NEW AFTON PROJECT

2014 Annual Inspection Tailings Storage Facility

FINAL
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TABLE OF REVISIONS

ISSUE	DATE	REV	REMARKS
Draft	November 7, 2014	A	Draft for independent review

LIMITATIONS

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EXECUTIVE SUMMARY

BGC Engineering Inc. (BGC) was retained by New Gold Inc. (New Gold) to undertake an annual inspection of the various dams and ancillary structures associated with the New Afton Mine tailings storage facility (TSF) near Kamloops, BC. Between September 30 and October 1, 2014, BGC conducted a field review of the TSF and associated structures. Relevant available reports, drawings, and monitoring data were also reviewed.

Classification of the Dams

The dam failure consequence classification for Dam A, Dam B, Dam C, South Dam, West Dam, and the Pothook Dam are all classified as "Very High" according to Table 2-1 of the CDA Dam Safety Guidelines (2007).

Significant Changes in Instrumentation/Visual Monitoring Records

All of the readings from instrumentation installed in or around the dams associated with the New Afton TSF are within operating tolerances and are below the threshold trigger levels. The survey monuments installed on Dams A, B, and C were removed as part of the 2014 construction activities and are planned to be re-established following completion of 2014 construction. There are several new instruments that were installed as part of the 2014 construction; however, not all of those instruments are yet connected to data loggers. One vibrating wire piezometer in Dam B does not appear to be functioning. The vibrating wire piezometer installed on the West Dam was damaged as a result of lightning; pore pressures continue to be collected, but temperature data are no longer recorded. Vibrating wire settlement plates are now being used to monitor settlement in the downstream shells of Dam B and Dam C.

In Dam A, the piezometer readings indicate a rise in the phreatic surface consistent with a subdued replica of the rise of the tailings surface and are as expected. The temporary pore pressure response in the vibrating wire and stand pipe piezometers installed in Dams B and C can be attributed to hydraulic placement of cyclone sand in the vicinity of the piezometers. The readings are returning to pre-construction values following completion of the sand cell construction.

The inclinometers have been raised as part of the 2014 construction and new baseline readings are being recorded.

All other instrument readings trends remain consistent with the results described in the previous annual inspection.

Significant Changes in Dam Stability/Surface Water Control

There are no significant changes to the dam stability or in the surface water control since the 2013 annual inspection report. There was no ponding observed on any of the dams except for Dam C, which is associated with the drainage of the adjacent cyclone sand cells, and that water is being managed using sumps and pumps per the recommendations provided in the 2013 annual inspection report. Downstream surface water management is provided by Seepage

Ponds 1 through 3 for the New Afton TSF. The South Dam, West Dam, and Pothook Dam are all above the operating pond levels in their respective facilities.

Erosion/sink holes and signs of instability including tension cracks and scarps were observed in the overburden along the north rim of the Pothook Pit between the access road and the emergency spillway, east of the right abutment of the Pothook Dam. This is likely associated with water pumped from the Afton Open Pit and discharged from HDPE pipes on the slope above the Pothook Pit. This erosion and instability does not affect the Pothook Dam and is not considered an issue of dam safety.

No signs of instability of any of the dams were observed.

OMS/EPRP

The New Afton TSF and Pothook TSF have an Operation, Monitoring, and Surveillance Manual (OMS), and an Emergency Preparedness and Response Plan (EPRP). Both documents were updated following the 2013 annual inspection, and the current versions of both are:

- New Afton Project – Tailings and Water Management Facilities - Operation, Maintenance and Surveillance Manual. V2014-1 issued March 31, 2014.
- New Afton Project – Tailings and Water Management Facilities – Emergency Preparedness and response Plan. SAF-PLAN-001 issued March 31, 2014.

A list of recommended revisions to the OMS Manual and EPRP has been provided in this report.

Dam Safety Review

Based on the dam failure consequence classification of “Very High”, the New Afton TSF and the Pothook TSF should undergo a formal dam safety review once every five years according to the CDA Dam Safety Guidelines. Given that these facilities were commissioned in mid-2012, the next dam safety review will be in mid-2017.

Findings of 2014 Annual Inspection

In general, based on the visual field review and review of the monitoring data, the New Afton TSF and associated structures appear to be functional and in good condition. Recommendations have been provided throughout the report for specific observations that were made during the inspection. Key observations and recommendations are summarized below. Unless otherwise noted, the recommendations should be implemented prior to the 2015 annual inspection:

- A dam break inundation study should be completed for the Pothook Dam.
- The EPRP should be updated to include the inundation maps created as part of the dam break inundation study. The recommended edits to the OMS and EPRP should be completed as part of the next revision to these documents planned for the first quarter of 2015.
- The survey monuments removed as part of the 2014 construction activities should be re-established as planned, and manual readings of the survey monuments for all dams

should be taken monthly following completion of the 2014 construction activities. All instruments should be protected from vehicle traffic with barriers such as Lock-Blocks.

- The vegetation on the Pothook Dam and Seepage Pond 1 Dam should be controlled using the measures utilized successfully at the South and West Dams.
- The damage to the LLDPE liner on the Pothook Dam should be repaired as soon as possible. Pipelines and equipment should be kept from coming in direct contact with the LLDPE liner on the Pothook Dam.
- The Pothook Emergency Spillway assessment and any resulting recommended changes should be completed.
- The stability of the overburden along the north rim of the Pothook Pit should be assessed. The discharge of water on this slope from the Afton Open Pit should be stopped, and an alternate path to the impoundment in the Pothook Pit should be utilized.
- The tailings Spill Pond adjacent to the mill should be emptied.
- The leaking spigot valves on the tailings header pipe upstream of Dam C should be repaired as soon as possible.
- Procedures for monitoring, and criteria for reacting to encroachment of the subsidence zone toward the TSF should be established and incorporated into the OMS Manual.

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1. Scope of Work

BGC Engineering Inc. (BGC) was retained by New Gold Inc. (New Gold) to undertake an annual inspection of the various dams and ancillary structures associated with the New Afton Mine tailings storage facility (TSF) near Kamloops, BC. This work was carried out in general accordance with the services agreement NG-2012-107, and as per subsequent discussions with New Gold. The 2014 annual inspection was originally planned for mid-November to coincide with the end of the 2014 construction season and to be approximately one year following the 2013 annual inspection. Given the order issued by the Ministry of Energy and Mines, Chief Inspector of Mines dated August 18, 2014 requiring that all annual inspections for 2014 be completed by the engineer of record, reviewed by an independent qualified third party professional engineer, and submitted to the Chief Inspector by December 1, 2014, the annual inspection was moved forward to September 30, 2014 to meet the prescribed deadline. Consequently, not all of the construction associated with the 2014 dam raise, as well as some of the design activities planned for the fourth quarter of 2014 were completed at the time of the inspection.

This annual inspection represents a review of the New Afton TSF and associated structures as of September 30 to October 1, 2014.

The dams and structures included in this inspection are (see Figure 1-1 for locations):

- Dam A;
- Dam B;
- Dam C;
- South Dam;
- West Dam;
- Pothook Dam;
- Seepage Pond 1;
- Seepage Pond 2;
- Seepage Pond 3;
- Spill Pond; and
- Tailings and reclaim lines.

The scope of work for each structure was limited to:

- A review of the relevant available reports, drawings, and monitoring data;
- A field review between September 30 and October 1, 2014 to view the structures and conduct discussions with New Gold representatives; and
- Preparation of this report summarizing the site observations, recommendations, and reference photographs.

Representatives from the stakeholder First Nations attended the field review, including:

- Mark Diffin – Environmental Specialist, Tk'emlúps te Secwépemc, and
- Mike Anderson - Natural Resources Manager, Skeetchestn Indian Band.

As previously noted, the comments and recommendations presented herein are reflective of the dates and times that the inspections were conducted and not necessarily of the current conditions.

Figure 1-1. Orthophoto of Site from July 3, 2014.

1.1. Previous Annual Inspections

The first annual inspection for the structures listed above was undertaken November 7 to 8, 2012 by Monte Christie, PE of Geo-Logic Associates (GLA) from Grass Valley, California. The results of their annual inspection is documented in GLA (2012)[1]. The recommendations from

[1] GLA, 2012. New Afton TSF Dam Audit Memorandum. Memorandum issued to New Gold Inc. dated November 28, 2012.

the 2012 annual inspection have either been acted upon or rendered moot based on design changes.

The second annual inspection was undertaken by Clint Logue, P.Eng., P.Geo. and Brent McAfee, P.Eng., of BGC on November 27 to 28, 2013. The findings of that annual inspection are documented in BGC (2014)[2] and a summary of the key recommendations and the status of any outstanding recommendations are provided herein.

1.2. Outline of Report

Section 2 of this report provides a review of the dam failure consequence classification based on the results of the New Afton Dam Break Inundation Study[3].

A review of the Operations, Maintenance, and Surveillance (OMS) Manual[4] and Emergency Preparedness Response Plan[5] (EPRP) for the New Afton TSF are included in Section 3.1 and 3.2. The 2014 version of these two documents reflect the recommendations for changes to the 2012 versions provided by BGC in the 2013 annual inspection. The key conclusions following a review of the 2014 versions are summarized herein.

Sections 4 and 5 provide brief summaries of the climatic conditions and water balance for the site, respectively. Note that the water balance update planned for the fourth quarter of 2014 had not been completed by the time of report preparation for the 2014 annual inspection. Consequently, the details regarding the water balance remain unchanged from the 2013 annual inspection.

Section 6 discusses the findings of the 2014 inspection for each structure. This includes a review of the instrumentation data where applicable. Recommendations are provided in italic text throughout these sections.

During the course of the site visit, inspection forms documenting the visible condition of each of the above structures were completed. The completed inspection forms are included in Appendix A. Select photographs recording the key conditions of each structure at the time of the inspection are included in Appendix B. Monitoring data and a summary subsidence plot for the underground block cave mine provided by New Gold are provided in Appendix C.

A general arrangement and representative red-lined issued for construction cross-section drawings with the fill surface completed as of October 21, 2014 noted are included in Appendix D. As the 2014 construction activities were not completed at the time of the annual inspection,

[2] BGC, 2014. New Afton Project – 2013 Annual Inspection, Tailings Storage Facility. RP-0921007.0090. Report issued by BGC Engineering Inc. to New Gold Inc., dated March 28, 2014.
[3] BGC, 2014. New Afton Project – Dam Break Inundation Study. RP-0921011-0131. Report issued by BGC Engineering Inc. to New Gold Inc., dated November 7, 2014.
[4] New Gold, 2014. New Afton Project – Tailings and Water Management Facilities – Operation, Maintenance and Surveillance Manual. V2014-01. Report issued by New Gold Inc. dated March, 2014.
[5] New Gold, 2014. New Afton Project – Tailings and Water Management Facilities – Emergency Preparedness and Response Plan. V2014-01. Report Issued by New Gold Inc. dated March 2014.

these drawings will be superseded with the 2014 construction records report to be issued later in 2014. Key instrument installations are noted where appropriate on these drawings.

2. Dam Failure Consequence Classification

2.1. Chief Inspector's Orders

The Ministry of Energy and Mines, Chief Inspector of Mines issued an order August 18, 2014 requiring that:

- The annual dam safety inspection be completed and sealed by a qualified professional engineer;
- The annual dam safety inspection report, including the dam failure consequence classification, must be reviewed by an independent qualified professional engineer. The review should be documented and sealed by the independent qualified professional engineer;
- A letter from the mine manager summarizing any recommendations made in the annual dam safety inspection, any recommendations made by the independent reviewer, along with commitments and schedule for completing the recommends;
- All tailings dams with a failure consequence classification of "high" or higher have a dam break inundation study completed as described by the CDA Dam Safety Guidelines (2007, revised 2013)[6] by a qualified licensed professional engineer to serve as a basis for the selection of the failure consequence classification;
- All tailings dams with a failure consequence classification of "high" or higher should have an EPRP as described by the CDA Dam Safety Guidelines informed by the dam break inundation study;
- The EPRP should be tested as described by the CDA Dam Safety Guidelines; and
- All of the above including a summary of the results, lessons learned, or identified gaps from the EPRP test must be submitted to the Chief Inspector by December 1, 2014.

Pursuant to this order, the annual dam safety inspection was undertaken approximately one month earlier than planned to meet the stipulated timeline, the results of which are documented herein. A dam break inundation study was completed consistent with the CDA Dam Safety Guidelines and is documented under separate cover in BGC (2014)[7]. The results of the dam break inundation study and a review of the dam failure consequence classification in light of the results of the dam break inundation study are summarized below.

2.2. Dam Break Inundation Study

The New Afton TSF utilizes five dams and natural topography for containment of the tailings. The five dams are labeled as: Dam A; Dam B; Dam C; South Dam; and the West Dam. All five of the dams were modelled as described below. The Pothook Dam was not modelled as it is

[6] CDA, 2007. Dam Safety Guidelines. Canadian Dam Association.
[7] BGC, 2014. New Afton Dam Break Inundation Study. Draft report issued by BGC Engineering Inc. dated November 6 2014

assumed to have an inundation less than or equal to the South Dam and Dam C, and because it is presently above the tailings and operating pond level in the Pothook TSF. A dam break and inundation study for Pothook Dam should be completed and added to the EPRP prior to the 2015 annual inspection report.

The results of the dam break and inundation analyses are used for two purposes:

1. To establish the failure consequence classification of the dams; and
2. To inform an EPRP to be activated in the event of an emergency at the dams.

This report presents the dam breach and inundation study for all five dams at their ultimate permitted elevation of 5,765 m (mine datum). It should be noted that the current operating pond level is at 5,733.16 m as of October 1, 2014. The South Dam, West Dam, and Pothook Dam are above the tailings and operating pond level in their respective tailings facilities.

To inform emergency preparedness and response planning, dam break and inundation studies estimate the following key outputs:

- Maximum flood flow depth;
- Arrival time of the outbreak flow front; and
- Arrival time of the peak flow.

Dam breach and inundation analyses of the five TSF dams at New Afton indicated that the majority of breached water and tailings would be retained on site through storage in existing mining features. Under probable maximum flood (PMF) conditions, some tailings and water would fill the remaining capacity of the Teck TSF, overtop the Teck TSF West Dam and flow through Cherry Creek into Kamloops Lake. In addition, a hypothetical breach of the South Dam indicates that water and tailings would overtop the Trans-Canada Highway and discharge into Kamloops Lake through the Mission Flats Waste Water Treatment Plant. Inundation maps along with arrive times and depths were developed.

The dam break and inundation analyses completed for the five dams are based on hypothetical modes of failure under extreme and highly unlikely conditions and, as such, the results of the analyses presented in no way reflect upon the actual structural integrity or safety of the dams.

2.3. Consequence Classification Review

The consequence classification system outlined in the CDA Dam Safety Guidelines is based on three key factors: Loss of Life; Environmental and Cultural Values; and Infrastructure and Economics, as shown in Table 1.

Table 1 - CDA (2007) Consequence Classification Scheme

Dam Class	Population at Risk [note 1]	Incremental Losses		
		Loss of Life [note 2]	Environmental and Cultural Values	Infrastructure and Economics
Low	None	0	Minimal short-term loss No long-term loss	Low economic losses; area contains limited infrastructure or services
Significant	Temporary only	Unspecified	No significant loss or deterioration of fish or wildlife habitat Loss of marginal habitat only Restoration or compensation in kind highly possible	Losses to recreational facilities, seasonal workplaces, and infrequently used transportation routes
High	Permanent	10 or fewer	Significant loss or deterioration of *important* fish or wildlife habitat Restoration or compensation in kind highly possible	High economic losses affecting infrastructure, public transportation, and commercial facilities
Very High	Permanent	100 or fewer	Significant loss or deterioration of *critical* fish or wildlife habitat Restoration or compensation in kind possible but impractical	Very high economic losses affecting important infrastructure or services (e.g. highway, industrial facility, storage facilities for dangerous substances)
Extreme	Permanent	More than 100	Major loss of *critical* fish or wildlife habitat Restoration or compensation in kind impossible	Extreme losses affecting critical infrastructure or services (e.g. hospital, major industrial complex, major storage facilities for dangerous substances)

Notes:

1. Definitions for population at risk:

   None – There is no identifiable population at risk, so there is no possibility of loss of life other than through unforeseeable misadventure.

   Temporary – People are only temporarily in the dam-breach inundation zone (e.g. seasonal cottage use, passing through on transportation routes, participating in recreational activities)

   Permanent – The population at risk is ordinarily located in the dam-breach inundation zone (e.g. as permanent residents); three consequence classes (high, very high, extreme) are proposed to allow for more detailed estimates of potential loss of life (to assist in decision-making if the appropriate analysis is carried out).

2. Implications for loss of life:

   Unspecified – The appropriate level of safety required at a dam where people are temporarily at risk depends on the number of people, the exposure time, the nature of their activity, and other conditions. A higher class could be appropriate, depending on the requirements. However, the design flood requirement, for example, might not be higher if the temporary population is not likely to be present during the flood season.

For the New Afton TSF, the population at risk from a dam failure is associated with the trailer park community downstream along Cherry Creek (for the West Dam, Dam A, and Dam B) and the proximity of the underground mine (all dams) and these drive the consequence classification for this category. The trailer park community comprises greater than 10 but less than 100 permanent residents, and at any one time, there are greater than 10 but less than 100 New Afton employees in the underground mine. The consequence classification for all dams for this category is “Very High”.

The modeled inundation areas for the South Dam, the West Dam, Dam A, and Dam B extend off the project property, and eventually extend to Kamloops Lake. It is expected that some impact to fish and wildlife habitat would result, however, it is not clear what the specific extent of the damage would be. Although it isn’t expected that there would be a significant loss of fish habitat, considering the importance of the fish in Kamloops Lake, the environmental and cultural values consequence classification would be “Significant” to “High”.

The modeled inundation areas for the South Dam, the West Dam, Dam A, and Dam B overlap with Highway 1. It is expected that some damage and service interruption to the highway would result. On this basis, the infrastructure and economics consequence classification for the West Dam, Dam A, and Dam B are “High” to “Very High”. The modeled inundation area for the South Dam overlaps with the CP Rail line and Mission Flats Waste Water Treatment Plant. The infrastructure and economics consequence classification for the South Dam is “Very High”.

For Dam C, the modeled inundation area is captured by the Afton Open Pit and the environmental and cultural values; and the infrastructure and economics consequence classifications are “Low”. The outflow for the Pothook Dam is expected to be captured by the Afton Open Pit, and the environmental and cultural values; and the infrastructure and economics consequence classifications are “Low”.

The consequence classifications for each of the categories for each of the dams are summarized below in Table 2.

Table 2 – Summary of Consequence Classifications

Structure	Consequence Category			Highest Consequence Category
	Loss of Life	Environmental and Cultural Values	Infrastructure and Economics	
South Dam	Very High	Significant to High	Very High	Very High
West Dam	Very High	Significant to High	High to Very High	Very High
Dam A	Very High	Significant to High	High to Very High	Very High
Dam B	Very High	Significant to High	High to Very High	Very High
Dam C	Very High	Low	Low	Very High
Pothook Dam	Very High	Low	Low	Very High

Based on the classification criteria outlined in Table 1 and the ratings summarized for each dam in Table 2, a dam failure consequence classification rating of "Very High" results for all dams. This is consistent with the consequence classification used as the basis for design (Vector, 2008)[8].

Based on the "Very High" classification, the following design criteria and inspection frequencies are required:

- Inflow design flood (IDF): 2/3 between 1/1,000 annual exceedance probability and the probable maximum flood (PMF);
- Earthquake design ground motion (EDGM): 1/5,000 annual exceedance probability; and
- Dam safety review inspection frequency: Every 5 years.

The design criteria used as the basis for design are: an IDF equal to the PMF, and an EDGM equal to a 1/5,000 annual exceedance probability.

Given that the New Afton TSF and the Pothook TSF were commissioned in mid-2012, the dam safety review should be undertaken no later than mid-2017 based on the consequence classification.

The inundation maps and flow arrival times provided in the dam break inundation study should be used to inform the EPRP, and it is recommended that the 2014 version of the EPRP be updated to include that information.

[8]Vector Engineering Inc., 2008. Design Report of the Tailings Storage Facility at the New Afton Gold & Copper Mine. Report issued to New Gold Inc. dated October 2008.

3. Review of Documentation

3.1. OMS

The New Afton TSF OMS Manual V2014-01 dated March 31, 2014 was provided to BGC by New Gold. In general, BGC found the OMS Manual to be a comprehensive and well-written document of appropriate version and approval control.

The March 2014 version of the OMS Manual is an update of the July 2012 version based on the review comments provided in the 2013 annual inspection report from BGC. In general, the majority of the recommended changes to the OMS from the 2013 annual inspection report were implemented in the March 2014 version. In addition to updating the document to reflect the actual tailings deposited in the TSF and the current water balance, the following summarizes the outstanding review comments that should be implemented in the next update to the OMS scheduled for the first quarter of 2015.

3.1.1. Section 3.0 – Roles and Responsibilities:

- *Although described in the text of the OMS, the engineer of record should be added to the organization chart.*

3.1.2. Section 4.0 – Facility Description:

- *The failure consequence classification for the TSF should be included in this section. This should be based on the results of the dam break and inundation study.*
- *Table 4-7 should be updated.*

3.1.3. Section 5.0 – Operations:

- *Tailings transport and deposition (Section 5.3) should include information on the material quantities and characteristics of the beach.*
- *Water management (Section 5.5) needs to include pond levels and operating levels.*
- *Safety and security (Section 5.7) should include more specific information on the TSF.*

3.1.4. Section 6.0 – Maintenance:

- *The location and a drawing reference should be provided for each maintenance component, not just for the dams.*

3.1.5. Section 7.0 – Surveillance:

- *Surveillance procedures (Section 7.4) should include alert levels and procedures for specific events such as earthquakes and extreme precipitation.*
- *Instrumentation measurements (Section 7.4.2) should provide a complete list of all the instrumentation data interpretation procedures. The threshold levels in Table 7-6 should be updated to reflect the 2014 construction activities.*

- *Collection and analysis of data (Section 7.4.3) should include a schedule for review of the data, not just its collection.*

3.1.6. Section 8.0 – Emergency Planning and Response:

- *This section should provide the reference to the location of the EPRP.*

3.1.7. General Comments:

- *Checklists should be incorporated into the document.*

3.2. EPRP

The New Afton TSF EPRP dated March 31, 2014 was provided to BGC by New Gold. In general, BGC found the EPRP to be a comprehensive and well-written document of appropriate version and approval control.

