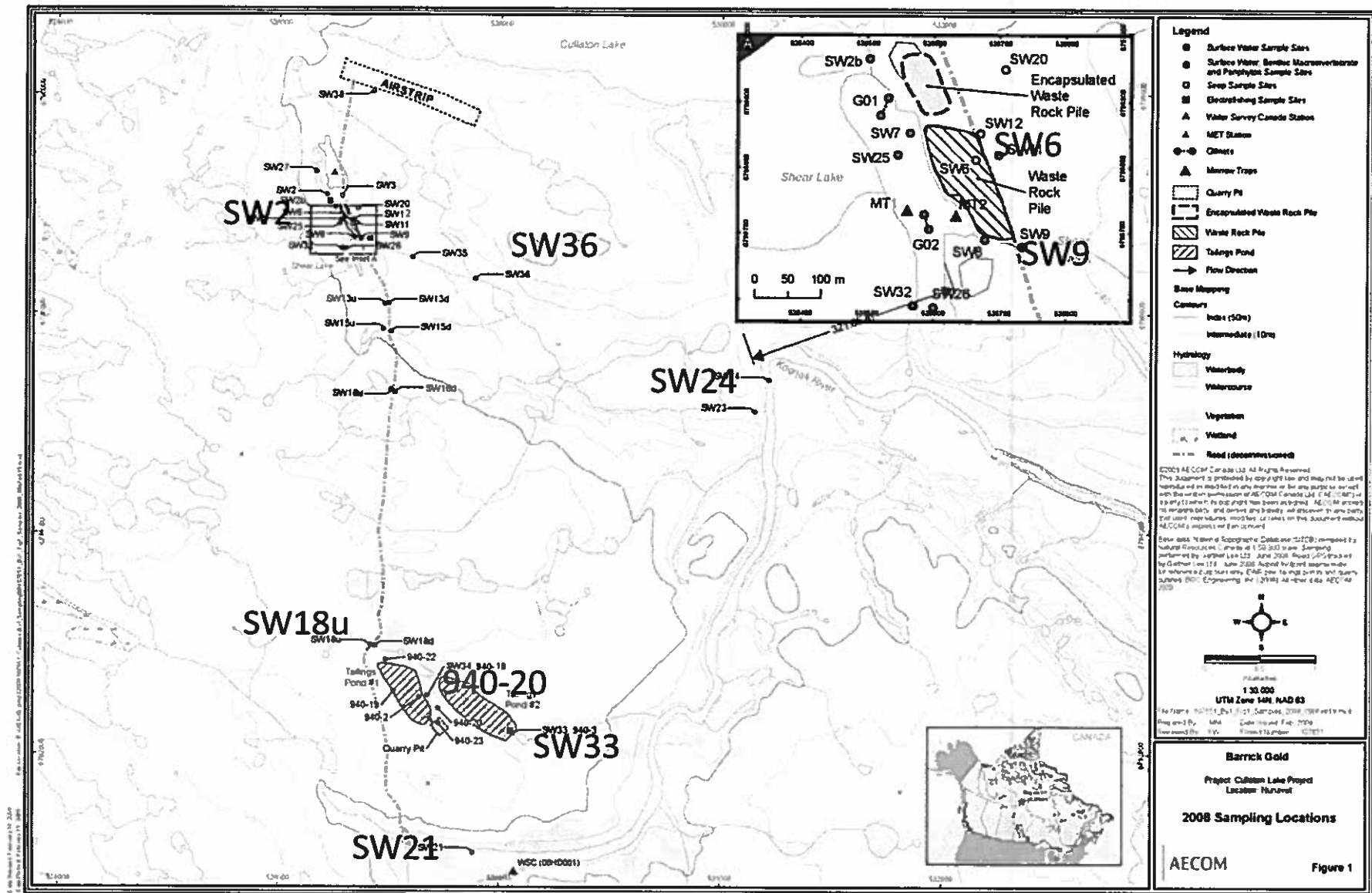
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# Cullaton Lake Adaptive Monitoring Plan



- Proposed Adaptive Monitoring Plan
  - Additional monitoring in 2016 to refine Mass Loading Assessment
  - Surface water quality during open water season (during site visits to be held between mid-June to mid-September)
  - Benthic community and sediment (September)
  - General chemistry, metals
  - Compare to Water Licence limits and CCME Guidelines