The March 2014 version of the EPRP is an update of the July 2012 version based on the review comments provided in the 2013 annual inspection report from BGC. In general, the majority of the recommended changes to the EPRP from the 2013 annual inspection report were implemented in the March 2014 version. The following summarizes the outstanding review comments that should be implemented in the next update to the EPRP scheduled for the first quarter of 2015.

3.2.1. Section 3.0 – Roles and Responsibilities:

- *Management/Personnel roles and responsibilities (Section 3.3). Although the contact information for each of the Mill, Safety, Environmental and Tailings Manager has been provided, this section could be more extensive.*

3.2.2. General Comments:

- *More details are required regarding the design criteria for the TSF.*
- *The organization charts should be updated to match those in the OMS Manual.*
- *The EPRP should be updated to include the results of the dam break inundation study including the inundation maps.*

3.3. 2013 Annual Inspection Report

The 2013 annual inspection report prepared by BGC summarizing the November 27 to 28, 2013 site inspection of the TSF and associated structures was issued to New Gold on March 28, 2014. The following summarizes the recommendations made in that 2013 inspection report, followed by an update on the status of the recommendations at the time of the 2014 inspection.

In general, the majority of the recommendations pertaining to Dam A, Dam B, Dam C, the Seepage Ponds, the Tailings Line, and the Spill Pond were implemented. The recommendations pertaining to the South Dam, West Dam, and Pothook Dam have not been implemented.

3.3.1. OMS/EPRP Update

- Various recommendations for updating Sections 3.0 through 8.0 of OMS manual, and Sections 1.0 through 8.0 of the EPRP were made.

  Status update:

  The majority of the recommendations have been implemented and list of recommendations still outstanding are summarized above in Sections 3.1 and 3.2. The recommended updates can wait until the planned update in the first quarter of 2015. The outstanding revisions are considered pending to be completed in 2015.

3.3.2. Water Balance

- Complete topographic and bathymetry surveying of the New Afton TSF impoundment to re-evaluate the settle dry density of the tailings.

  Status update:

  These surveys have been completed and the evaluation of the dry density of the tailings is planned for the fourth quarter of 2014. This item is considered open, but is planned to be completed in 2014.

3.3.3. Dam A

- The safety berm should be notched at regular intervals to prevent ponding on the dam crest. Alternatively, a sump can be excavated and regularly monitored and pumped.

  Status update:

  The water level was controlled with a sump and pump as recommended. This item is considered to be closed.

- The low spot at 1+750 m should be filled as part of the 2014 construction.

  Status update:

  The low spot was filled as recommended. This item is considered to be closed.

- The irregular downstream face in the fine filter should be smoothed prior to placement of the overlying cyclone sand to minimize channeling of runoff and erosion of the filters.

  Status update:

  The irregular downstream face was smoothed prior to fill placement as part of the 2014 construction. This item is considered to be closed.

- The vegetation on the downstream face of the dam just above the fine filter chimney drain should be removed prior to placing the overlying fill.

  Status update:

  This was completed as part of the 2014 construction. This item is considered to be closed.

- The frozen pond at the downstream toe of Dam A should be monitored for flow, both in terms of water clarity and flow rate. This should be added to the routine monitoring program.

  Status update:

  The qualitative monitoring of the seepage at the toe of Dam A was added to the routine monitoring program as recommended. This item is considered to be closed.

- The survey data be further evaluated by only considering the readings from the same time of day and the readings should be selected from cooler temperature periods of the day (e.g. early morning). If the results of this select data are unacceptable, then it is recommended that the survey system be modified to reduce variability between successive surveys or replaced or supplemented with monthly manual surveys of the settlement monuments. The survey monuments should also be positioned such that data can be collected during dam construction.

  Status update:

  Given the scope of the 2014 construction season and the number of active construction fronts, maintaining the survey monuments during construction proved to be impractical. The survey monuments are planned to be re-established upon completion of the 2014 construction season and will be routinely surveyed manually once a month following installation until the start of the 2015 construction season. This item is considered to be open, pending re-establishing the survey monuments planned for the fourth quarter of 2014.

3.3.4. Dam B

- The safety berm should be notched at regular intervals to prevent ponding on the dam crest. Alternatively, a sump can be excavated and regularly monitored and pumped.

  Status update:

  The water level was controlled with a sump and pump as recommended. This item is considered to be closed.

- The low spot at 1+250 m should be filled as part of the 2014 construction.

  Status update:

  The low spot was filled as recommended. This item is considered to be closed.

- Prior to additional cyclone sand cell construction upstream of Dam B, loose stockpiles of cyclone sand be removed or spread and compacted according to the technical specifications.

  Status update:

  The stockpiles were removed as recommended. This item is considered to be closed.

- The vegetation on the downstream face of the dam just above the fine filter chimney drain should be removed prior to placing the overlying fill.

  Status update:

  This was completed as part of the 2014 construction. This item is considered to be closed.

- The pipeline extending from Seepage Pond 2 up the downstream face of Dam B should be removed and re-routed, and any material disturbed during the pipeline removal should be compacted according to the technical specifications.

  Status update:

- The pipeline was removed and re-routed around the prior to fill placement as recommended. This item is considered to be closed.

- The tear in the LLDPE liner adjacent to and 5 m north of SP13 should be repaired.

  Status update:

- The repair to the liner was completed as recommended and is documented in BGC (2014)[9]. This item is considered to be closed.

- The survey data be further evaluated by only considering the readings from the same time of day and the readings should be selected from cooler temperature periods of the day (e.g. early morning). If the results of this select data are unacceptable, then it is recommended that the survey system be modified to reduce variability between successive surveys or replaced or supplemented with monthly manual surveys of the settlement monuments. The survey monuments should also be positioned such that data can be collected during dam construction.

  Status update:

  Given the scope of the 2014 construction season and the number of active construction fronts, maintaining the survey monuments during construction proved to be impractical. The survey monuments are planned to be re-established upon completion of the 2014 construction season and will be routinely surveyed manually once a month following installation until the start of the 2015 construction season. This item is considered to be open, pending re-establishing the survey monuments planned for the fourth quarter of 2014.

- A slope inclinometer was recommended to be installed at approximately Station 1+1,330 m offset -8 m (upstream) on Dam B as part of the instrumentation installations associated with the 2014 construction season.

[9] BGC. 2014. New Afton – Liner Repair – May 2014. Design note issued to New Gold Inc. DN-0921007.0123. Dated August 14, 2014.

Status update:

- The inclinometer was installed November 26, 3014 as part of the 2014 instrumentation installation program. This item is considered to be closed.

3.3.5. Dam C

- There is a low spot on the crest at the right abutment of Dam C where ponding has occurred. Positive drainage should be re-established as part of the 2014 construction, and runoff from the abutment and access road should be directed away from the dam. A sump could be excavated and monitored/pumped as needed as an interim measure.

  Status update:

  The runoff from the access road in the vicinity of the right abutment of Dam C remains directed to the starter dam crest. However, the runoff from the road will be cut off and directed to the tailings impoundment as part of the 2014 construction. As recommended, sumps and pumps are presently being used to manage surface water accumulating on the crest of Dam C in the interim, both runoff from the access road, and more significantly, seepage reporting to the dam crest from upstream and downstream sand cell construction. This item is considered to be closed.

- The minor vegetation on the downstream face of Dam C should be removed prior to fill placement as part of the 2014 construction.

  Status update:

  The vegetation was removed as part of the 2014 construction. This item is considered to be closed.

- The minor erosion on the downstream face of Dam C should be repaired by placing fill per the technical specifications as part of the 2014 construction.

  Status update:

  The surface erosion was repaired as part of the 2014 construction activities. This item is considered to be closed.

- Grading of the crest has resulted in loose till being cast down the downstream face of Dam C. This loose material should be removed prior to fill placement as part of the 2014 construction.

  Status update:

  The side-cast till was removed as part of the 2014 construction activities. This item is considered to be closed.

- The material pushed up against the inclinometers should be removed and that addition protection be placed around the instruments.

Status update:

The fill pushed up against the inclinometers was removed and the corresponding responses in the slope inclinometer readings were noted. This item is considered to be closed.

- The survey data be further evaluated by only considering the readings from the same time of day and the readings should be selected from cooler temperature periods of the day (e.g. early morning). If the results of this select data are unacceptable, then it is recommended that the survey system be modified to reduce variability between successive surveys or replaced or supplemented with monthly manual surveys of the settlement monuments. The survey monuments should also be positioned such that data can be collected during dam construction.

  Status update:

  Given the scope of the 2014 construction season and the number of active construction fronts, maintaining the survey monuments during construction proved to be impractical. The survey monuments are planned to be re-established upon completion of the 2014 construction season and will be routinely surveyed manually once a month following installation until the start of the 2015 construction season. This item is considered to be open, pending re-establishing the survey monuments planned for the fourth quarter of 2014.

3.3.6. South Dam

- The crack located along the crest of the South Dam should be monitored for expansion in both width and length.

  Status update:

  The hairline crack along the upstream crest of the South Dam occurred in response to vehicle traffic disturbing the frozen crust adjacent to the road surface. This area was monitored and once the ground thawed, no subsequent cracking was observed between the thaw and the time of the annual inspection. This item is considered to be closed.

- New Afton should consider placing appropriate road surfacing on the crest of the South Dam to minimize further erosion due to vehicle traffic.

  Status update:

  New Afton has continued to maintain surface grading of the dam crest as needed. Should rutting become a problem on the South Dam, New Afton may wish to revisit placing appropriate road surfacing along the crest. This item is considered to be closed.

- Vegetation on the upstream face of the South Dam should be removed. Vegetation on the downstream face should be monitored annually to evaluate if it requires removal.

Status update:

The dam faces have been sprayed to manage vegetation growth. The extent of vegetation has significantly reduced from the 2013 annual inspection. The extent of vegetation should continue to be monitored but should the procedures currently be in place be maintained, this item is considered to be closed.

- Barriers should be placed around the survey monuments located on the crest of the South Dam to protect them from vehicle traffic.

  Status update:

  This has not been completed and should be completed prior to the next annual inspection. This item is considered to be pending.

- It is recommended that routine manual surveys of the settlement monuments be completed on a monthly basis.

  Status update:

  This has not been completed and should be added to the routine monitoring program for the South Dam. It is our understanding that this will be undertaken as part of the manual surveying program at Dams A through C planned for November 2014. This is item is considered to be pending.

3.3.7. West Dam

- New Afton should consider placing appropriate road surfacing on the crest of the West Dam to minimize further erosion due to vehicle traffic.

  Status update:

  New Afton has continued to maintain surface grading of the dam crest as needed. Should rutting become a problem on the West Dam, New Afton may wish to revisit placing appropriate road surfacing along the crest. This item is considered to be closed.

- Vegetation on the upstream face of the West Dam should be removed. Vegetation on the downstream face of the dam should be monitored annually to evaluate if it requires removal.

  Status update:

  The dam faces have been sprayed to manage vegetation growth. The extent of vegetation has significantly reduced from the 2013 annual inspection. The extent of vegetation should continue to be monitored but should the procedures currently be in place be maintained, this item is considered to be closed.

- Barriers should be placed around the survey monuments located on the crest of the West Dam to protect them from vehicle traffic.

Status update:

This has not been completed and should be completed prior to the next annual inspection. This item is considered to be pending.

- A long-term plan should be developed to manage seepage from the downstream toe of the West Dam prior to the tailings pond reaching the downstream toe elevation.

  Status update:

  This has not been completed but is planned to be completed prior to the tailings or the operating pond coming in contact with the upstream toe of the West Dam. This work is currently planned for 2015. This item is considered to be pending.

- It is recommended that routine manual surveys of the settlement monuments be completed on a monthly basis.

  Status update:

  This has not been completed and should be added to the routine monitoring program for the West Dam. It is our understanding that this will be undertaken as part of the manual surveying program at Dams A through C planned for November 2014. This is item is considered to be pending.

3.3.8. Pothook Dam

- The vegetation should be removed from the crest and downstream face of the Pothook dam.

  Status update:

  This has not been completed. This item is considered pending and should be completed in 2015.

- Tears in the LLDPE liner should be repaired. These repairs could be completed during the 2014 liner construction for the TSF.

  Status update:

  This has not yet been completed. This item is considered pending and should be completed as soon as possible. As noted in Section 6.6, there are repairs to the liner required as a result of water lines draped over the dam face, and possibly due to rocks rolling down the liner. The repairs noted in the 2013 annual inspection are noted again in the findings of the 2014 annual inspection. It is our understanding that these repairs are currently underway and will be completed during the liner raise of Dam B and Dam C as part of the 2014 construction.

- An assessment of the spillway channel should be completed to determine appropriate dimensions and erosion protection. The spillway channel should be remediated as needed based on the results of this assessment.

Status update:

This has not been completed but is planned to be completed as part of the water balance update scheduled for fourth quarter of 2014. This item is considered to be pending and should be completed prior to the next annual inspection.

- It is recommended that routine surveys of the survey monuments be completed on a monthly basis.

  Status update:

  This has not been completed and should be added to the routine monitoring program for the Pothook Dam. It is our understanding that this will be undertaken as part of the manual surveying program at Dams A through C planned for November 2014. This is item is considered to be pending.

3.3.9. Seepage Ponds

- The cracking observed at Seepage Pond 2 should be monitored on a routine basis to assess if the cracks are propagating.

  Status update:

  The cracking was related to freeze-thaw and was not observed following the spring thaw. The cracks were not visible during the 2014 annual inspection. This item is considered to be closed.

- Erosion around the seepage ponds should be routinely monitored and, if observed to be increasing, repaired.

  Status update:

  This is part of the routine monitoring and the erosion noted in the 2013 annual inspection has not increased to the point where repairs are required. This item is considered closed provided routine monitoring is continued.

3.3.10. Tailings Line/Spill Pond

- It is recommended that the cracking be routinely monitored and that the tailings and water reclaim lines be moved if it appears they will be impacted by the cracking or any associated settlement.

  Status update:

  New Afton routinely monitors the cracking. This item is considered closed provided that the routine monitoring is maintained. This is reiterated in Section 6.8.

- It is recommended that the survey monuments be routinely monitored to evaluate settlement imposed on the tailings line.

Status update:

New Afton routinely monitors the survey monuments and adjusts the crib work beneath the steel portion of the pipeline as needed. This item is considered closed provided that the routine monitoring is maintained. This is reiterated in Section 6.8.

- It is recommended that the Tailings Spill Pond be emptied to provide capacity to drain the tailings line, if needed.

  Status update:

  The Tailings Spill Pond was emptied as part of routine maintenance. However, the pond was full as a result of draining the tailings line in response to a mill shut down in effect during the 2014 annual inspection. This item is considered closed provided that routine cleaning of the pond is maintained. This is reiterated in Section 6.8.

3.3.11. Block Cave Subsidence Monitoring

- It is recommended that the subsidence monitoring data being collected through the array of survey monuments be reviewed monthly by the engineer-of-record for the TSF. The need for additional instrumentation should be evaluated. Procedures and criteria for reacting to encroachment of the subsidence zone toward the TSF should be established and incorporated into the OMS.

  Status update:

  New Afton has continued to collect subsidence data and submit these data to the engineer-of-record for review. A subsidence instrumentation monitoring program specific to the New Afton TSF was developed by New Afton and BGC, and the drilling and instrumentation installation is currently underway. Upon completion of the instrumentation installation and collection of baseline readings, the procedures for monitoring and threshold values should be added to the OMS manual. This item is considered closed and the recommendations regarding updating the OMS manual is reiterated in Section 6.9.

4. Climate Data

The climate of the mine site is typical of the dry BC Interior with generally low total precipitation and high evaporation. Lying within the rain shadow of the Coast Mountains, this area has a semi-arid steppe climate characterized by generally cool dry winters and hot, dry summers with low humidity. Convective storm cell events are frequent in the summer months and, as a result, precipitation is generally highest in June and July.

In late May 2013, New Gold installed a meteorological station at New Afton in partnership with KGHM Ajax Mining Inc. and the Ministry of Environment. Data obtained since the station's inception have been provided to BGC by New Gold. Parameters measured at the station include temperature and wind speed; precipitation is not measured. Longer term data was obtained through Environment Canada's online database (http://climate.weather.gc.ca/) for nearby meteorological stations. The data obtained from this source consists of the following:

- Kamloops Airport (#1163780) – historic averages available from 1981 to 2010
- Kamloops Airport (#1163780) – data from 2013 and 2014
- Kamloops Afton Mine (#1163790) – historic averages available from 1977 to 1993

The Kamloops Airport station is located approximately 8 km from the mine site at an elevation of 345 m above sea level (masl). The Kamloops Afton Mine station was located at the mine site at an elevation of approximately 701 masl and recorded data during operation of the historic Afton Mine.

Precipitation is not measured at the meteorological station currently active at New Afton. However, precipitation data are available for the nearby and historic stations outlined above. Based on the data, the average annual precipitation recorded by the Kamloops Airport and Kamloops Afton Mine stations is approximately 278 mm and 300 mm, respectively. Figure 4-1 shows monthly precipitation data for the Kamloops Airport and historic Kamloops Afton Mine stations. The data indicate that 2014 experienced a relatively average year, with a wetter than average early-spring and late-summer.

Temperature data are collected by the meteorological station currently active at New Afton. Figure 4-2 shows the 2013 data collected at the mine site, as well as the 2013 data collected at the Kamloops Airport station and the historic data collected at both the Kamloops Airport and Kamloops Afton Mine stations. 2014 data were not available at the time of report preparation. All of the data sets appear to be reasonably consistent and indicate that the average daily temperatures range from 30ºC in the summer to -9ºC in the winter.

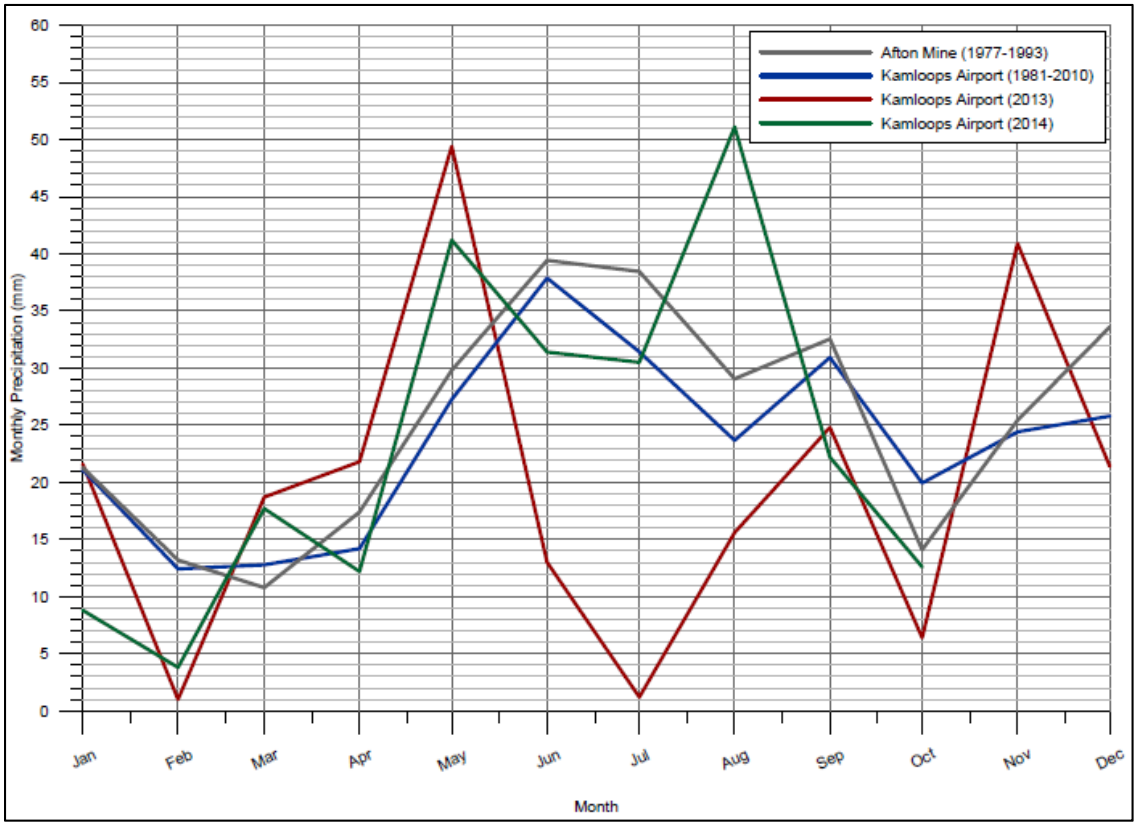

Figure 4-1. 2013, 2014, and historic average precipitation data.