# Cullaton Lake Adaptive Monitoring Plan





# Cullaton Lake Adaptive Monitoring Plan – Y2016

Sample Location	Sample Site	Samples/parameters	Timing	Trigger	Action
Kognak River upstream from the Mine	SW21	Surface water – general chemistry, metals, field measurements	July; August/ September	Exceedances of CCME Guidelines and statistically significant differences to background conditions (SW24)	Plan for increased monitoring to support update to ecological risk assessment
Kognak River downstream from the Mine	SW24	Surface water – general chemistry, metals, field measurements	July; August/ September	n/a (background, reference site)	n/a

# Cullaton Lake Adaptive Monitoring Plan – Y2016

Sample Location	Sample Site	Samples/parameters	Timing	Trigger	Action
Shear Creek upstream from the Kognak River	SW36	Surface water – general chemistry, metals, field measurements	July; August/ September	Exceedances of CCME Guidelines	Plan for increased monitoring to support update to ecological risk assessment
		Sediment quality – general chemistry, metals	mid August – mid September	Exceedances of CCME Guidelines	
		Benthic community	mid August – mid September	Statistically significant differences compared to SW2 for benthic community descriptor results	
Shear Creek downstream of Waste Rock Pile	SW9	Surface water – general chemistry, metals, field measurements	July; August/ September	Exceedances of Water Licence limits	Plan for increased monitoring to support update to ecological risk assessment
		Sediment quality – general chemistry, metals	mid August – mid- September	Exceedances of CCME Guidelines	
		Benthic community	mid August – mid September	Statistically significant differences compared to SW2 for benthic community descriptor results	
Shear Creek upstream of Waste Rock Pile	SW2	Surface water – general chemistry, metals, field measurements	July; August/ September	n/a	n/a
		Sediment quality – general chemistry, metals	mid August – mid September	(background, reference site)	
		Benthic community	mid August – mid September		

# Cullaton Lake Adaptive Monitoring Plan – Y2016

Sample Location	Sample Site	Samples/parameters	Timing	Trigger	Action
Drainage Channel downstream from Tailings Pond #2	SW33 (940-3)	Surface water – general chemistry, metals, field measurements	July; August/ September	Exceedances of Water Licence limits	Plan for increased monitoring to support update to ecological risk assessment
		Sediment quality - general chemistry, metals	mid August – mid September	Exceedances of CCME Guidelines	
		Benthic community	mid August – mid September	Statistically significant differences compared to SW18u for benthic community descriptor results	
Drainage Channel upstream from Tailings Pond	SW18u	Surface water – general chemistry, metals, field measurements	July; August/ September	n/a (background, reference site)	n/a
		Sediment quality – general chemistry, metals	mid August – mid September		
		Benthic community	mid August – mid September		

# Cullaton Lake Adaptive Monitoring Plan – Y2016

Sample Location	Sample Site	Samples/parameters	Timing	Trigger	Action
Waste Rock Pile seep	SW6	Surface water – general chemistry, metals, field measurements.  Visual observations on seeps	One sample in either July, August, September (if seeps present)	Exceedance of pore water values reported from 2008 investigation	Plan to update Mass Loadings Assessment if required
Tailings Ponds seep	940-20	Surface water – general chemistry, metals, field measurements.  Visual observations on seeps	One sample in either July, August, September (if seeps present)	Exceedance of pore water values reported from 2008 investigation	Plan to update Mass Loadings Assessment if required
Access Road	n/a	Visual observations of road condition	Each site visit	Access Road becomes inaccessible or unsafe	Complete maintenance
Encapsulated Waste Rock	n/a	Visual observations of vegetation growth	August	Cover becomes unstable	Hand seed grasses and fertilizer
Waste Rock Cover Borrow Area	n/a	Visual observations of vegetation growth	August	Erosion gullies develop  Cover becomes unstable	Repair with rock and gravel.  Seed and fertilizer exposed areas

## **Schedule "C"**

### **Security Estimate**

See file: SRCE\_Version\_1\_4\_1\_016b (1) - Cullaton Lake Security estimate under NVT regulation approach-BC 40 yrs. red. v (4)