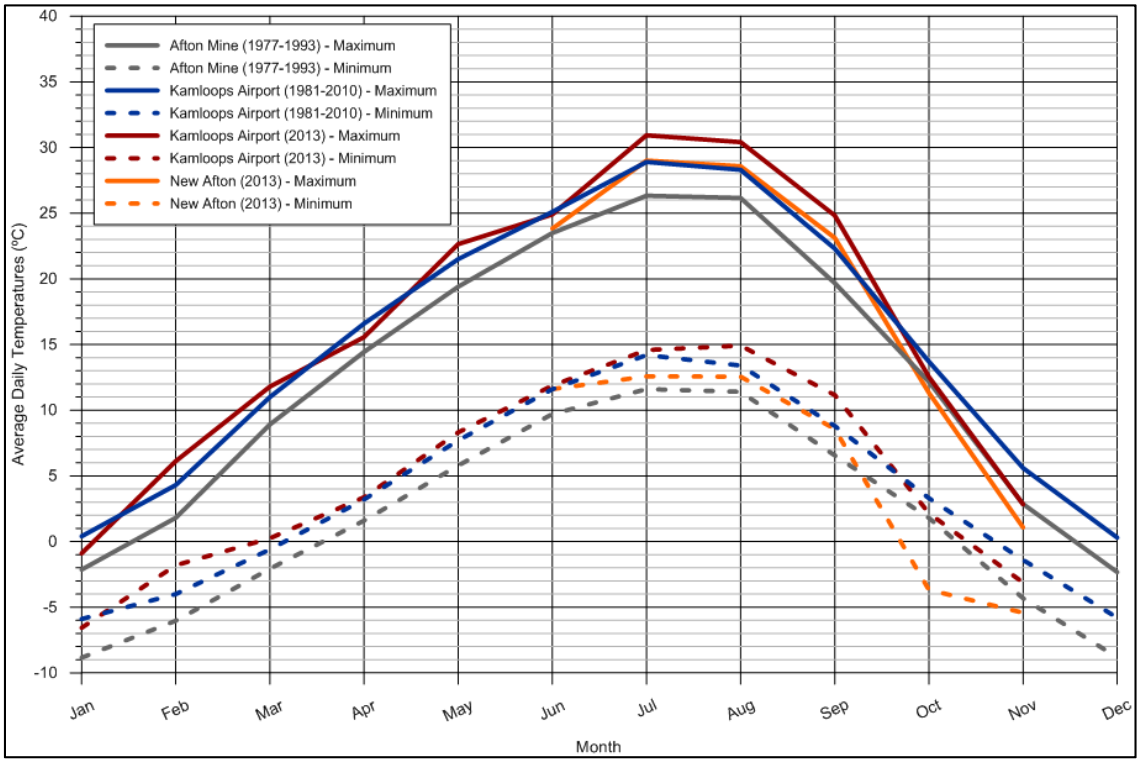

Figure 4-2. 2013 and historic average maximum and maximum daily temperature data.

5. Water Balance

A site-wide water balance model (WBM) was developed by BGC[10] to provide an inventory of water on site as well as monthly water consumptions and losses. With ongoing calibration, the WBM can be used to project future trends in pond volumes and water use based on a change in the mine plan or extreme runoff conditions. The WBM will be reviewed and updated in the fourth quarter of 2014 based on new input information that has become available since July 2013. At the time of report preparation, the update to the WBM had not yet been completed. However, there have not been any material changes to the overall operations of the tailings storage facility at New Afton that would have a corresponding material impact on the water balance. It should be noted that the average mill throughput has been increased from 12,000 tpd to 14,000 tpd; however, this has been factored into the dam raising schedule[11]. Once the WBM update has been completed, the dam raising schedule should be revisited.

Figure 5-1 shows average annual flows for the various components of the WBM over the life-of-mine. Values shown are based on an average mill throughput of 12,000 tpd and an average settled dry density of 1.47 t/m^3 for the tailings (a composite value of the cyclone sand fraction and finer fractions). However, final settled dry densities for the tailings could range from 1.4 to 1.55 t/m^3 [10]. A bathymetric survey of the TSF was conducted on June 4, 2014 to assess the settled dry density of the tailings; however, a topographic survey of the beach was not completed at that time. A bathymetric survey and LiDAR fly-over is planned for the fourth quarter of 2014 as a basis for an update to the water balance and deposition plan.

[10] BGC, 2013. New Afton Water Balance Model. Memorandum issued to New Gold Inc. dated July 25, 2013.
[10] BGC, 2014. New Afton Dam Raising Schedule. Memorandum issued to New Gold Inc. dated May 7, 2014.

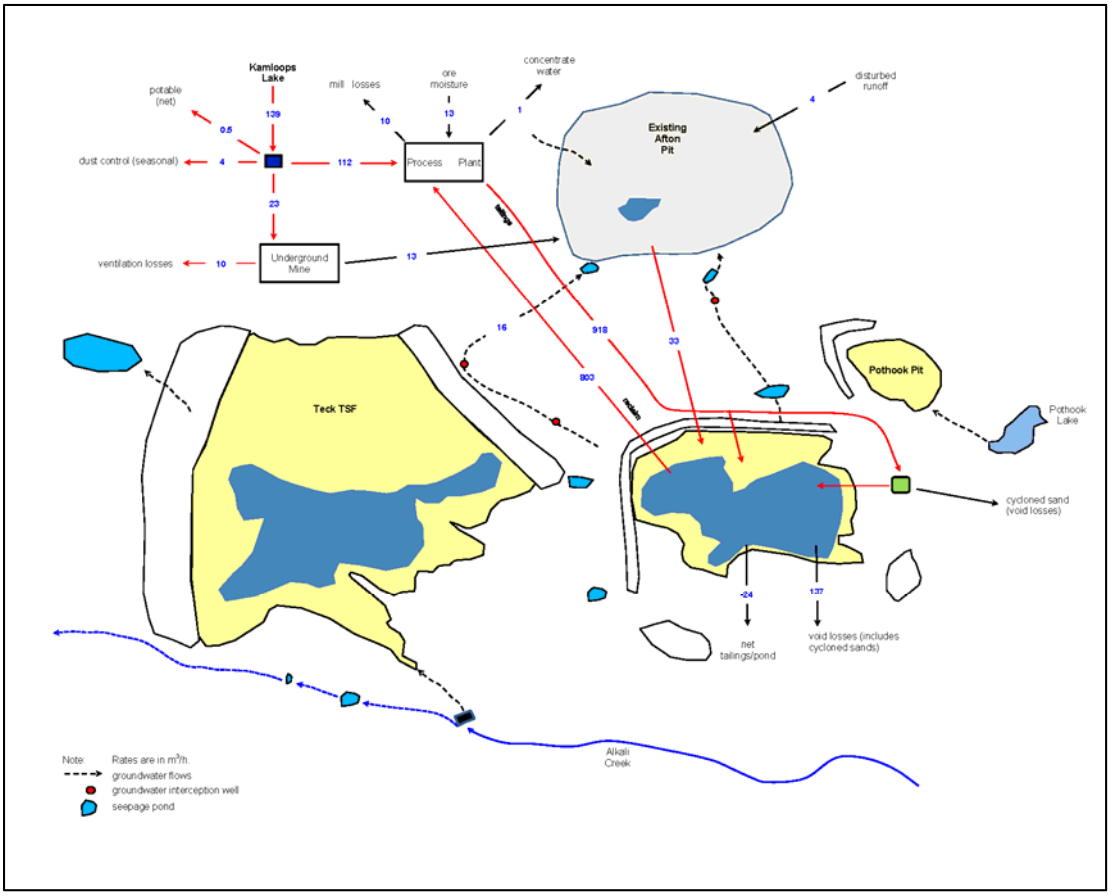

Figure 5-1. New Afton average annual flows, life-of-mine.

Figure 5-2 shows the impact on TSF pond volumes through the life-of-mine for an average ore throughput of 12,000 tpd and tailings settled dry densities of 1.40, 1.47 and 1.55 t/m^3. At all densities, pond volumes decrease over time, indicating the need for the current licensed fresh water withdrawal rate of 139 m^3/h (approximately 1.218 Mm^3 annually) from Kamloops Lake to be increased. It is important that a minimum pond volume be retained within the TSF in order to allow for settlement of suspended solids within the impoundment and to maintain sufficient draft beneath the reclaim barge. This required annual volume is likely in excess of 2 Mm^3.

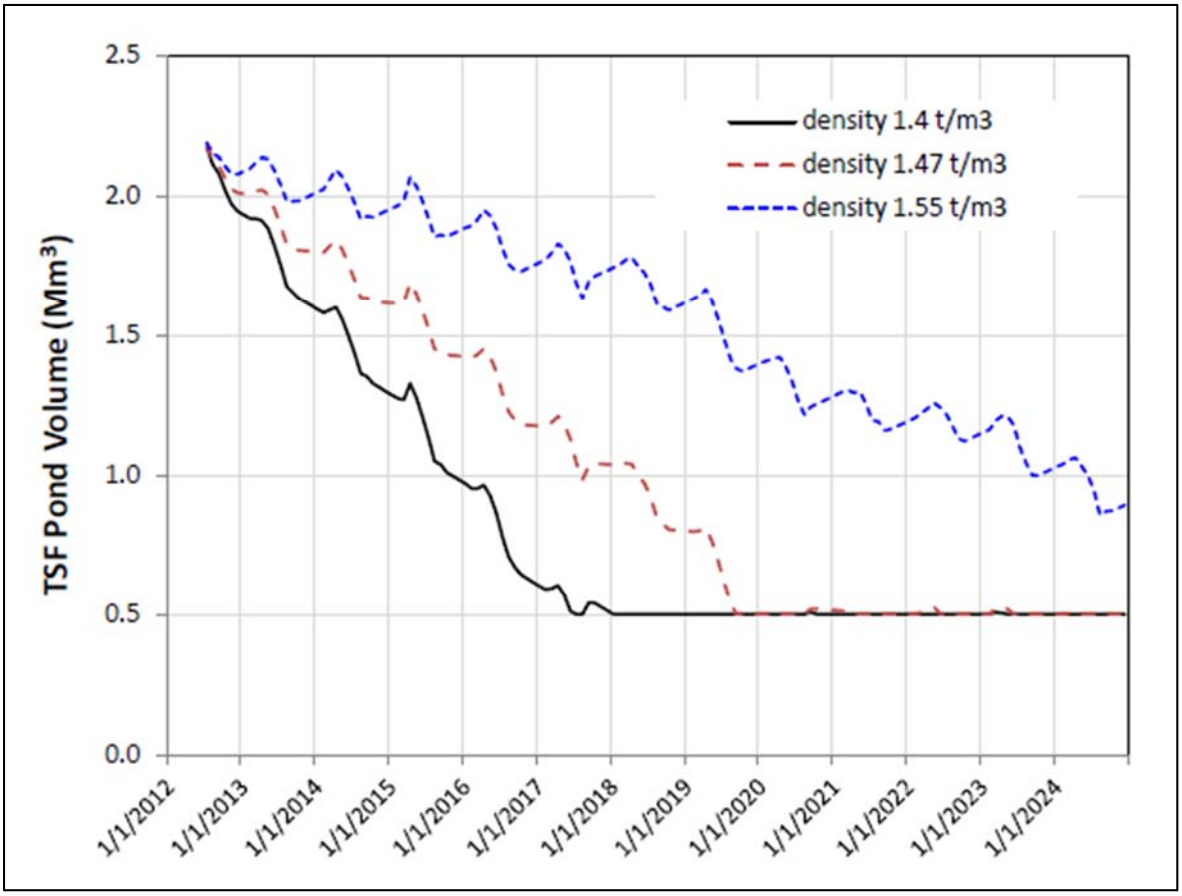

Figure 5-2. Simulated TSF Operating Pond Volumes at 12,000 tpd.

6. TSF Dam Inspection

The 2014 dam inspection was completed by Clint Logue, P.Eng., P.Geo., Eric Coffin, P.Eng., and Jessica Steeves, E.I.T., from BGC, between September 30 and October 1, 2014. As noted previously, First Nations representatives including Mark Diffin, Tk'emlúps te Secwépemc; and Mike Anderson, Skeetchestn Indian Band participated in the dam inspection. Emily O'Hara and Luke Holdstock from New Afton also participated the inspection.

The site inspection included walking along the crest and toe(s) of each dam as well as observing the abutments, and walking the length of the spillway (Pothook). Where the impoundments are lined, the inspection included walking the exposed liner perimeter. At the time of the inspection, the weather was generally sunny and dry, providing good visibility of, and access to the facilities. There was heavy wind and rain during the late afternoon of September 30; however, the inspection activities for that day were largely completed by then, and were resumed October 1 with no impact to the scope of the annual inspection.

Construction was underway at the time of inspection on Dam A, Dam B, and Dam C and these structures were retaining tailings and the operating pond. The New Afton TSF operating pond was low relative to its normal operating level. Seepage Ponds 1, 2, and 3 were in operation and partially full. The Tailings Line was inactive at the time of the inspection due to a temporary mill shutdown. The Spill Pond was in operation and near capacity. The upstream toes of the South Dam, West Dam, and Pothook Dam were all above the tailings and operating pond levels for their respective TSFs.

At the time of the annual inspection, the pond level in the New Afton TSF was at 5733.16 m (mine datum). For all dams comprising the New Afton TSF, the available freeboard satisfied the required minimum emergency freeboard of 1.1 m, which includes the inflow design flood of 0.26 Mm^3 which is the runoff associated with the PMP. The available storage capacity at the time of the annual inspection corresponds to 2 months of tailings overflow production with the balance being used for dam construction. At the end of the dam construction planned for 2014, the crest elevation will be at 5,741 m providing sufficient storage capacity for the tailings produced to the end of 2015.

More detail regarding the background and current condition for each facility, as well as specific observations and associated recommendations highlighted in italics for each structure are provided in the subsections below. The inspection forms documenting each site inspection are included in Appendix A. Select photographs taken during the inspection are provided in Appendix B.

6.1. Dam A

6.1.1. Background Information

Construction of Dam A, located on the southwest side of the TSF, began in April 2011 with the first (starter) construction phase completed in November 2011[12]. The dam, along with Dam B and Dam C, provide containment along the west (Dam A and Dam B) and north (Dam C) sides of the New Afton TSF to store tailings pumped from the mill. The dam is shown in Figure 6-1.

Figure 6-1. View looking north-northwest from approximately 75 m southeast of Dam A. Arrow pointing to mid-point of dam and till core at crest. September 30, 2014.

At its current centerline, Dam A is approximately 16 m high with a crest elevation of approximately 5,740.6 m (mine grid). The dam comprises a compacted till core with a downstream vertical filter reporting to a downstream blanket filter/drain with a 3H:1V downstream slope founded entirely on native till. The compacted central till core of the dam was raised above the starter dam crest of 5,735 m to 5,740.6 m using the centerline method of construction. The upstream and downstream dam shells comprise cyclone sand.

The cyclone sand shell upstream of the dam has been placed approximately 30 m wide.

[12] Ausenco Engineering Canada Inc., 2012. New Afton New Gold Tailings Storage Facility. Letter dated, June 4, 2012.

Representative plan and cross-section drawings showing the completed construction relative to the design crest elevation for the 2014 construction season are provided in Appendix D. These drawings will be superseded upon completion of the 2014 construction records report expected in the fourth quarter of 2014.

Between 2006 and 2008, several programs of geotechnical investigation were completed and used to support the design of the New Afton TSF. Based on information provided to BGC, the investigations completed to date across the site comprise 51 test pits and 36 drill holes. Details of these site investigations can be found in BGC (2006)[13,14], Piteau (2006)[15], and AMEC (2008)[16]. Additional site investigation at Dam A comprising mud-rotary drilling, packer testing, and down-hole acoustical televiewing is planned for the fourth quarter of 2014.

At the time of the inspection, one vibrating wire piezometer had been installed within the till foundation of Dam A near 1+765. As part of the 2014 construction, one vibrating wire piezometer had been installed within the fine filter chimney at elevation 5736, and one in the till core 2.5 m from the downstream filters at elevation 5736 near 1+765 m. The vibrating wire piezometers in the fine filter and till core were not yet attached to a datalogger at the time of the inspection. One vibrating wire settlement plate and a vibrating wire piezometer were installed in the till core near 1+600 m as part of the 2014 construction, but were not yet attached to dataloggers. One vibrating wire settlement plate and one vibrating wire piezometer were installed in the downstream toe of Dam A near 1+765, but were subsequently damaged during construction. One existing standpipe piezometer located downstream of Dam A, and one existing slope inclinometer through the core and into the till foundation from the starter dam construction were maintained through the 2014 construction. The one survey monument installed on the dam crest was removed for the 2014 construction season, and is planned to be re-established in November of 2014. All other instruments appeared to be functioning properly. In total, there were four vibrating wire piezometers, one vibrating wire settlement plate, one slope inclinometer and one standpipe piezometer installed in Dam A at the time of the annual inspection. A summary of the instrumentation readings for Dam A are provided below.

6.1.2. Dam Inspection Findings

The dam structure, based on a visual field review, was observed to be functional and in good condition, as seen in Photo DA01 in Appendix B. The crest surface of Dam A was observed to be generally flat (Photo DA09) with a low spot at the left abutment of the dam (Photo DA02). The low spot is at approximately 5,735 m, and was in the process of being raised to the prescribed raise elevation of 5,741 m (note, at the time of report preparation, this low spot had

[13] BGC, 2006. Drilling and Instrumentation in the Proposed Tailings Storage Facility (TSF). Memorandum issued to Hatch Associates, dated May 28, 2006.
[14] BGC, 2006. Preliminary Geotechnical Investigations of the Proposed Plant Sites. Memorandum issued to Hatch Associates, dated July 11, 2006.
[15] Piteau Associates Engineering Ltd., 2006. Permit Level Hydrogeological Assessment for Tailings Storage Facility and Block Cave. Report issued to New Gold Inc., dated November 2006.
[16] AMEC, 2008. TSF Dam Footprint Characterization, New Afton Mine West of Kamloops B.C. Memorandum issued to New Gold Inc., dated February 29, 2008.

been raised to the same elevation as the rest of the dam). The till core and fine filter were at elevation 5,740.6 m. There was no ponding observed on the dam crest at the time of the inspection.

Cyclone sand cells have been constructed along the upstream and downstream face of Dam A. The cyclone sand cells, approximately 30 m wide, have been constructed to an elevation of approximately 5,740.6 m (Photo DA17). At Dam A, the cells were constructed utilizing hydraulic placement and compaction of underflow tailings (cyclone sand) from the mobile secondary cyclones. The crest surfaces of the cells were generally flat (Photo DA04) and the upstream slope was generally uniform (Photo DA05).

The downstream slope was uniform to an elevation of 5,735 m and has been recently re-graded (Photo DA16 and DA18). There is a bench at elevation 5,735 m, above which the downstream slope is stepped as a result of borrowing cyclone sand for mechanical placement elsewhere in the TSF (Photo DA13 and DA14).

Loose, saturated sand has accumulated at the downstream toe of Dam A as a result of erosion during cycloning (Photo DA17). This material will likely erode and be deposited in Seepage Pond 1 during the spring melt. *New Afton may want to consider removing this material prior to the spring to prevent increased sedimentation in the seepage pond. Monitoring of erosion of this material and the corresponding sedimentation in Seepage Pond 1 should be added to the routine monitoring.* However, depending on the timing of the routine dredging of the seepage pond, this may not be an issue.

There was minor, clear seepage observed at the downstream left abutment and downstream toe at the time of the field review. This is consistent with seepage noted in the previous annual inspection, and noted during routine monitoring throughout the year, although the rate has decreased relative to when downstream cycloning was active. Routine monitoring of the seepage should be continued.

The dam was free of vegetation.

There were no signs of erosion from runoff apparent at the time of the inspection.

The instrumentation located near the downstream crest of the dam is currently unprotected with concrete Lock-Block barriers, as shown in Photos DA23, although the Lock-Block protection previously in place prior to construction is planned to be reinstated once construction is completed. *It is recommended that this protection be repositioned upon completion of the 2014 construction at Dam A.*

Based on these observations, we recommend the following:

- *Monitoring the rate of erosion of the loose sand at the toe of Dam A should be added to the routine monitoring program.*
- *Lock-Block protection should be re-established around all instrument monuments on the dam crest.*

6.1.3. Instrument Review

Piezometric data have been collected since January 2013, and the trends are as expected. The vibrating wire piezometer installed in the till core and till foundation of Dam A is attached to a data logger that collects a reading every 12 hours. These readings are subsequently retrieved from the data logger on a monthly basis by New Afton staff, and have been collected consistently since January 15, 2013. In general, the vibrating wire piezometer indicates that between January 15, 2013 and November 14, 2014 the piezometric level in the till core and foundation of Dam A has risen approximately 6.5 m, as shown in Figure 6-2. This response is consistent with the expected subdued replica of the rise of the tailings pond upstream of the dam based on the location of the piezometer, and is below the stipulated threshold values. The increased rate of change in the piezometric readings in January of 2014 corresponds to when the operating pond on the east end of the facility merged with that upstream of Dam A. The rise in piezometric elevation in May 2014 coincides with increased seepage due to sand cell construction on Dam A.

The standpipe piezometer located downstream of the dam is read manually on a monthly basis with data collected since January 16, 2013. Over this period, the standpipe piezometer has recorded fluctuations of up to 1.0 m in the piezometric level (Appendix C). Both the vibrating wire piezometer and the standpipe piezometer readings are within the acceptable operational limits outlined in the OMS manual.

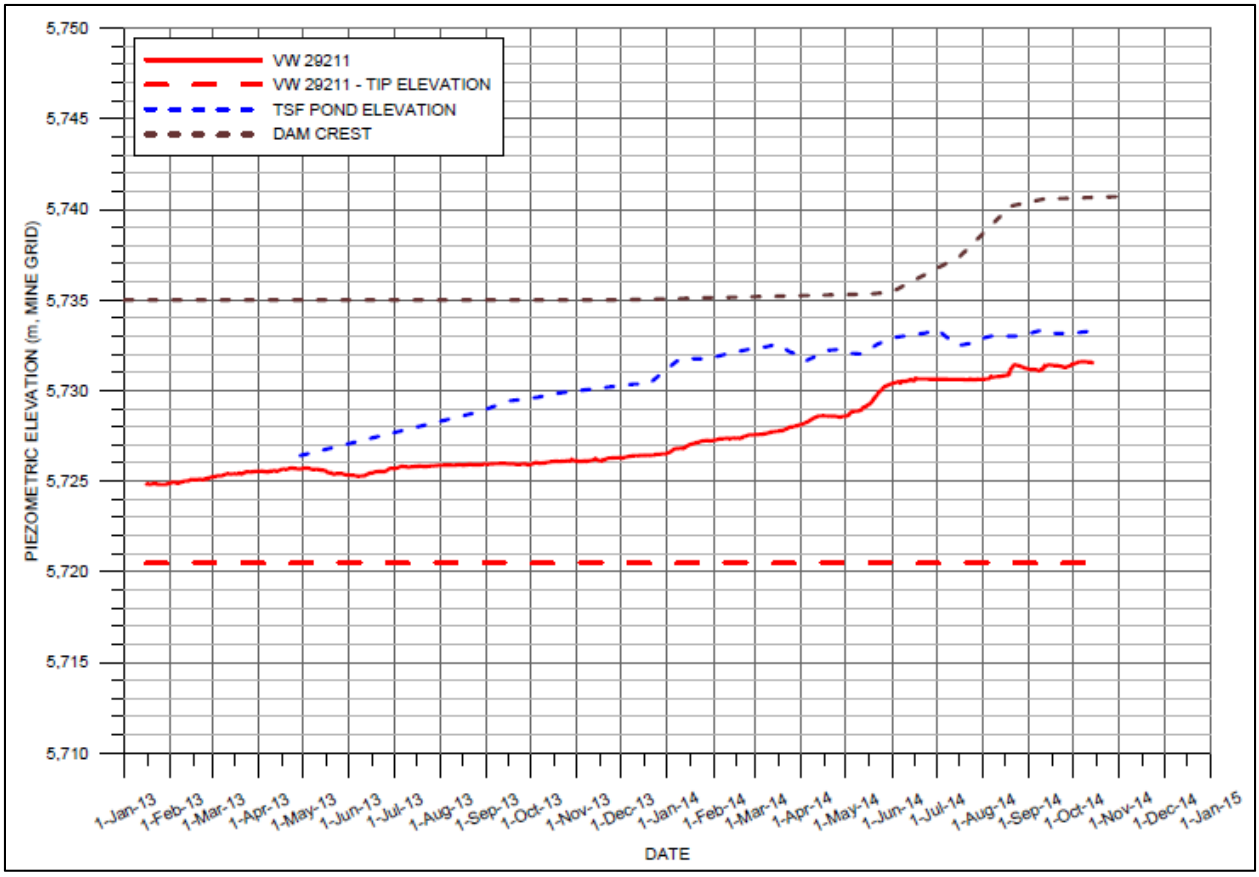

Figure 6-2. Vibrating Wire Piezometer installed at Dam A.

The slope inclinometer installed on the crest of Dam A, in the till core, has been manually read on a monthly basis since January 16, 2013. The inclinometer recorded approximately 13 mm of lateral displacement in the downstream direction near the base of the dam at an elevation of approximately 5,725 m between February 14 and June 8, 2014. The corresponding time-displacement plot, shown in Figure 6-3, indicates the rate of displacement increased again on March 9, 2014. BGC has interpreted the initial displacement in 2013 as settlement of Dam A over its native till foundation. The increased lateral displacement beginning in March 2014 coincides with the beginning of construction activities in the vicinity of the inclinometer and is interpreted to be as a result of compaction of dam fill upstream and adjacent to the inclinometer casing. A new baseline will be determined for future monitoring when 2014 construction activities conclude.

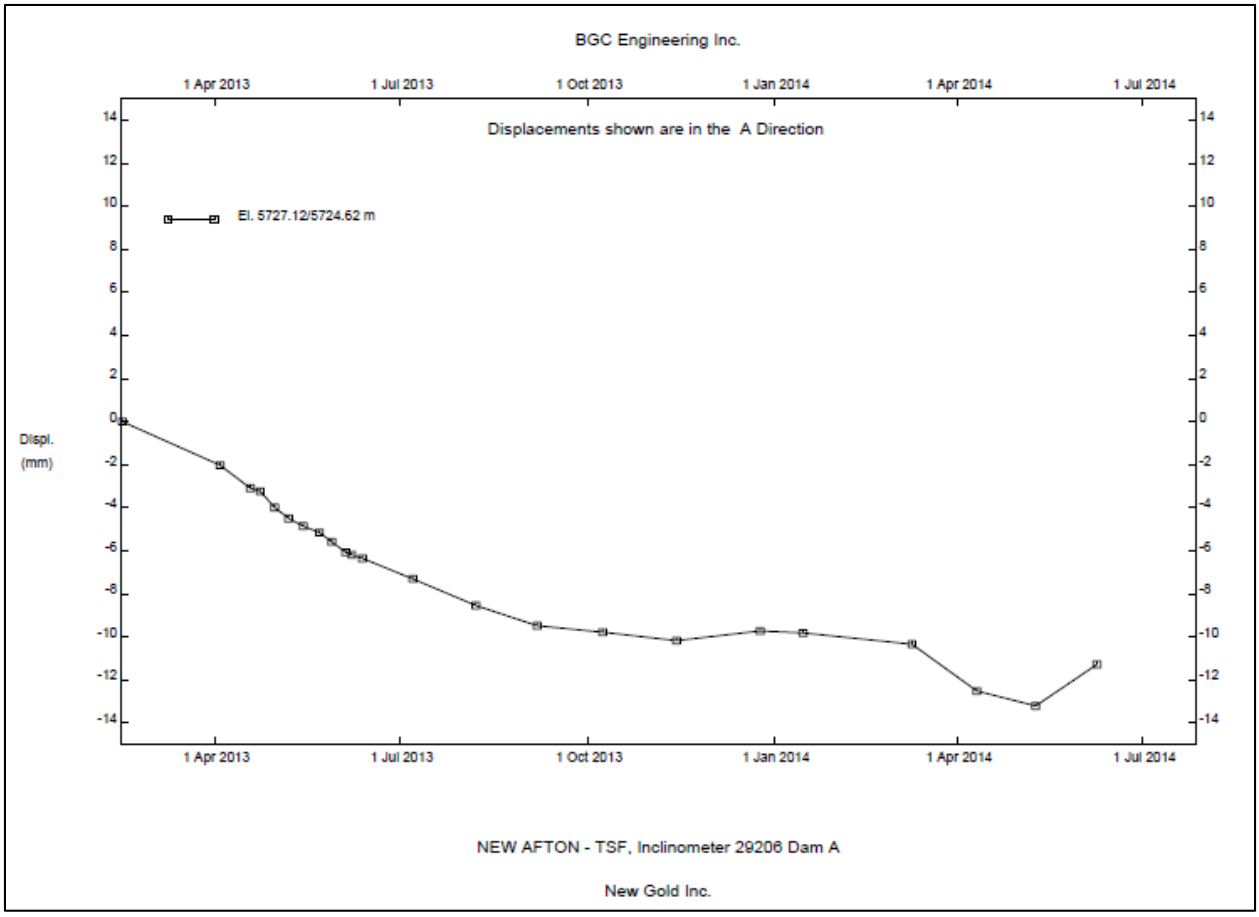

Figure 6-3. Slope Inclinometer 29206 Time-Displacement data at Dam A. The positive A-direction is in the upstream direction and the negative A-direction is in the downstream direction.

The settlement monument that was installed on the crest of the dam at the time of the 2013 annual inspection was removed to facilitate the 2014 construction. Following construction, concrete survey monuments will be installed in the dam crest for monthly manual surveying.

It is recommended that the installation of the survey monuments be confirmed and that monthly surveying be completed.

6.2. Dam B

6.2.1. Background Information

Construction of Dam B, located on the northwest side of the TSF, began in April 2011 with the first (starter) construction phase completed in September 2011[17]. The dam, along with Dam A and Dam C, provides containment along the west (Dam A and Dam B) and north (Dam C) sides of the New Afton TSF to store tailings pumped from the mill. The dam is shown in Figure 6-4.

[17]Ausenco Engineering Canada Inc., 2012. New Afton New Gold Tailings Storage Facility. Letter dated, June 4, 2012.

Figure 6-4. View looking north at Dam B from the upstream side of the left abutment of Dam C. Arrow pointing to mid-point of dam at upstream cyclone sand shell. October 1, 2014.

At its current centerline, Dam B is approximately 16.3 m high with a crest elevation of approximately 5,739.3 m. The Dam B starter dam comprises a compacted till section faced with smooth 60 mil (1.5 mm) linear low density polyethylene (LLDPE) liner. The dam has a 3H:1V downstream side slope. The north half of the dam is founded on waste rock and the south half is founded on native till. The LLDPE liner and central till core will be continued above the starter dam crest in 2014 to an elevation of 5,741 m by raising the dam using the centerline method of construction. The liner will be embedded in the central core of the dam. A compacted cyclone sand shell will be constructed upstream of the till core. Downstream of the till core is a vertical fine filter chimney drain extending down the starter dam slope and connecting into a fine and coarse blanket filter. The downstream shell comprises compacted cyclone sand.

At the time of the annual inspection, the 2014 construction was underway and the upstream shell, the central core and liner, and the downstream shell were at varying stages of completion to a prescribed crest elevation of 5,741 m as described below. The liner was in the process of being raised to the specified elevation of 5,741 m (Photo DB20 and DB23). The upstream sand cells were completed to approximately mid-way between the starter dam elevation and the specified elevation of 5,741 m (Photo DB18). The cells were prepared for cyclone sand deposition scheduled to resume upon the mill restarting. The downstream sand cells were completed (Photo DB01).

Representative plan and cross-section drawings showing the completed construction at the time of the annual inspection relative to the design crest elevation for the 2014 construction season are provided in Appendix D. These drawings will be superseded upon completion of the 2014 construction records report expected in the fourth quarter of 2014.

At the time of the inspection, two vibrating wire piezometers had been installed within the waste rock foundation of Dam B near 1+050 and 1+400. As part of the 2014 construction, one vibrating wire piezometer had been installed in the till core 2.5 m from the downstream filters at elevation 5736, one within the fine filter chimney at elevation 5736, and one within the fine filter blanket drain at elevation 5730. The vibrating wire piezometers in the till core and fine filter chimney were not attached to data-loggers at the time of the inspection. One standpipe piezometer had been installed downstream of Dam B, one vibrating wire settlement plate had been installed within the fine filter blanket drain at elevation 5730 and one slope inclinometer had been installed through the core and into the waste rock foundation. The two survey monuments previously installed on the dam crest noted in the 2013 annual inspection had been removed due to the construction activities and are planned to be re-established following the completion of the 2014 construction. In total, there were five vibrating wire piezometers, one vibrating wire settlement plate, one slope inclinometer and one standpipe piezometer installed in Dam B at the time of the annual inspection. All of the instruments appear to be functioning properly and a summary of the instrumentation readings for Dam B is provided below.

6.2.2. Dam Inspection Findings

The dam structure, based on a visual field review, was observed to be functional and in good condition as seen in Photo DB02 in Appendix B. The crest surface of Dam B was observed to be generally flat with a low spot at the right abutment of the dam where it joins with Dam C (Photo DB21). There was no ponding on the crest at the time of the inspection.

Cyclone sand cells have been constructed along the entire upstream face of Dam B to an elevation of approximately 5,737 m to 5,740 m depending on the cell, and were being prepared for cycloning when the mill resumed operations. The upstream slopes of the upstream cells were generally uniform (Photo DB13).

The downstream slope was generally uniform and smooth (Photo DB09) with some stepping resulting from construction. The dam was observed to be free of vegetation. There was some minor erosion of the cyclone sand in the downstream shell at the right abutment from runoff due to cycloning activities above this location (Photo DB08). *This should be repaired as part of the 2014 construction activities.*

At several locations along the crest where the liner was exposed in preparation of the liner raise, there were numerous tears observed as shown in Photo DB21. *The tears should be repaired and documented for construction records.* Where the liner was being prepared for the raise at the time of the inspection, the defects were in the process of being repaired.

The instrument monuments installed on the dam crest should be protected with Lock-Blocks upon completion of the 2014 construction. Similarly, the survey monuments that were removed

to facilitate construction activities should be re-established upon completion of the 2014 construction season.

Based on these observations, we recommend the following:

- *The erosion observed on the downstream face at the right abutment should be repaired as part of the 2014 construction activities.*
- *The instrument monuments installed in the dam should be protected with Lock-Blocks at the end of the 2014 construction.*
- *The survey monuments should be re-established on the dam crest upon completion of the 2014 construction.*
- *Any damage resulting from exposing the LLDPE liner should be repaired and the repairs documented for construction records reporting.*

6.2.3. Instrument Review

Piezometric data have been collected from the piezometers in the till core foundation since January 2013 and from the piezometer in the downstream fine filter blanket drain since September 2014. Trends generally follow the expected behaviour as shown in Figure 6-5. These piezometers are attached to data loggers that collect readings every 12 hours. The readings are subsequently retrieved from the data logger by New Afton staff on a monthly basis and have been collected consistently since January 15, 2013.

In late June 2014, VW 29221 registered an increase of 1.2 m over a one month period. This increase coincides with sand cell construction beginning on Dam B. Sand cell construction was completed in late August 2014 on Dam B and the piezometer elevation is now slowly decreasing as the dam fill drains.

In June 2013, VW29220 recorded a decrease of 3.0 m over a 3 month period and has subsequently and gradually risen 1.0 m over the following 13 months. This instrument did not show any response to sand cell construction in the vicinity of the installation and is consequently believed to be malfunctioning.

The standpipe piezometer located downstream of the dam is read manually on a monthly basis with data collected since January 16, 2013. Over this time period, the standpipe piezometer has been dry. Both the vibrating wire piezometers and the standpipe piezometer appear to be reading within acceptable operational limits.

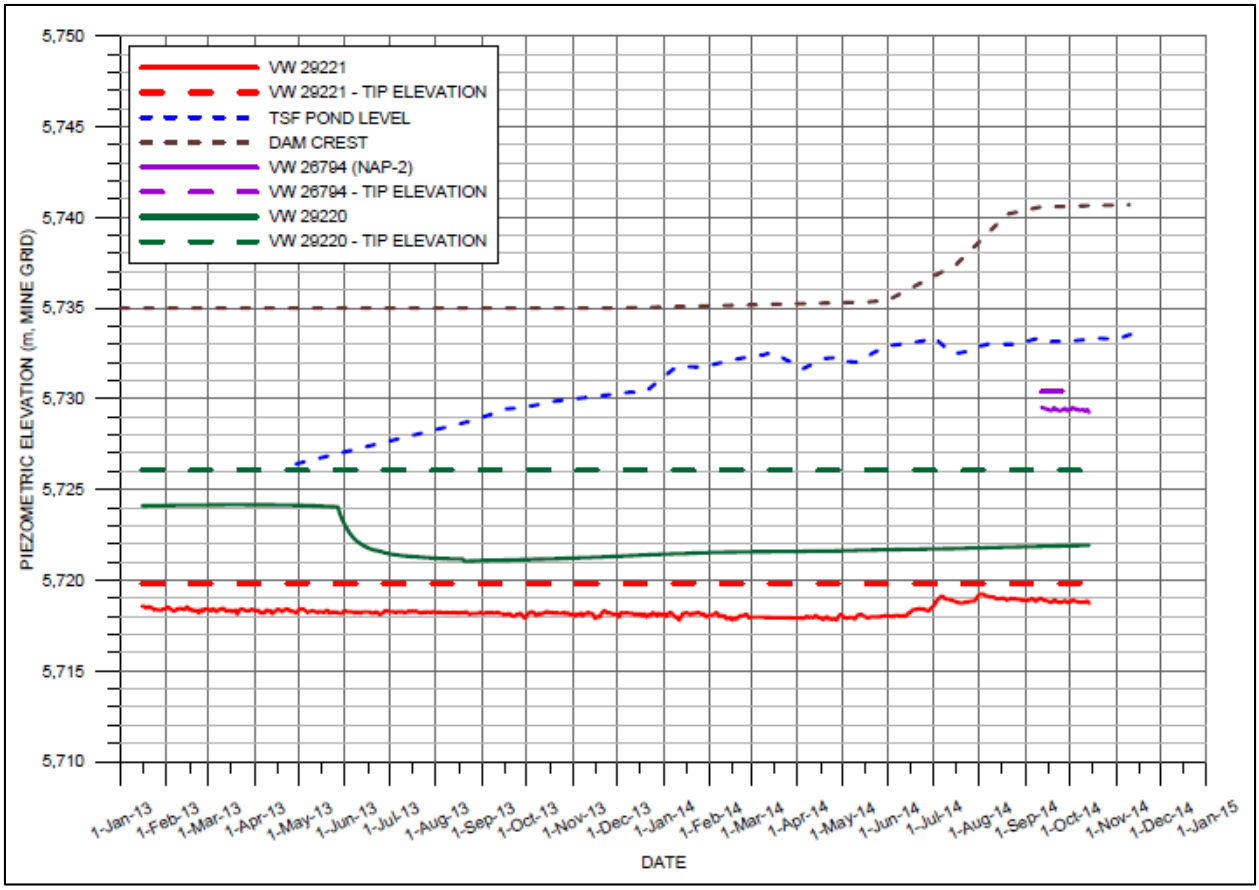

Figure 6-5. Vibrating Wire Piezometers installed at Dam B.

The slope inclinometer installed within the till core and foundation of Dam B is manually read on a monthly basis and data have been collected consistently since January 16, 2013. The inclinometer has recorded no lateral displacement at depth. However, between readings on March 9 and June 8, 2014, construction activities around the instrument resulted in slight movement recorded in the upper 3 m of the inclinometer. This is shown in the cumulative deflection plot provided in Appendix C. In June 2014, the inclinometer was raised to accommodate the dam raise. No deflection in the data was observed prior to this date. A new baseline will be determined for future monitoring when 2014 construction activities are completed.

The vibrating wire settlement plate in the downstream fine filter blanket drain at Dam B is manually read on a monthly basis and data have been collected consistently since September 12, 2014 as seen in Figure 6-6. The readings from the instrument indicate no measureable settlement.

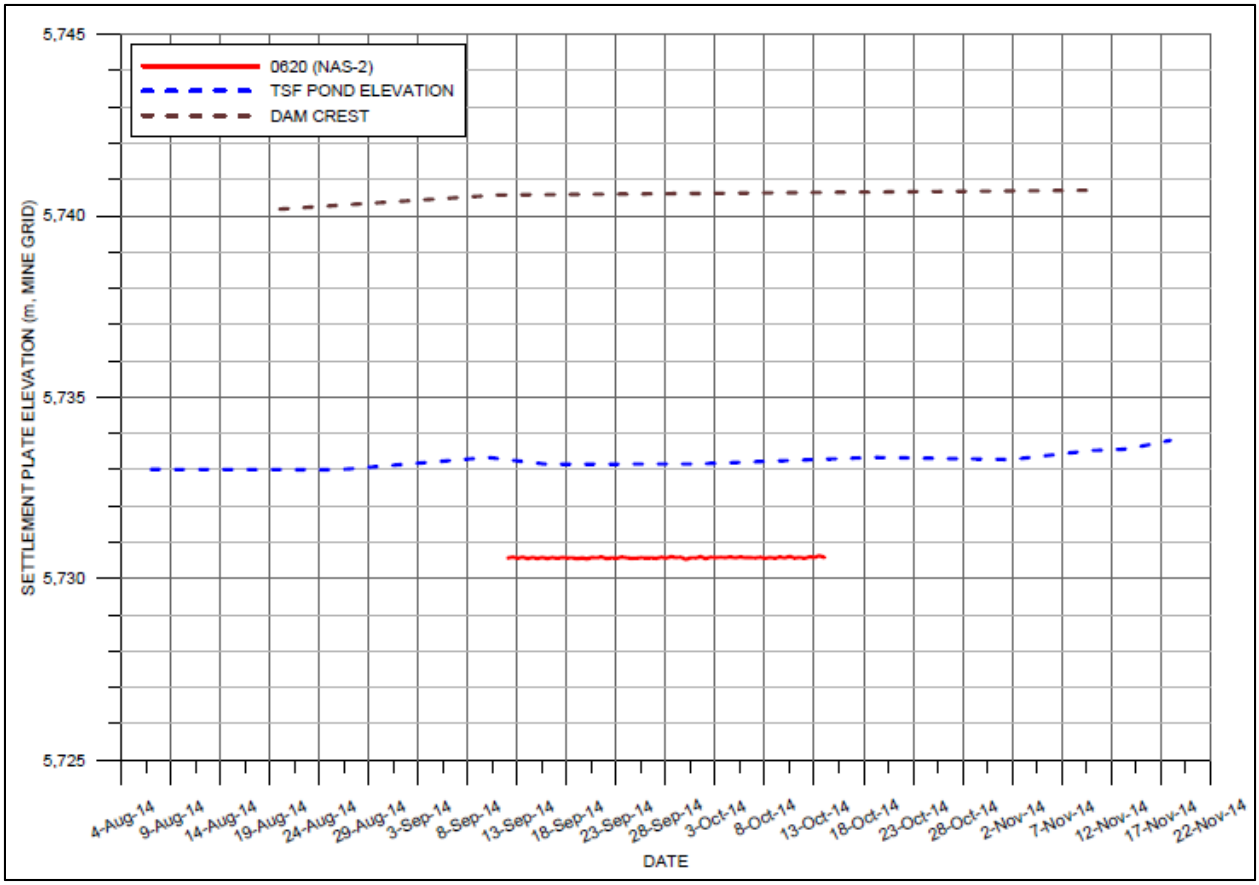

Figure 6-6. Vibrating Wire Settlement Plate installed at Dam B.

The three settlement monuments that were installed on the crest of the dam at the time of the 2013 annual inspection were removed to facilitate the 2014 construction. Following construction, concrete survey monuments will be installed in the dam crest for monthly manual surveying.

It is recommended that the installation of the survey monuments be confirmed and that monthly surveying be completed.

6.3. Dam C

6.3.1. Background Information

Construction of Dam C, located on the northwest side of the TSF, began in April 2011 with the starter construction phase completed in November 2011[18]. The dam, along with Dam A and Dam B, provides containment along the west (Dam A and Dam B) and north (Dam C) sides of the New Afton TSF to store tailings. The dam is shown in Figure 6-7.

[18] Ausenco Engineering Canada Inc., 2012. New Afton New Gold Tailings Storage Facility. Letter dated, June 4, 2012.

Figure 6-7. View looking west from approximately 75 m east of Dam C. Arrow pointing to mid-point of dam and till core at crest. September 30, 2014.

At its current centerline, Dam C is approximately 16.7 m high with a crest elevation of approximately 5,740.7 m. The Dam C starter dam comprises a smooth 60-mil (1.5 mm) LLDPE fully lined, compacted till starter dam founded entirely on waste rock. The dam has 3H:1V downstream side slopes. The LLDPE liner and central core (compacted cyclone sand) will be continued above the starter dam crest in 2014 to an elevation of 5,741 m by raising the dam using the centerline method of construction. The liner will be embedded in the cyclone sand central core of the dam. The central core will be supported by upstream and downstream hydraulically placed and compacted cyclone sand shells, both of which were completed at the time of the annual inspection.

Downstream of the core is a fine filter chimney drain extending down the starter dam slope and connecting into a fine and coarse blanket filter drain. The filter will be raised vertically along with the LLDPE liner.

On the eastern abutment of Dam C above the starter dam, the foundations change from waste rock to till. The core configuration correspondingly transitions from an LLDPE liner embedded within a compacted cyclone sand core to an unlined till core, similar to the transition in Dam B at its western abutment. The fine filter chimney and downstream fine filter and coarse filter blanket drains will be continued to the west similar to the transition at Dam B to Dam A.

The liner was in the process of being exposed and liner bedding being prepared to facilitate raising to the specified elevation of 5,741 m, resulting in the crest of the dam being lower than the upstream and downstream shells as shown in Figure 6-7. The upstream and downstream sand cells were completed to the specified elevation of 5,741 m. There was a low spot at the left abutment where the Dam B liner ties into the Dam C liner (right side of Figure 6-4), and on the right abutment where the rock foundations were being prepared for fill placement (foreground of Figure 6-7).

Representative plan and cross-section drawings showing the completed construction relative to the design crest elevation for the 2014 construction season are provided in Appendix D. These drawings will be superseded upon completion of the 2014 construction records report expected in the fourth quarter of 2014.

At the time of the inspection, three vibrating wire piezometers had been installed within the waste rock foundation of Dam C near 0+450, 0+600 and 0+800. As part of the 2014 construction, three pairs including a vibrating wire piezometer and settlement plate had been installed within the downstream fine filter blanket drain. One pairing had been installed near 0+475 at elevation 5727, one near 0+600 at elevation 5729 and another near 0+800 at elevation 5729. Two standpipe piezometers had been installed downstream of Dam C, and two slope inclinometers had been installed through the core and into the waste rock foundation near 0+550 and 0+775. One slope inclinometer and one vibrating wire piezometer had been installed between Dam C and Dam B near 1+050 through the dam and into the waste rock foundation. The eight survey monuments previously installed on the dam crest noted in the 2013 annual inspection had been removed due to the construction activities and are planned to be re-established following the completion of the 2014 construction. In total, there were seven vibrating wire piezometers, three vibrating wire settlement plates, three slope inclinometers and two standpipe piezometers installed in Dam C at the time of the annual inspection. All of the instruments appear to be functioning properly and a summary of the instrumentation readings for Dam C is provided below.

It is recommended that the installation of the survey monuments be confirmed and that monthly surveying be completed.

6.3.2. Dam Inspection Findings

Based on a visual field review, the dam structure was observed to be functional and in good condition as seen in Photo DC01 in Appendix B. The crest surface of Dam C was observed to be generally flat with a low spot at the right abutment of the dam where the access road meets the dam on the upstream side (Photos DC17) where the foundations are being prepared for fill placement. There was some shallow ponding present on the dam crest at the low spot at the right abutment, and along the exposed liner at the time of the inspection from drainage of the adjacent cyclone sand cells. The ponding was being managed with sumps and pumps as needed (Photo DC 20) and as recommended in the 2013 annual inspection report.

The downstream slope was uniform and smooth (Photo DC29) and the dam was observed to be free of vegetation. A polymer spray had been applied to the exposed cyclone sand to control dusting. At the time of the inspection, the spray appeared to be functioning as intended.

There was a thin accumulation of loose cyclone sand along the downstream toe associated with drainage and runoff from the cyclone sand cells above. *This material should be removed as part of the foundation preparation for the Stage 2 downstream sand cell construction.* This is not expected to be required until at least the 2016 construction season.

There were three spigot valves (spigots 3, 4, and 6) along the tailings header pipe that were leaking at the time of the annual inspection (Photos DC07, 08, 09). This has resulted in minor ponding on the upstream sand cells (Photo DC09), and in the case of spigot 3, resulted in erosion of the upstream sand cell berm (Photo DC10). *The valves should be repaired as necessary to stop the leakage. Prior to resuming sand cell construction adjacent to spigot 3, the upstream berm should be re-established.* The repair of the berm is not needed to support the 2014 construction season.

There was some excavation of hydraulically placed and compacted cyclone sand from the upstream sand cell adjacent to the left abutment (Photo DC11 and DC13) to provide borrow for dam construction elsewhere along Dam C. Cycloning will be resumed in this location to replace the fill borrowed for construction following the mill start up.

The majority of the instruments installed on the crest were exposed to vehicle traffic (Photo DC36) to facilitate construction activities at the time of the annual inspection. In some cases Lock-Blocks were left in place to protect the monuments from vehicle traffic as shown in Photo DC17 and DC35. *Upon completion of the 2014 construction season, all instruments should be protected with Lock-Blocks*. The instrument leads daylighting on the downstream face/toe were run to and/or mounted on Lock-Blocks (Photo DC37) separated from the access road by a berm as shown on Photo DC27. *The un-mounted instruments should be suitably mounted to the Lock-Blocks, or housed in a shed over the winter.*

The majority of the survey monuments were removed to facilitate construction and should be re-established and protected with Lock-Blocks upon completion of the 2014 construction at Dam C.

At several locations along the crest where the liner was exposed in preparation of the liner raise, there were numerous tears in the liner observed as shown in Photo DC18. *The tears should be repaired and documented for construction records.*

Based on these observations, we recommend the following:

- *Spigot valves 3, 4, and 6 were observed to be leaking and should be repaired as needed.*
- *Prior to resuming cyclone sand cell construction adjacent to spigot 3, the upstream cell berm should be re-established; the berm can be left as is until then.*
- *Any damage resulting from exposing the LLDPE liner should be repaired and the repairs documented for construction records reporting.*

- *The instrument monuments installed in the dam should be protected with Lock-Blocks at the end of the 2014 construction.*
- *The un-mounted instruments along the downstream toe of Dam C should be suitably mounted to the Lock-Blocks, or housed in a shed over the winter.*
- *The survey monuments should be re-established on the dam crest upon completion of the 2014 construction.*

6.3.3. Instrument Review

Piezometric data have been collected since January 2013 from the piezometers installed within the till core and waste rock foundation. Data collection began in June 2014 for VW 26797 and in August 2014 for VW26796 and VW29798, all of which are installed in the downstream fine filter blanket drain. The trends in the monitoring data generally follow the expected behaviour. The three vibrating wire piezometers installed in the foundation of Dam C are attached to data loggers where readings are collected every 12 hours and subsequently retrieved on a monthly basis by New Afton staff since January 15, 2013.

Between January 15, 2013 and October 14, 2014, VW29217, VW26796, VW26797 and VW26798, recorded an increase in pore pressures, as shown in Figure 6-8. Piezometer VW 29217, located near the eastern extent of Dam C, also peaked between May and October 2013 and between March and October 2014. During the first interval, pore pressure levels increased approximately 3 m before decreasing approximately 2.5 m. During the second interval, pore pressure levels increased approximately 5.5 m. This response coincides with cyclone sand cell construction in the area.

Piezometers VW26796, VW26797 and VW26798, located in the downstream fine filter blanket drain of Dam C, recorded a 6 m rise in pore pressures from mid-June 2014 to September 2014 coinciding with hydraulic placement of cyclone sand in the vicinity of the piezometers, as shown in Figure 6-8. The pore pressures have uniformly dropped back to their previous readings corresponding to the completion of cyclone sand cell construction in that area.

The two standpipe piezometers located downstream of Dam C have been read manually on a monthly basis since January 16, 2013. Over this period, the two standpipe piezometers have recorded fluctuations of up to 5.0 m in the piezometric level (Appendix C). Piezometer SP 34560, located downstream of the western extent of Dam C, recorded fluctuations in piezometric level between July and August 2014. The piezometric level increased by approximately 5.0 m. This response coincided with downstream sand cell construction on Dam C.

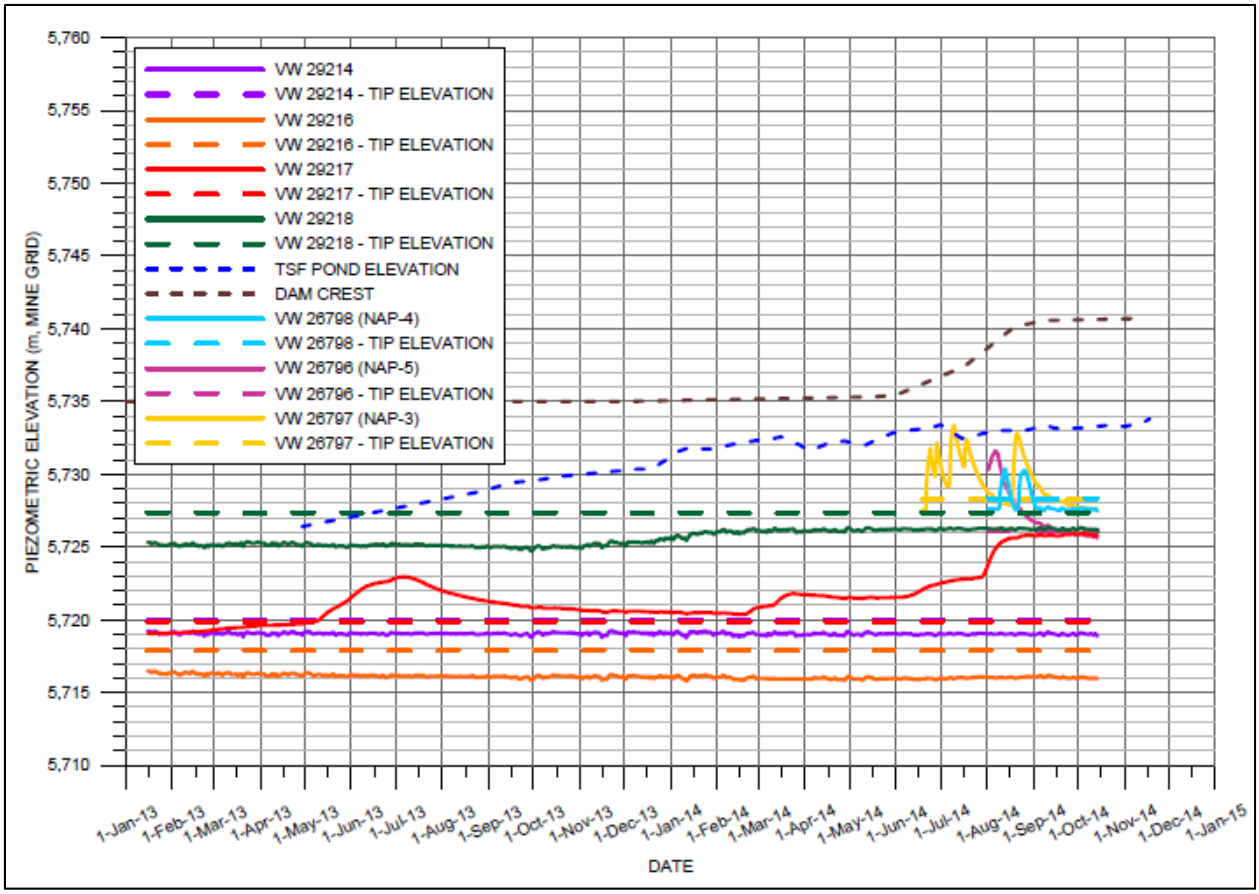

Figure 6-8. Vibrating Wire Piezometers installed at Dam C.

The two slope inclinometers (29213 and 29215) installed within the till core and waste rock foundation at Dam C and the slope inclinometer installed within the waste rock foundation between Dam C and Dam B (29208) are read manually on a monthly basis and data have been collected consistently since January 16, 2013. Between January 2014 and October 2014, inclinometer 29213 has experienced 4 mm of lateral displacement in the downstream direction. Between September 2013 and October 2014, inclinometer 29215 has experienced 2 mm of lateral displacement in the downstream direction. Inclinometer 29208 has recorded no lateral displacement. Plots for all of the inclinometers are included in Appendix C.

The three vibrating wire settlement plates installed in 2014 in the downstream fine filter blanket drain at Dam C are manually read on a monthly basis and data have been collected since August 1, 2014 as shown in Figure 6-9. Vibrating wire settlement plate 0622 (NAS-4) installed near 0+600 showed 80 mm of settlement over this time period, which is within the predicted range of settlement at this location. The readings from 0621 (NAS-3) and 0623 (NAS-5) indicated no measureable settlement.

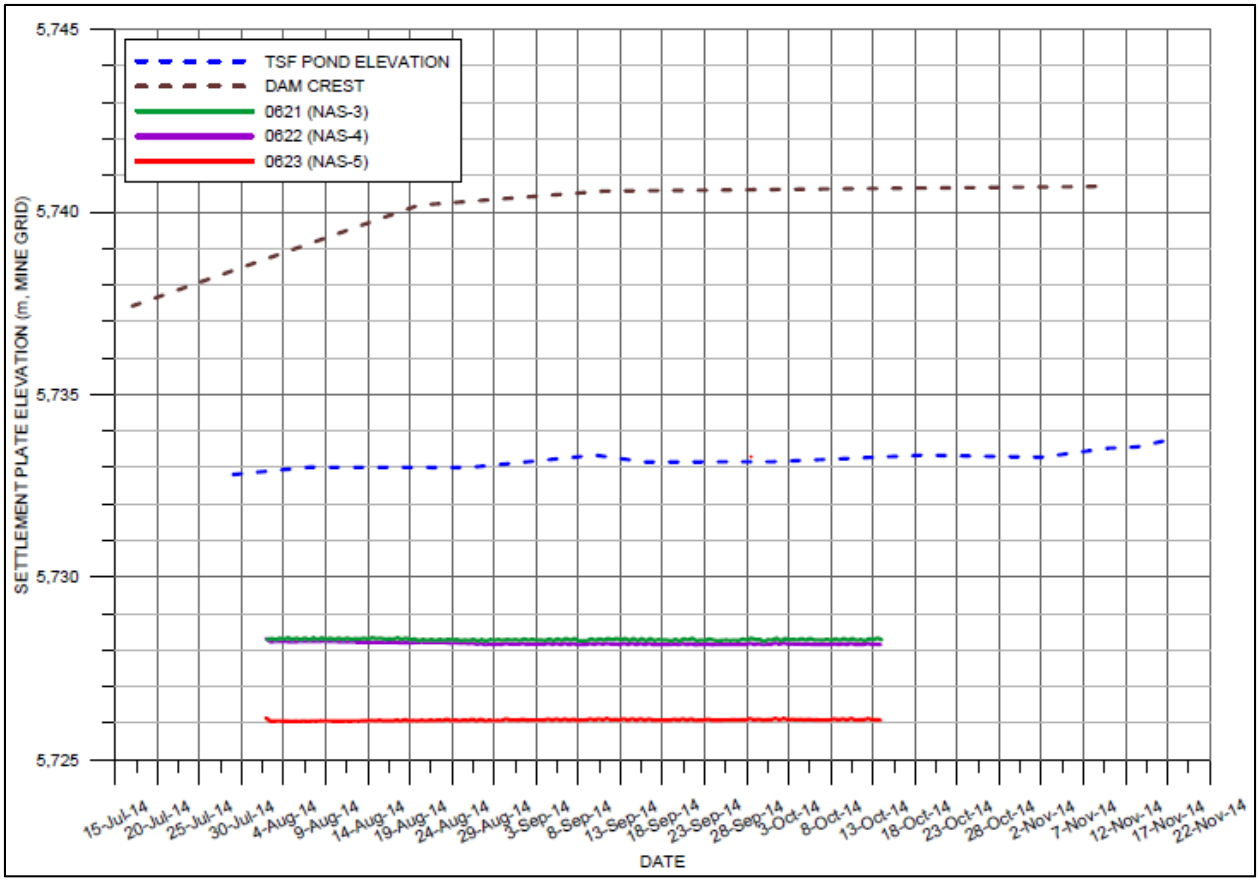

Figure 6-9. Vibrating Wire Settlement Plates installed at Dam C.

The eight settlement monuments installed on the crest of the dam at the time of the 2013 annual inspection were removed to facilitate the 2014 construction. Following construction, concrete survey monuments will be installed in the dam crest for monthly manual surveying.

It is recommended that the installation of the survey monuments be confirmed and that monthly surveying be completed.

6.4. South Dam

6.4.1. Background Information

Construction of the South Dam, located on the southeast side of the TSF, began in April 2011 with the construction phase completed to its ultimate crest in November 2011[19]. The dam provides tailings containment along the south side of the New Afton TSF. The dam is shown in Figure 6-10 and is unchanged from the previous annual inspection.

[19]Ausenco Engineering Canada Inc., 2012. New Afton New Gold Tailings Storage Facility. Letter dated, June 4, 2012.

Figure 6-10. View looking north at upstream face of South Dam from right abutment. Arrow pointing to mid-point of dam. Primary cyclone house visible in the background of photo. September 30, 2014.

The South Dam comprises a rockfill dam with a central compacted till core separated with filters that is approximately 20 m high at the current centerline. The South Dam crest is at approximately 5,765 m (mine grid), which is the ultimate crest elevation for the New Afton TSF. The upstream toe of the South Dam is at approximately 5,745 m elevation, well above the current elevation of the tailings and operating pond level of 5733.16 m.

The dam cross-section and the plan extents are provided in Vector (2008)[20] and are included in Appendix D.

One vibrating wire piezometer has been installed within the foundation of the South Dam, one standpipe piezometer downstream of the South Dam, and one slope inclinometer was installed through the core and into the foundation. Two settlement monuments were installed on the crest of the dam and one was installed on the downstream face. All of the instruments appear to be functioning properly and a summary of the instrumentation readings for the West Dam is provided below.

[20] Vector Engineering Inc., 2008. Design Report of the Tailings Storage Facility at the New Afton Gold & Copper Mine. Report issued to New Gold Inc. dated October 2008.

6.4.2. Dam Inspection Findings

The dam structure, based on a visual field review, was observed to be functional and in good condition as seen in Photo SD01 in Appendix B. The crest surface of the South Dam was observed to be generally flat (Photo SD01). It is our understanding that the crest surface is routinely maintained by grading as needed to control rutting from vehicle traffic. This practice appears to be working and can be maintained.

The downstream slope was generally uniform and smooth (Photo SD13), with minor vegetation.

The upstream slope was generally uniform and smooth (Photo SD01). Minor vegetation was observed on the upstream face. It is our understanding that the dam is sprayed annually to control vegetation. This practice appears to be working and should be maintained as necessary.

There was no ponding, seepage, or erosion observed anywhere on or along the dam.

There was no protection from vehicle traffic for the settlement monuments installed on the crest of the dam. *It is recommended that the settlement monuments be protected from vehicle traffic using Lock-Blocks similar to the other instruments on the dam.*

Based on these observations, we recommend the following:

- *The settlement monuments should be protected with Lock-Blocks, and monthly surveying of the monuments should be completed.*

6.4.3. Instrument Review

The vibrating wire piezometer installed within the foundation of the South Dam is attached to a data logger that collects a reading every 12 hours. These readings are subsequently retrieved from the data logger on a monthly basis and have been collected consistently since January 15, 2013. The trends generally follow the expected behaviour. In general, the vibrating wire piezometer has recorded an increase of approximately 2.0 m in the pore pressure between January 15, 2015 and October 14, 2014, as shown in Figure 6-11. This is likely associated with mounding of the water table within the dam fill at the base of the dam.

The standpipe piezometer located downstream of the dam is generally read manually on a monthly basis with data being collected since January 16, 2013. Since September 2013, the standpipe piezometer has recorded an increase of approximately 3.8 m in the piezometric level (Appendix C). Prior to this there was minimal variation in the piezometric level. The screen interval of the piezometer is located above the TSF pond level and, therefore, it is unlikely that the rise in the piezometric level is associated with the TSF pond level.

The vibrating wire piezometer and standpipe piezometer appear to be reading within acceptable operational limits.

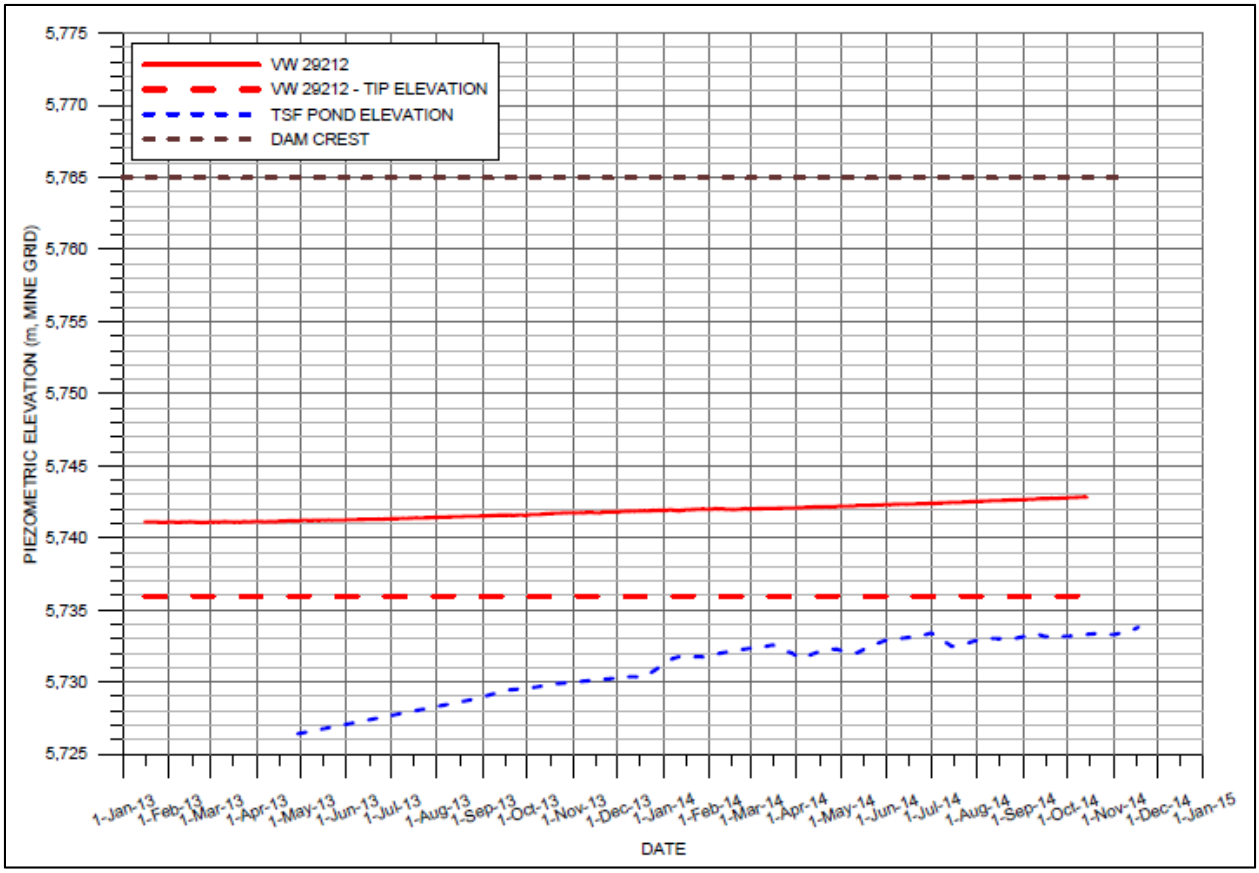

Figure 6-11. Vibrating Wire Piezometer installed at South Dam.

The slope inclinometer installed at the South Dam is manually read on a monthly basis and data have been collected consistently since January 16, 2013. The inclinometer has recorded approximately 4 mm of lateral displacement in the downstream direction near the crest of the dam at an elevation of approximately 5,761 m between June and August 2013. Since then, no lateral displacement has been recorded, as shown in Figure 6-12.

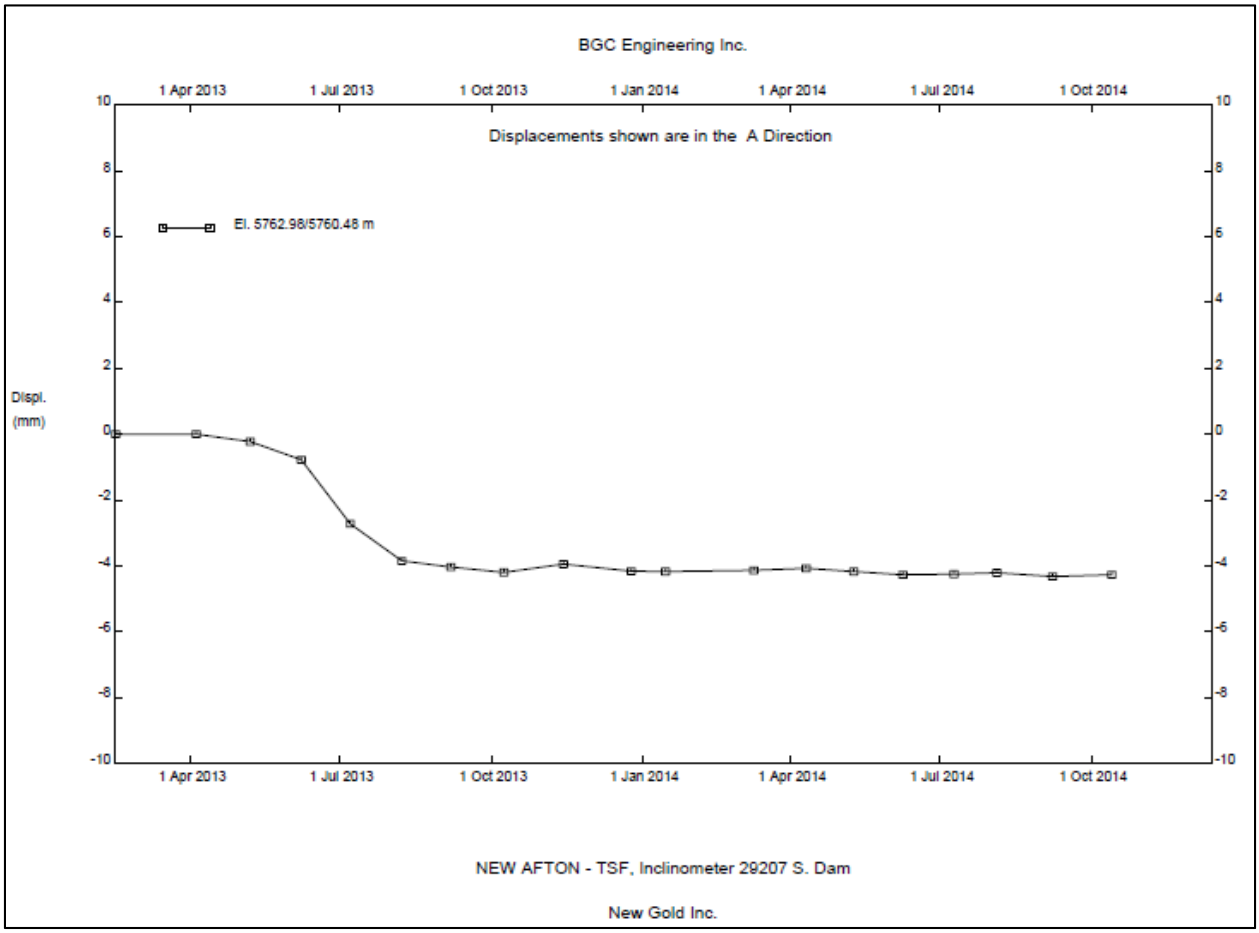

Figure 6-12. Slope Inclinometer 29207 time-displacement data at South Dam. The positive A-direction is in the upstream direction and the negative A-direction is in the downstream direction.

There are no records of surveys being performed on the settlement monuments located on the South Dam. *It is recommended that routine manual surveys of the settlement monuments be completed on a monthly basis.*

6.5. West Dam

6.5.1. Background Information

Construction of the West Dam, located on the south side of the TSF, began in April 2011 with the construction phase completed to the ultimate crest in November 2011[21]. The dam provides tailings containment along the south side of the New Afton TSF l. The dam is shown in Figure 6-13.

[21]Ausenco Engineering Canada Inc., 2012. New Afton New Gold Tailings Storage Facility. Letter dated, June 4, 2012.

Figure 6-13. View looking west along the crest of West Dam from left abutment. Arrow pointing to mid-point of dam. September 30, 2014.

The West Dam comprises a rockfill dam with a central compacted till core separated with filters that is approximately 23 m high at the current centerline. The West Dam crest is at approximately 5,765 m (mine grid), which is the ultimate crest elevation for the New Afton TSF. The upstream toe of the West Dam is at approximately 5,742 m elevation, well above the elevation of the tailings and operating pond level of 5733.16 m at the time of the inspection.

The dam cross-section and the plan extents are provided in Vector (2008)[22] and are included in Appendix D. It does not appear that any modifications to the dam have been undertaken since completion of the West Dam construction in 2011.

One vibrating wire piezometer has been installed in the foundation of the West Dam, two standpipe piezometers downstream of the dam, and one slope inclinometer through the core and into the foundation. One survey monument was installed on the dam crest and one on the downstream face. In March 2013, it appears that the piezometer installed in the foundation was hit by lightning and the thermistor was damaged. Pore pressure data is still collected from this piezometer but the temperature data collected is no longer useable. All of the other instruments

[22]Vector Engineering Inc., 2008. Design Report of the Tailings Storage Facility at the New Afton Gold & Copper Mine. Report issued to New Gold Inc. dated October 2008.

appear to be functioning properly and a summary of the instrumentation readings for the West Dam is provided below.

6.5.2. Dam Inspection Findings

The dam structure, based on a visual field review, was observed to be functional and in good condition as seen in Photo WD05 in Appendix B. The crest surface of the West Dam was observed to be generally flat (Photo WD01). It is our understanding that the crest surface is routinely maintained by grading as needed to control rutting from vehicle traffic. This practice appears to be working and can be maintained.

The downstream slope (Photo WD11) and upstream slope (Photo WD03) were generally uniform and smooth. Minor vegetation was observed on the downstream and upstream faces. It is our understanding that the dam is sprayed annually to control vegetation. This practice appears to be working and should be maintained as necessary.

There was no protection from vehicle traffic for the settlement monument installed on the crest of the dam. *It is recommended that the settlement monument be protected from vehicle traffic using Lock-Blocks. The survey monument should be surveyed monthly.*

A pond of water, approximately 10 m across, was observed at the downstream toe of the West Dam (Photo WD15). This pond appears to be slightly larger than observed during the previous annual inspection, likely due to the time of the year the inspection was undertaken. *It is recommended that a long-term plan be developed for managing seepage from the downstream toe of the West Dam prior to the tailings pond reaching the downstream toe elevation.*

There was some seepage observed at the upstream toe of the dam. The seepage was clear, and there was white staining on the ground surface in the vicinity of the seepage (Photo WD06). This seepage is likely a result of the same groundwater discharge causing the ponding at the downstream toe. *The seepage should be routinely monitored for rate of flow and clarity.*

Based on these observations, we recommend the following:

- *Lock-Blocks should be placed around the settlement monuments located on the crest of the West Dam to protect them from vehicle traffic, and the monuments should be surveyed monthly.*
- *A long-term plan should be developed to manage seepage from the downstream toe of the West Dam prior to the tailings pond reaching the downstream toe elevation.*
- *The seepage at the upstream toe should be monitored for rate of flow and clarity.*

6.5.3. Instrument Review

Piezometric data have been collected at the West Dam since January 2013. The vibrating wire piezometer installed within the foundation of the West Dam is attached to a data logger that collects a reading every 12 hours. These readings are subsequently retrieved from the data logger on a monthly basis and have been collected consistently since January 15, 2013. The piezometer was installed at an elevation that is well above the current level of the tailings and operating pond in the TSF. In general, the vibrating wire piezometer has recorded an increase

of approximately 3.5 m in pore pressure between January 15, 2014 and September 9, 2014, as shown in Figure 6-14. This is likely associated with mounding of the water table within the dam fill at the base of the dam.

The two standpipe piezometers located downstream of the West Dam are generally read manually on a monthly basis with data being collected since January 16, 2013. Over this time period, standpipe piezometer 29203 has recorded seasonal fluctuations of approximately 2.5 m in the piezometric level (Appendix C). Standpipe piezometer 29204 has been dry over the recording period. Both the vibrating wire piezometer and the standpipe piezometers appear to be reading within acceptable operational limits.

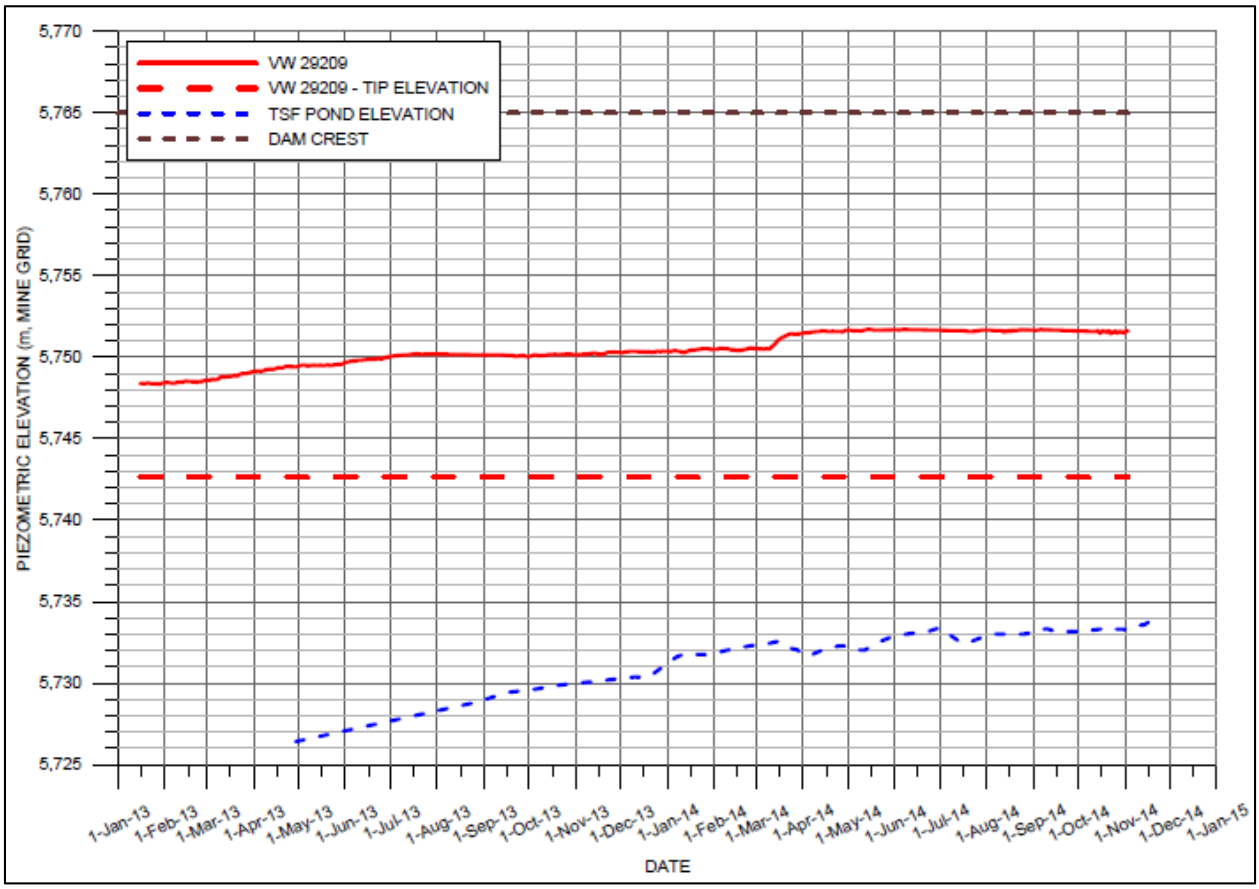

Figure 6-14. Vibrating Wire Piezometer installed at West Dam.

The slope inclinometer installed at the dam is manually read on a monthly basis and data have been collected consistently since January 16, 2013. The inclinometer has recorded approximately 5 mm of lateral displacement in the downstream direction near the crest of the dam at an elevation of approximately 5,762 m since January 2013, as shown in Figure 6-15. BGC has interpreted this apparent movement as settlement of the dam, and it continues to be monitored.

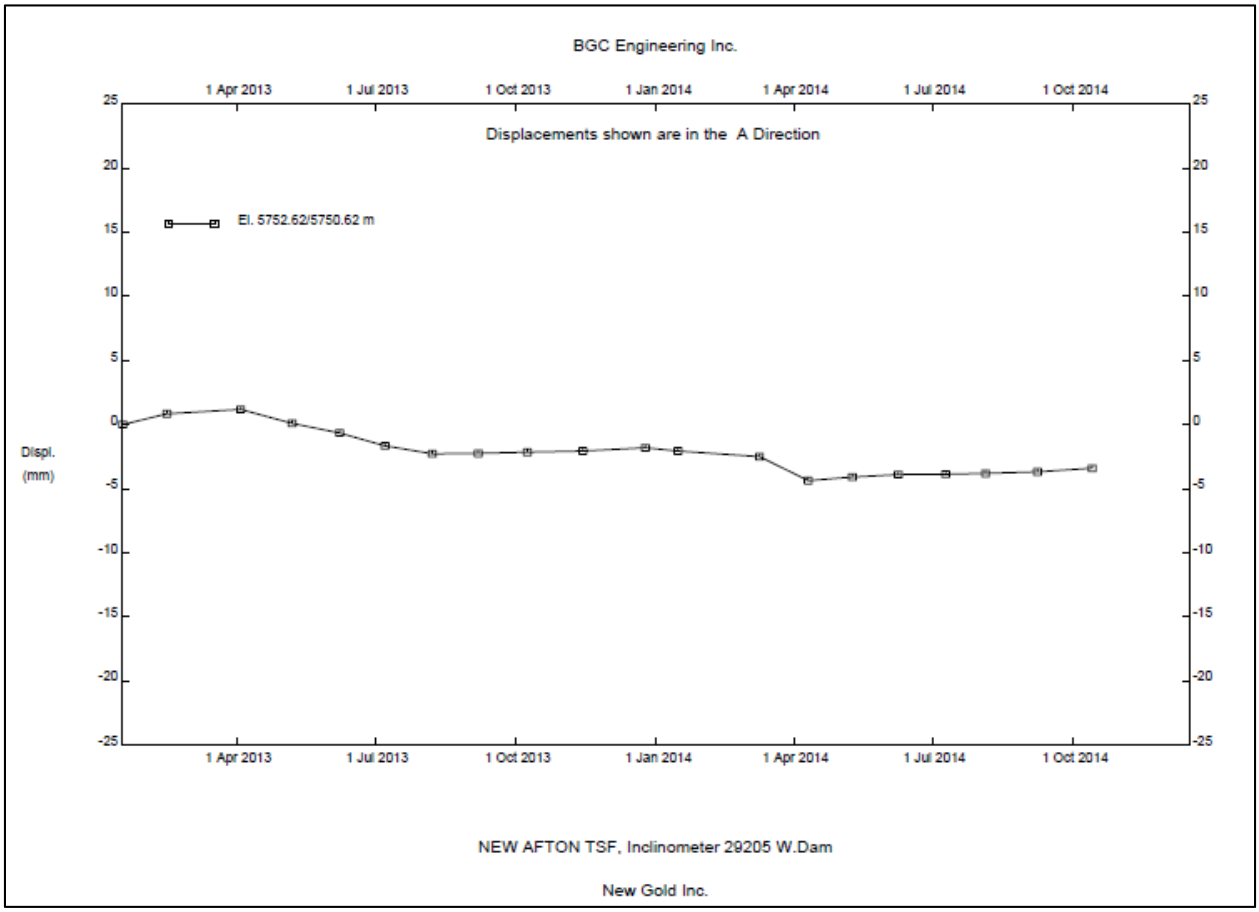

Figure 6-15. Slope Inclinometer 29205 time-displacement data at West Dam. The positive A-direction is in the upstream direction and the negative A-direction is in the downstream direction.

There are no records of surveys being performed on the settlement monuments located on the West Dam. *It is recommended that routine manual surveys of the settlement monuments be completed on a monthly basis.*

6.6. Pothook Dam

6.6.1. Background Information

Construction of Pothook Dam, located to the east of the TSF, began in October 2008 with the construction phase completed in December 2008 (Vector, 2009)[23]. The dam provides containment along the west side of the Pothook Pit to store tailings pumped from the mill. The dam is shown in Figure 6-16.

[23] Vector Engineering Inc., 2009. Final Construction Quality Assurance Report for the Pothook Dam at the New Afton Copper & Gold Mine Facility. Report issued to New Gold Inc. dated April 2009.

Figure 6-16. View looking north to Pothook Dam from 75 m west of Dam C. September 30, 2014.

Pothook Dam comprises a rockfill dam with a central compacted till core separated with filters. A smooth 60-mil (1.5 mm) LLDPE liner was installed on the upstream face of the dam in 2011 as a result of seepage beneath the dam. At its current centerline, Pothook Dam is up to 10 m high with a crest elevation of approximately 5,730 m.

The dam cross-section and the plan extents are provided in Vector (2008 and 2009)[24] [25] and are provided in Appendix D.

Five vibrating wire piezometers have been installed within the core of Pothook Dam, three standpipe piezometers downstream of the dam, and six slope inclinometers installed through the dam and into the foundation. Four vibrating wire settlement plates have been installed within the core near the base of the dam and three surface settlement monuments along the crest of the dam. All of the instruments appear to be functioning properly, except for one vibrating wire piezometer for which data is no longer being collected. A summary of the instrumentation readings for Pothook Dam is provided below.

[24] Vector Engineering Inc., 2008. Design Report of the Tailings Storage Facility at the New Afton Gold & Copper Mine. Report issued to New Gold Inc. dated October 2008.
[25] Vector Engineering Inc., 2009. Final Construction Quality Assurance Report for the Pothook Dam at the New Afton Copper & Gold Mine Facility. Report issued to New Gold Inc. dated April 2009.

6.6.2. Dam Inspection Findings

The dam structure, based on a visual field review, was observed to be functional and in good condition as seen in Photo PD01 and PD03 in Appendix B. The crest of the dam is generally flat with only minor erosion due to vehicle traffic. Minor vegetation was observed along the crest of the dam, and the vegetation on the downstream slope is much more pronounced. The upstream face of the dam is non-uniform over the entire length of the dam with some apparent bulging (Photo PD19) consistent with construction records. At the left abutment the upstream face becomes quite steep, as shown in Photo PD18. The downstream slope was generally uniform and smooth (Photo PD26 and PD30), although *vegetation was observed on the downstream face that should be removed* (Photo PD29).

It appears that fill was placed over the LLDPE liner where the tailings line enters the impoundment (Photo PD20). There were numerous tears, punctures, and abrasions observed on the liner on the upstream face of the dam, increasing in frequency towards the left abutment, including the two tears noted in the annual inspection in 2013 to be repaired as part of the 2014 liner construction. These defects are likely as a result of running water lines down the upstream face of the dam. This practice should stop, and any water lines should be run on the upstream tailings liner berm, or where there is no liner present. *It is recommended that these tears be repaired. As the water level in the Pothook Pit is approaching the toe of the Pothook Dam, these repairs should be undertaken as soon as possible. The water filling the topographic low near the left abutment should be pumped down to expose the liner facilitating inspection and repairs.*

The spillway channel is located near the right abutment of the dam. The channel is approximately 20 m in length and 10 m wide (Photo PD01). Erosion was observed at the inlet of the spillway due to discharge from a pipeline located through this area (Photo PD01). Erosion protection within the spillway terminates prior to the spillway entering a natural drainage course (Photo PD03). *An assessment of the spillway channel should be completed to determine appropriate dimensions and erosion protection. The spillway channel should be remediated based on the results of this assessment.*

There several sinkholes observed in the overburden, near the crest of Pothook Pit, to the east of the dam between the spillway and the right abutment of Pothook Dam (Photo PD34). The sinkholes are likely a result of water being discharged into this area from the Afton Open Pit. In addition to sinkholes, tension cracks and scarps were observed in the overburden adjacent to the pit rim, (PD35 and PD37); again likely caused by water discharge from the Afton Open Pit. *An assessment of the stability of this slope and any remediation required should be undertaken prior to the next annual inspection. Discharge of water along this portion of the pit rim above the impoundment (Photo PD36) should stop. The discharge lines should be run down the access road east of the left abutment of the dam and discharge directly to the impoundment.*

Based on these observations, we recommend the following:

- *Vegetation be removed from the crest of Pothook Dam and the downstream face of the dam. Given the success of the spraying program at the South and West Dams, the same could be employed at the Pothook Dam.*
- *Tears in the LLDPE liner should be repaired. These repairs should be completed as soon as possible.*
- *The water that has accumulated in the topographic low upstream of the left abutment should be drained to facilitate inspection and repair of the liner.*
- *The practice of running water lines over the liner should stop.*
- *An assessment of the spillway channel should be completed to determine appropriate dimensions and erosion protection. Any modifications to the spillway channel should be implemented if needed based on the results of this assessment.*
- *An assessment of the stability of the overburden slope between the access road east of the right abutment of the dam and the emergency spillway, and any remediation required, should be undertaken prior to the next annual inspection.*
- *Discharge of water along the portion of the pit rim between the spillway and the left abutment of the dam above the impoundment should stop. The discharge lines should be run down the access road east of the left abutment of the dam and discharge directly to the impoundment, or along some other suitable route to prevent erosion of the overburden along the northern rim of the Pothook Pit.*

6.6.3. Instrument Review

Piezometric data have been collected since 2011, and trends generally follow the expected behaviour. Since July of 2013, data has been collected from the vibrating wire piezometers and standpipe piezometers on a monthly basis. Prior to this, the data collection was sporadic. The vibrating wire piezometers installed in Pothook Dam have not recorded any pore pressure responses, as shown in Figure 6-17. The standpipe piezometers, located downstream of the dam, have all either been dry or recorded minor fluctuations in piezometric levels. Both the vibrating wire piezometer and the standpipe piezometers appear to be reading within acceptable operational limits.

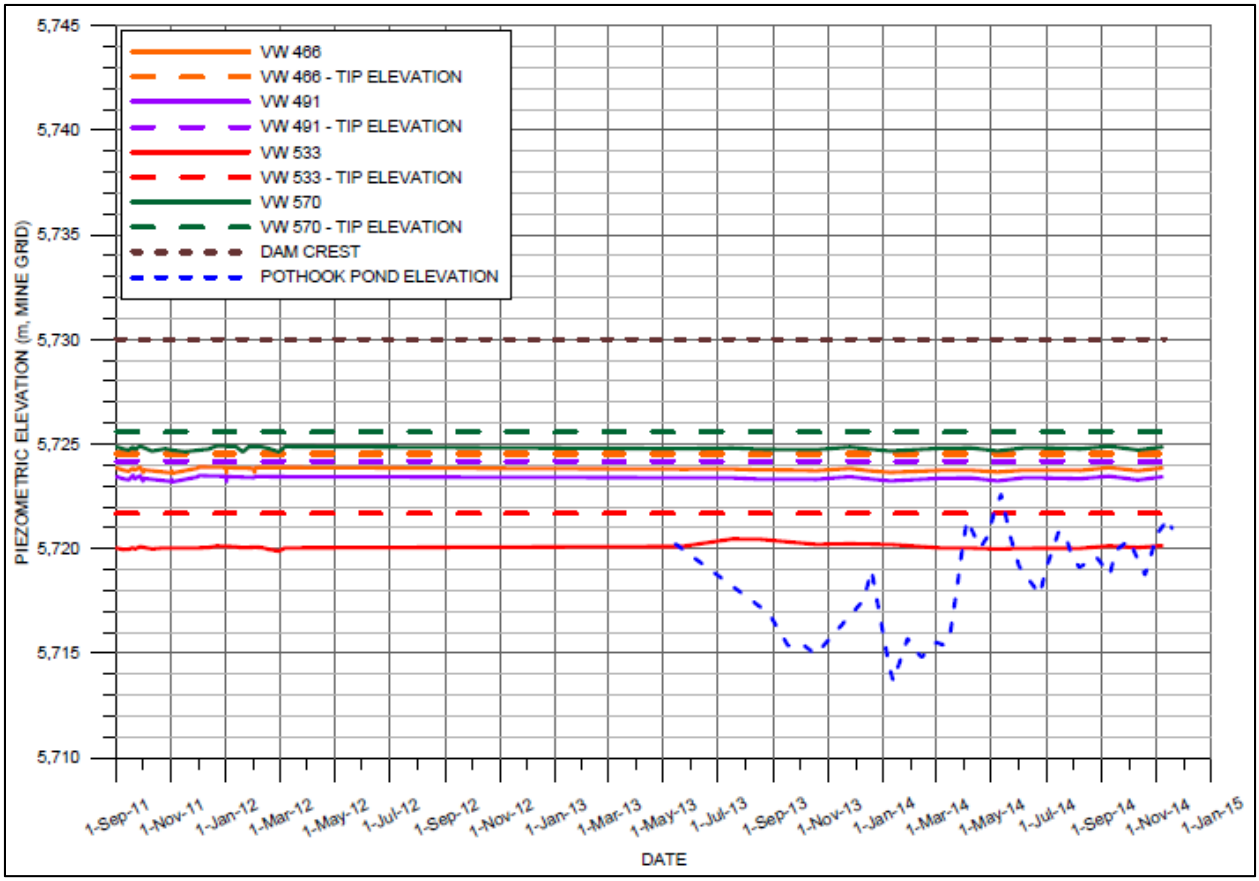

Figure 6-17. Vibrating Wire Piezometers installed at Pothook Dam.

Data have been collected for the six slope inclinometers since their installation in 2011. However, the data collected prior to April 2013 were of poor quality and are not considered useable. Since April 2013, the inclinometers have been manually read on a monthly basis. The inclinometers have recorded no displacements over this time period.

Data have been collected for the four vibrating wire settlement cells installed near the base of the dam since September 2011. However, prior to May 2013, the data collection was sporadic. Since May 2013, the settlement cells have been read manually on a monthly basis. From September 2011 to October 2014, the vibrating wire settlement plates recorded settlement ranging from 90 to 180 mm as seen in Figure 6-18, which is within the predicted range of settlement for this area. In late 2013, vibrating wire settlement plate 570 (97726) was not functioning and will be repaired.

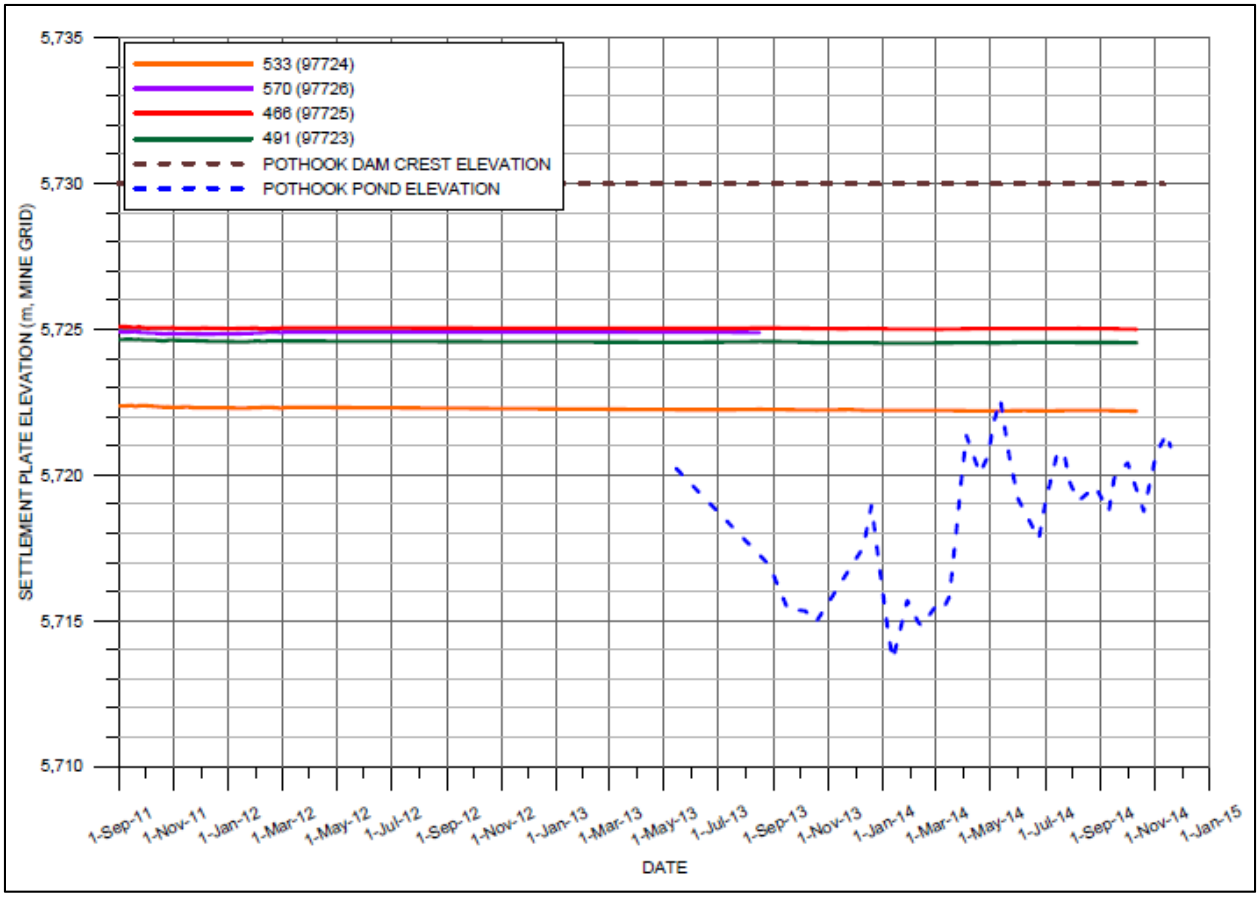

Figure 6-18. Vibrating Wire Settlement Plates installed at Pothook Dam.

There are no records of surveys being performed on the surface survey monument located on Pothook Dam. *It is recommended that routine surveys of the survey monuments be completed on a monthly basis.*

6.7. Seepage Ponds

6.7.1. Background Information

Seepage Ponds 1, 2, and 3 were constructed downstream of Dams A, B, and C, respectively, as shown in Figure 1-1. Construction of the seepage ponds was completed in 2012[26]. The intent of the seepage ponds is to capture runoff and seepage from the dams, as well as seepage and sediment from cycloning, to allow pumping back into the TSF basin.

Seepage Pond 1 was developed through a combination of excavation and embankment construction, as shown in Figure 6-19. The embankment of Seepage Pond 1 was constructed from compacted till. Seepage Ponds 2 and 3 were constructed through excavation. All of the seepage ponds were lined with a 1 m thick layer of compacted till[26]. The height and storage

[26] AMEC, 2012. Materials Testing Summary – TSF Sediment Ponds Construction in 2012, New Afton Project, Kamloops, BC. Memorandum issued to New Gold Inc., dated August 21, 2012.

capacity of Seepage Pond 1 are less than the minimums required to consider this structure a dam.

Figure 6-19. View looking southwest at Seepage Pond 1 from the downstream toe of Dam A at the boundary with Dam B. September 30, 2014.

6.7.2. Inspection Findings

The seepage ponds, based on a visual field review, were observed to be functional and in good condition as seen in Photos S106, S205 and S305 in Appendix B. Minor erosion due to runoff was observed on the impoundment slopes of the seepage ponds, and on the downstream face of Seepage Pond 1 Dam (Photo S104). Minor erosion due to wave action was observed immediately above the pond level in, and at the pond inlet at the northwest corner of Seepage Pond 2 (Photo S207). The vegetation on the Seepage Pond 1 Dam should be removed. Given the success of the spraying program at the West and South Dams, this practice could be employed at the Seepage Pond 1 Dam.

Based on these observations, we recommend the following:

- *Sedimentation levels in and erosion around the seepage ponds and the erosion of the downstream face of the Seepage Pond 1 Dam should be routinely monitored and, if observed to be increasing, repaired.*
- *The vegetation on the Seepage Pond 1 Dam should be removed.*

6.8. Tailings Line/Spill Pond

The tailings line was reviewed from the feed bin within the mill building to the discharge point at the TSF. The water reclaim line was viewed from the reclaim barge to the mill building. The approximate path of the tailings and water reclaim lines are shown in Figure 1-1. The tailings and water reclaim lines primarily consist of 660 mm (26 in.) diameter, high density polyethylene (HDPE) pipe. A section of the tailings line near the mill building consists of 660 mm (26 in.) diameter, steel pipe. The tailings and water reclaim lines were observed to be functional and in good condition, as seen in Figure 6-20.

Spill containment around the valve on the tailings line adjacent to Seepage Pond 3 was in the process of being constructed at the time of the annual inspection. The liner had been placed but not yet seamed (Photo TL02). It is our understanding the liner will be seamed as part of the 2014 liner raise on the New Afton TSF.

Figure 6-20. View looking north northwest at tailings line and water reclaim line. Tailings line is on the left and water reclaim line is on the right. Note subsidence cracks along pipeline corridor. October 1, 2014.

Cracking, due to the underground block cave mining, was observed adjacent to the tailings and water reclaim lines at one location, as seen in Photo TL03 in Appendix B. *It is recommended that the cracking be routinely monitored and that the tailings and water reclaim lines be moved if it appears they will be impacted by the cracking or any associated settlement.*

Survey monuments were observed on the steel portion of the tailings line, as seen in Photo TL06. *It is recommended that the survey monuments be routinely monitored to evaluate settlement imposed on the tailings line.* It is our understanding that the portion of the steel tailings line within the subsidence zone is to be replaced with HDPE pipe.

The Tailings Spill Pond, located adjacent to the mill building, was also reviewed and was observed to be functional and in good condition, as seen in Photo TL13. The Tailings Spill Pond was observed to be relatively full at the time of the inspection. *It is recommended that the Tailings Spill Pond be emptied to provide capacity to drain the tailings line, if needed.*

Figure 6-21. View looking North at the Tailings Spill Pond. Note the spill pond is relatively full. October 1, 2014.

6.9. Block Cave Subsidence Monitoring

Subsidence due to the underground block cave mining is monitored by New Afton through an array of survey monuments located across the site. The monuments consist of survey prisms and are read remotely every 2 hours using a robotic theodolite. A figure, provided by New Gold, showing a contour map of the total subsidence measured at surface, at a contour interval of 0.5 m, is provided in Appendix C. The figure is based on data collected up to September 2014. The data indicate that, as of December 1, 2013, subsidence of approximately 1.0 m (minimum contour of deformation provided) was located about 400 m downstream from the centerline of Dam C where it joins Dam B. Data from a LiDAR flyover indicates that the limit of 1.0 m deformation could be as close as 200 m downstream of the same location.

The impact of subsidence on the TSF will require continued monitoring and mapping of crack development between the block-cave and the TSF. The installation of additional instrumentation between the predicted subsidence zone and the TSF dams including deep inclinometers is planned for the fourth quarter of 2014 but were not yet installed at the time of the annual inspection. At the time of report preparation, two of the inclinometers have been installed and added to the monitoring program.

Procedures and criteria for reacting to encroachment of the subsidence zone toward the TSF should be established and incorporated into the OMS Manual.

7. CLOSURE

BGC Engineering Inc. (BGC) prepared this document for the account of New Gold Inc. The material in it reflects the judgment of BGC staff in light of the information available to BGC at the time of document preparation. Any use which a third party makes of this document or any reliance on decisions to be based on it is the responsibility of such third parties. BGC accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this document.

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Yours sincerely,

BGC ENGINEERING INC.
per:

Clint Logue, P.Eng., P.Geo.
Senior Geotechnical Engineer

CL/TGH/tgh/cm

APPENDIX A
INSPECTION FORMS

New Afton Project:	Tailings Storage Facility Annual Inspection - 2014				
Project Number:	0921011-01-03				
BGC Rep.(s):	Clint Logue, P.Eng.; Eric Coffin, P.Eng.; Jessica Steeves, E.I.T.				
Date:	September 30, 2014				
Weather:	Partially cloudy				
Structure:	☒Dam A	☐Dam B	☐Dam C	☐South Dam	☐West Dam
	☐Pothook Dam	☐Other:			

Observations:

Check the appropriate box if the condition is observed and provide a description as notes; indicate if follow-up action is required.

Crest:

Condition	Observed	Notes	Action
Cracking	☐		☐
Settlement/Uneven	☐		☐
Erosion	☐		☐
Other Movement	☐		☐
Vegetation	☐		☐
Comments:			☐

Downstream Slope and Toe:

Condition	Observed	Notes	Action
Slope Angle	☐		☐
Slope Not Uniform	☒	Borrowing of cyclone sand on downstream cell resulted in stepped downstream slope.	☒
Erosion	☐		☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☐		☐
Animal Burrows	☐		☐
Ponded Water	☐		☐
Toe Vegetation	☐		☐
Sand Boils/Piping	☐		☐
Soft Ground at Toe	☒	Sand has collected at toe from erosion during cycloning. Could erode and end up in Seepage Pond 1. Monitor, and if it becomes a problem, remove.	☐
Seepage	☒		☐
Location:	Downstream toe at left abutment.		
Rate:	☐Damp ☒Trickle ☐Steady ☐Est. Flow: l/sec		
Clarity:	☒Clear ☐Muddy ☐Sample		
Comments:	Seepage has been noted here for the last two years. Continue routine monitoring for quantity and clarity.		☐

Upstream Slope and Tailings Surface:

Condition	Observed	Notes	Action
Slope Angle	☒	Uniform.	☐
Slope Not Uniform	☐		☐
Erosion	☐		☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☐		☐
Animal Burrows	☐		☐
Sinkholes	☐		☐
Upstream Surface	☒	Cyclone sand been placed recently	☐
	☒Tailings ☒Water ☐Ice/Snow		
Comments:			☐

Spillway/Flow Control Structure:

Type	☒None	☐Decant	☐Spillway	Dimensions:	
	☐Weir	☐Wing Walls		Invert:	m
Flow:	☐Gauge	☐Reading		☐Est. Flow:	l/sec
Clarity:	☐Clear	☐Muddy	☐Ice		

Condition	Observed	Notes	Action
Inlet Blockage	☐		☐
Outlet Blockage	☐		☐
Erosion	☐		☐
Comments:			☐

Instrumentation:

Instrument	Observed	Notes	Action
VW Piezometer	☒	Place Lock-Blocks around monument at end of construction.	☒
SP Piezometer	☐		☐
Slope Inclinometer	☒	Place Lock-Blocks around monument at end of construction.	☒
Survey Monument	☐		☐
Settlement Plate	☒	Place Lock-Blocks around monument at end of construction.	☒
Readings	☐		☐
Comments:	Re-establish survey monuments following 2014 construction.		☒

Tailings/Reclaim Lines:

Condition	Observed	Notes	Action
Leaks	☐		☐
Erosion	☐		☐
Buried Valves	☐		☐
Liner Tears	☐		☐
Comments:			☐

Active Work at Time of Visit:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☐		☐
Other:	☐		☐
Comments:			☐

Changes From Previous Inspection:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☒	6 m raise of core including construction of sand cells upstream and downstream. Left abutment to be completed.	☐
Seepage	☐		☐
Other:	☐		☐
Comments:			☐

Monitoring/Maintenance Required:

Condition	Notes	Action
☐None		☐
☒Routine Monitoring/Maint.	Maintain monitoring, install and monitor survey monuments, monitor seepage at left abutment and toe.	☒
☒Increased Monitoring/Maint.	Add monitoring of erosion of soft sand deposit at downstream toe to routine monitoring. Survey monthly the survey monuments when installed after 2014 construction season.	☐
☐Remediation/Eng. Req'd		☐
Comments:		☐

Recommendations:

Notes	Action
1. Monitor erosion of loose sand at downstream toe.	☒
2. Place Lock-Blocks around instrumentation monuments at end of construction.	☒
3. Re-establish and monitory survey monuments on dam crest.	☒

Attachments:

Items	Notes
☒Photos	See Appendix B.
☐Sketch/Plan	
☐Other:	

Note that these observation sheets are to be read in conjunction with the accompanying report.

New Afton Project:	Tailings Storage Facility Annual Inspection - 2014
Project Number:	0921011-01-03
BGC Rep.(s):	Clint Logue, P.Eng.
Date:	October 1, 2014
Weather:	Cloudy, light rain.
Structure:	☐Dam A ☒Dam B ☐Dam C ☐South Dam ☐West Dam ☐Pothook Dam ☐Other:

Observations:

Check the appropriate box if the condition is observed and provide a description as notes; indicate if follow-up action is required.

Crest:

Condition	Observed	Notes	Action
Cracking	☐		☐
Settlement/Uneven	☐		☐
Erosion	☐		☐
Other Movement	☐		☐
Vegetation	☐		☐
Comments:	Uniform; no ponding.		☐

Downstream Slope and Toe:

Condition	Observed	Notes	Action
Slope Angle	☐		☐
Slope Not Uniform	☒	Various stages of construction.	☐
Erosion	☒	Right abutment; minor erosion.	☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☐		☐
Animal Burrows	☐		☐
Ponded Water	☐		☐
Toe Vegetation	☐		☐
Sand Boils/Piping	☐		☐
Soft Ground at Toe	☐		☐
Seepage	☐		☐
Location:			
Rate:	☐Damp	☐Trickle ☐Steady ☐Est. Flow: l/sec	
Clarity:	☐Clear	☐Muddy ☐Sample	
Comments:			☒

Upstream Slope and Tailings Surface:

Condition	Observed	Notes	Action
Slope Angle	☐		☐
Slope Not Uniform	☐		☐
Erosion	☐		☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☐		☐
Animal Burrows	☐		☐
Sinkholes	☐		☐
Upstream Surface	☐		☐
		☐Tailings ☐Water ☐Ice/Snow	
Comments:	Upstream sand cells being prepared for cycloning.		☐

Spillway/Flow Control Structure:

Type	☒None	☐Decant	☐Spillway	Dimensions:	
	☐Weir	☐Wing Walls		Invert:	m
Flow:	☐Gauge	☐Reading		☐Est. Flow:	l/sec
Clarity:	☐Clear	☐Muddy	☐Ice		

Condition	Observed	Notes	Action
Inlet Blockage	☐		☐
Outlet Blockage	☐		☐
Erosion	☐		☐
Comments:			☐

Instrumentation:

Instrument	Observed	Notes	Action
VW Piezometer	☒		☐
SP Piezometer	☐		☐
Slope Inclinometer	☒		☐
Survey Monument	☐		☐
Settlement Plate	☐		☐
Readings	☐		☐
Comments:	Lock-Block protection required for instruments. Re-establish survey monuments.		☒

Tailings/Reclaim Lines:

Condition	Observed	Notes	Action
Leaks	☐		☐
Erosion	☐		☐
Buried Valves	☐		☐
Liner Tears	☐		☐
Comments:			☐

Active Work at Time of Visit:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☒	Compaction on crest; prepping U/S cell, liner placement.	☐
Other:	☐		☐
Comments:	Construction to be completed for 2014.		☐

Changes From Previous Inspection:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☒	6.0 m dam raise in progress.	☐
Seepage	☐		☐
Other:	☐		☐
Comments:			☐

Monitoring/Maintenance Required:

Condition	Notes	Action
☐None		☐
☒Routine Monitoring/Maint.	Continue monitoring instruments.	☐
☒Increased Monitoring/Maint.	Monthly surveying of survey monuments required following completion of 2014 construciton.	☒
☐Remediation/Eng. Req'd		☐
Comments:		☐

Recommendations:

Notes	Action
1. Check design drawings against site conditions at interface between Dam B and C.	☒
2. Protect instruments with lock blocks when construction complete.	☒
3. Re-establish survey monuments and add to routine monitoring.	☒

Attachments:

Items	Notes
☒Photos	See Appendix B.
☐Sketch/Plan	
☐Other:	

Note that these observation sheets are to be read in conjunction with the accompanying report.

New Afton Project:	Tailings Storage Facility Annual Inspection - 2014
Project Number:	0921011-01-03
BGC Rep.(s):	Clint Logue, P.Eng.; Eric Coffin, P.Eng.; Jessica Steeves, E.I.T.
Date:	October 1, 2014
Weather:	Sunny
Structure:	☐Dam A ☐Dam B ☒Dam C ☐South Dam ☐West Dam ☐Pothook Dam ☐Other:

Observations:

Check the appropriate box if the condition is observed and provide a description as notes; indicate if follow-up action is required.

Crest:

Condition	Observed	Notes	Action
Cracking	☐		☐
Settlement/Uneven	☒	Some undulation.	☐
Erosion	☐		☐
Other Movement	☐		☐
Vegetation	☐		☐
Comments:	Ponded water on crest managed with sumps and pumps.		☐

Downstream Slope and Toe:

Condition	Observed	Notes	Action
Slope Angle	☐		☐
Slope Not Uniform	☐		☐
Erosion	☒		☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☐		☐
Animal Burrows	☐		☐
Ponded Water	☐		☐
Toe Vegetation	☐		☐
Sand Boils/Piping	☐		☐
Soft Ground at Toe	☒	Loose cyclone sand accumulated at toe from runoff.	☐
Seepage	☒		☐
Location:	Downstream toe		
Rate:	☐Damp ☒Trickle ☐Steady ☐Est. Flow: l/sec		
Clarity:	☐Clear ☐Muddy ☐Sample		
Comments:	Seepage due to recent sand cell construction.		☐

Upstream Slope and Tailings Surface:

Condition	Observed	Notes	Action
Slope Angle	☐		☐
Slope Not Uniform	☒	Pushing tailings for winter sand placement.	☐
Erosion	☐		☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☐		☐
Animal Burrows	☐		☐
Sinkholes	☐		☐
Upstream Surface	☒	Well developed beach.	☐
		☒Tailings ☒Water ☐Ice/Snow	
Comments:	Cyclone sand pushed from cell into impoundment adjacent to right abutment.		☐

Spillway/Flow Control Structure:

Type	☒None	☐Decant	☐Spillway	Dimensions:	
	☐Weir	☐Wing Walls		Invert:	m
Flow:	☐Gauge	☐Reading		☐Est. Flow:	l/sec
Clarity:	☐Clear	☐Muddy	☐Ice		

Condition	Observed	Notes	Action
Inlet Blockage	☐		☐
Outlet Blockage	☐		☐
Erosion	☐		☐
Comments:			☐

Instrumentation:

Instrument	Observed	Notes	Action
VW Piezometer	☒	Lock-Block protection required following construction.	☒
SP Piezometer	☐		☐
Slope Inclinometer	☒	Lock-Block protection required following construction.	☒
Survey Monument	☐		☐
Settlement Plate	☒		☐
Readings	☐		☐
Comments:	Re-establish and monitor survey monuments on crest following construction.		☒

Tailings/Reclaim Lines:

Condition	Observed	Notes	Action
Leaks	☒	Spigot #3 - leaking at connection, ¾ L/min DS2. Spigot #4 - minor leak. Spigot #6 - 2/3 L/min leak with water pooling.	☒
Erosion	☐		☐
Buried Valves	☐		☐
Liner Tears	☐		☐
Comments:	Upstream sand cell berm should be re-established prior to cell construction at spigot 3.		☒

Active Work at Time of Visit:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☒	Sand cell harvesting, mechanical sand placement in preparation for liner raise. Foundation cleaning on right abutment.	☐
Other:	☐		☐
Comments:			☐

Changes From Previous Inspection:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☒	6 m raise in progress.	☐
Seepage	☐		☐
Other:	☐		☐
Comments:			☐

Monitoring/Maintenance Required:

Condition	Notes	Action
☐None		☐
☒Routine Monitoring/Maint.	Monthly data collection from instruments.	☒
☒Increased Monitoring/Maint.	Re-establish survey monuments and add to routine monitoring following 2014 construction.	☒
☐Remediation/Eng. Req'd		☐
Comments:		☐

Recommendations:

Notes	Action
1. Place Lock-Blocks around instrument monuments following construction.	☒
2. Several spigots leaking and need routine maintenance.	☒
3. Re-establish survey monuments and add to routine monitoring following 2014 construction.	☒
4. Re-establish upstream sand cell berm prior to cycloning at spigot 3.	☒

Attachments:

Items	Notes
☒Photos	See Appendix B.
☐Sketch/Plan	
☐Other:	

Note that these observation sheets are to be read in conjunction with the accompanying report.

New Afton Project:	Tailings Storage Facility Annual Inspection - 2014
Project Number:	0921011-01-03
BGC Rep.(s):	Clint Logue, P.Eng.; Eric Coffin, P.Eng.; Jessica Steeves, E.I.T.
Date:	September 30, 2014
Weather:	Cloudy
Structure:	☐Dam A ☐Dam B ☐Dam C ☒South Dam ☐West Dam ☐Pothook Dam ☐Other:

Observations:

Check the appropriate box if the condition is observed and provide a description as notes; indicate if follow-up action is required.

Crest:

Condition	Observed	Notes	Action
Cracking	☐		☐
Settlement/Uneven	☐		☐
Erosion	☐		☐
Other Movement	☐		☐
Vegetation	☐		☐
Comments:	Protect survey monuments on crest with Lock-Blocks.		☒

Downstream Slope and Toe:

Condition	Observed	Notes	Action
Slope Angle	☒	3:1	☐
Slope Not Uniform	☐		☐
Erosion	☐		☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☒	Sporadic grasses.	☐
Animal Burrows	☐		☐
Ponded Water	☐		☐
Toe Vegetation	☐		☐
Sand Boils/Piping	☐		☐
Soft Ground at Toe	☐		☐
Seepage	☐		☐
Location:			
Rate:	☐Damp	☐Trickle ☐Steady ☐Est. Flow: l/sec	
Clarity:	☐Clear	☐Muddy ☐Sample	
Comments:			☐

Upstream Slope and Tailings Surface:

Condition	Observed	Notes	Action
Slope Angle	☒	2:1	☐
Slope Not Uniform	☒	Some undulation, no scarring, left abutment visible undulation.	☐
Erosion	☐		☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☒	Sporadic grasses.	☐
Animal Burrows	☐		☐
Sinkholes	☐		☐
Upstream Surface	☐		☐
		☐Tailings ☐Water ☐Ice/Snow	
Comments:			☐

Spillway/Flow Control Structure:

Type	☒None	☐Decant	☐Spillway	Dimensions:	
	☐Weir	☐Wing Walls		Invert:	m
Flow:	☐Gauge	☐Reading		☐Est. Flow:	l/sec
Clarity:	☐Clear	☐Muddy	☐Ice		

Condition	Observed	Notes	Action
Inlet Blockage	☐		☐
Outlet Blockage	☐		☐
Erosion	☐		☐
Comments:			☐

Instrumentation:

Instrument	Observed	Notes	Action
VW Piezometer	☒		☐
SP Piezometer	☒		☐
Slope Inclinometer	☒		☐
Survey Monument	☒	Lock-Block protection required.	☒
Settlement Plate	☒		☐
Readings	☐		☐
Comments:			☐

Tailings/Reclaim Lines:

Condition	Observed	Notes	Action
Leaks	☐		☐
Erosion	☐		☐
Buried Valves	☐		☐
Liner Tears	☐		☐
Comments:			☐

Active Work at Time of Visit:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☐		☐
Other:	☐		☐
Comments:			☐

Changes From Previous Inspection:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☐		☐
Seepage	☐		☐
Other:	☒	Lock-Blocks installed to protect VW piezometer and inclinometer monuments on the crest.	☐
Comments:			☐

Monitoring/Maintenance Required:

Condition	Notes	Action
☐None		☐
☒Routine Monitoring/Maint.		☐
☒Increased Monitoring/Maint.	Routine monitoring of survey monuments.	☒
☐Remediation/Eng. Req'd		☐
Comments:		☐

Recommendations:

Notes	Action
1. Lock-Blocks to be installed around survey monuments.	☒
2. Survey monuments on crest should be surveyed monthly.	☒

Attachments:

Items	Notes
☒Photos	See Appendix B
☐Sketch/Plan	
☐Other:	

Note that these observation sheets are to be read in conjunction with the accompanying report.

New Afton Project:	Tailings Storage Facility Annual Inspection - 2014
Project Number:	0921011-01-03
BGC Rep.(s):	Clint Logue, P.Eng.; Eric Coffin, P.Eng.; Jessica Steeves, E.I.T.
Date:	October 1, 2014
Weather:	Partially cloudy
Structure:	☐Dam A ☐Dam B ☐Dam C ☐South Dam ☐West Dam ☒Pothook Dam ☐Other:

Observations:

Check the appropriate box if the condition is observed and provide a description as notes; indicate if follow-up action is required.

Crest:

Condition	Observed	Notes	Action
Cracking	☐		☐
Settlement/Uneven	☐		☐
Erosion	☐		☐
Other Movement	☐		☐
Vegetation	☐		☐
Comments:			☐

Downstream Slope and Toe:

Condition	Observed	Notes	Action
Slope Angle	☐		☐
Slope Not Uniform	☐		☐
Erosion	☐		☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☒	Moderately vegetated; brush and grass.	☐
Animal Burrows	☐		☐
Ponded Water	☐		☐
Toe Vegetation	☐		☐
Sand Boils/Piping	☐		☐
Soft Ground at Toe	☐		☐
Seepage	☐		☐
Location:			
Rate:	☐Damp	☐Trickle ☐Steady ☐Est. Flow: l/sec	
Clarity:	☐Clear	☐Muddy ☐Sample	
Comments:			☐

Upstream Slope and Tailings Surface:

Condition	Observed	Notes	Action
Slope Angle	☐		☐
Slope Not Uniform	☐		☐
Erosion	☐		☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☒	Liner installed along upstream slope, tears and protrusions need repair.	☒
Slope Vegetation	☐		☐
Animal Burrows	☐		☐
Sinkholes	☐		☐
Upstream Surface	☒	Water level in pond approaching toe of dam. Ponding at toe at left abutment in topographic low.	☐
		☒Tailings ☒Water ☐Ice/Snow	
Comments:	Water at toe of dam will need to be drained to inspect/repair liner.		☒

Spillway/Flow Control Structure:

Type	☐None	☐Decant	☒Spillway	Dimensions:		
	☐Weir	☐Wing Walls		Invert:		m
Flow:	☐Gauge	☐Reading		☐Est. Flow:	n/a	l/sec
Clarity:	☐Clear	☐Muddy	☐Ice			

Condition	Observed	Notes	Action
Inlet Blockage	☐		☐
Outlet Blockage	☐		☐
Erosion	☒	Erosion of inlet as overburden sloughs into pit.	☐
Comments:	Assessment of spillway required.		☒

Instrumentation:

Instrument	Observed	Notes	Action
VW Piezometer	☒		☐
SP Piezometer	☒		☐
Slope Inclinometer	☒		☐
Survey Monument	☒		☐
Settlement Plate	☒		☐
Readings	☐		☐
Comments:			☐

Tailings/Reclaim Lines:

Condition	Observed	Notes	Action
Leaks	☐		☐
Erosion	☐		☐
Buried Valves	☐		☐
Liner Tears	☐		☐
Comments:			☐

Active Work at Time of Visit:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☐		☐
Other:	☐		☐
Comments:			☐

Changes From Previous Inspection:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☐		☐
Seepage	☐		☐
Other:	☒	Sinkholes and tension cracks between spillway and right abutment of dam due to water line discharge.	☒
Comments:			☐

Monitoring/Maintenance Required:

Condition	Notes	Action
☐None		☐
☐Routine Monitoring/Maint.		☐
☐Increased Monitoring/Maint.		☐
☐Remediation/Eng. Req'd		☐
Comments:		☐

Recommendations:

Notes	Action
1. Damage to liner needs repair as soon as possible. Water lines over liner should be removed and practice of running lines on liner should be stopped.	☒
2. Water at upstream toe at left abutment will need draining to facilitate liner inspection and repair.	☒
3. Spillway assessment required.	☒
4. Assessment of slope stability between spillway and right abutment required.	☒
5. Water line from Afton Open Pit should be directed along access road just east of right abutment. Discharge should be direct to pond rather than on slope.	☒

Attachments:

Items	Notes
☒Photos	See Appendix B.
☐Sketch/Plan	
☐Other:	

Note that these observation sheets are to be read in conjunction with the accompanying report.

New Afton Project:	Tailings Storage Facility Annual Inspection - 2014
Project Number:	0921011-01-03
BGC Rep.(s):	Clint Logue, P.Eng.; Jessica Steeves, E.I.T.
Date:	September 30, 2014
Weather:	Sunny
Structure:	☐Dam A ☐Dam B ☐Dam C ☐South Dam ☒West Dam ☐Pothook Dam ☐Other:

Observations:

Check the appropriate box if the condition is observed and provide a description as notes; indicate if follow-up action is required.

Crest:

Condition	Observed	Notes	Action
Cracking	☐		☐
Settlement/Uneven	☐		☐
Erosion	☐		☐
Other Movement	☐		☐
Vegetation	☐		☐
Comments:			☐

Downstream Slope and Toe:

Condition	Observed	Notes	Action
Slope Angle	☐		☐
Slope Not Uniform	☐		☐
Erosion	☐		☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☒	Sporadic grasses.	☐
Animal Burrows	☐		☐
Ponded Water	☒	Pond at toe approximately 10 to 12 m across.	☐
Toe Vegetation	☐		☐
Sand Boils/Piping	☐		☐
Soft Ground at Toe	☐		☐
Seepage	☐		☐
Location:			
Rate:	☐Damp	☐Trickle ☐Steady ☐Est. Flow: l/sec	
Clarity:	☐Clear	☐Muddy ☐Sample	
Comments:			☐

Upstream Slope and Tailings Surface:

Condition	Observed	Notes	Action
Slope Angle	☒	Uniform.	☐
Slope Not Uniform	☐		☐
Erosion	☐		☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☒	Sporadic grasses.	☐
Animal Burrows	☐		☐
Sinkholes	☐		☐
Upstream Surface	☒	Seepage just upstream of toe.	☐
		☐Tailings ☐Water ☐Ice/Snow	
Comments:			☐

Spillway/Flow Control Structure:

Type	☒None	☐Decant	☐Spillway	Dimensions:	
	☐Weir	☐Wing Walls		Invert:	m
Flow:	☐Gauge	☐Reading		☐Est. Flow:	l/sec
Clarity:	☐Clear	☐Muddy	☐Ice		

Condition	Observed	Notes	Action
Inlet Blockage	☐		☐
Outlet Blockage	☐		☐
Erosion	☐		☐
Comments:			☐

Instrumentation:

Instrument	Observed	Notes	Action
VW Piezometer	☒		☐
SP Piezometer	☒		☐
Slope Inclinometer	☒		☐
Survey Monument	☐		☐
Settlement Plate	☒		☐
Readings	☐		☐
Comments:			☐

Tailings/Reclaim Lines:

Condition	Observed	Notes	Action
Leaks	☐		☐
Erosion	☐		☐
Buried Valves	☐		☐
Liner Tears	☐		☐
Comments:			☐

Active Work at Time of Visit:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☐		☐
Other:	☐		☐
Comments:			☐

Changes From Previous Inspection:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☐		☐
Seepage	☒	Seepage at upstream toe.	☐
Other:	☐		☐
Comments:	Lock-Blocks placed around SI & VWP; road grading.		☐

Monitoring/Maintenance Required:

Condition	Notes	Action
☐None		☐
☐Routine Monitoring/Maint.		☐
☒Increased Monitoring/Maint.	Seepage at D/S toe to be monitored for clarity and quantity.	☒
☐Remediation/Eng. Req'd		☐
Comments:		☐

Recommendations:

Notes	Action
1. Lock-Blocks should be installed around survey monuments on crest.	☒
2. Routine monitoring of seepage at U/S toe for clarity and quantity.	☒
3. Monthly surveying of survey monuments.	☒

Attachments:

Items	Notes
☒Photos	See Appendix B.
☐Sketch/Plan	
☐Other:	

Note that these observation sheets are to be read in conjunction with the accompanying report.

New Afton Project:	Tailings Storage Facility Annual Inspection - 2014
Project Number:	0921011-01-03
BGC Rep.(s):	Clint Logue, P.Eng.; Eric Coffin, P.Eng.; Jessica Steeves, E.I.T.
Date:	October 1, 2014
Weather:	Partially cloudy
Structure:	☐Dam A ☐Dam B ☐Dam C ☐South Dam ☐West Dam ☐Pothook Dam ☒Other: Tailings Line and Tailings Spill Pond

Observations:

Check the appropriate box if the condition is observed and provide a description as notes; indicate if follow-up action is required.

Crest:

Condition	Observed	Notes	Action
Cracking	☐		☐
Settlement/Uneven	☐		☐
Erosion	☐		☐
Other Movement	☐		☐
Vegetation	☐		☐
Comments:			☐

Downstream Slope and Toe:

Condition	Observed	Notes	Action
Slope Angle	☐		☐
Slope Not Uniform	☐		☐
Erosion	☐		☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☐		☐
Animal Burrows	☐		☐
Ponded Water	☐		☐
Toe Vegetation	☐		☐
Sand Boils/Piping	☐		☐
Soft Ground at Toe	☐		☐
Seepage	☐		☐
Location:			
Rate:	☐Damp	☐Trickle ☐Steady ☐Est. Flow: l/sec	
Clarity:	☐Clear	☐Muddy ☐Sample	
Comments:			☐

Upstream Slope and Tailings Surface:

Condition	Observed	Notes	Action
Slope Angle	☐		☐
Slope Not Uniform	☐		☐
Erosion	☐		☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☐		☐
Animal Burrows	☐		☐
Sinkholes	☐		☐
Upstream Surface	☐		☐
		☐Tailings ☐Water ☐Ice/Snow	
Comments:			☐

Spillway/Flow Control Structure:

Type	☐None	☐Decant	☐Spillway	Dimensions:	
	☐Weir	☐Wing Walls		Invert:	m
Flow:	☐Gauge	☐Reading		☐Est. Flow:	l/sec
Clarity:	☐Clear	☐Muddy	☐Ice		

Condition	Observed	Notes	Action
Inlet Blockage	☐		☐
Outlet Blockage	☐		☐
Erosion	☐		☐
Comments:			☐

Instrumentation:

Instrument	Observed	Notes	Action
VW Piezometer	☐		☐
SP Piezometer	☐		☐
Slope Inclinometer	☐		☐
Survey Monument	☐		☐
Settlement Plate	☐		☐
Readings	☐		☐
Comments:			☐

Tailings/Reclaim Lines:

Condition	Observed	Notes	Action
Leaks	☐		☐
Erosion	☐		☐
Buried Valves	☐		☐
Liner Tears	☐		☐
Comments:			☐

Active Work at Time of Visit:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☐		☐
Other:	☐		☐
Comments:			☐

Changes From Previous Inspection:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☒	Spill containment constructed around valve adjacent to Seepage Pond 3. Liner not yet seamed.	☐
Seepage	☐		☐
Other:	☒	Increased cracking from mine subsidence.	☐
Comments:			☐

Monitoring/Maintenance Required:

Condition	Notes	Action
☐None		☐
☒Routine Monitoring/Maint.	Continue to monitor deformation of pipe.	☐
☐Increased Monitoring/Maint.		☐
☐Remediation/Eng. Req'd		☐
Comments:		☐

Recommendations:

Notes	Action
1. Tailings spill pond is full, needs to be dredged/drained.	☒

Attachments:

Items	Notes
☒Photos	See Appendix B.
☐Sketch/Plan	
☐Other:	

Note that these observation sheets are to be read in conjunction with the accompanying report.

New Afton Project:	Tailings Storage Facility Annual Inspection - 2014
Project Number:	0921011-01-03
BGC Rep.(s):	Clint Logue, P.Eng.; Eric Coffin, P.Eng.; Jessica Steeves, E.I.T.
Date:	October 1, 2014
Weather:	Partially cloudy
Structure:	☐Dam A ☐Dam B ☐Dam C ☐South Dam ☐West Dam ☐Pothook Dam ☒Other: Seepage Pond #1

Observations:

Check the appropriate box if the condition is observed and provide a description as notes; indicate if follow-up action is required.

Crest:

Condition	Observed	Notes	Action
Cracking	☐		☐
Settlement/Uneven	☐		☐
Erosion	☐		☐
Other Movement	☐		☐
Vegetation	☒	Minor vegetation.	☒
Comments:			☐

Downstream Slope and Toe:

Condition	Observed	Notes	Action
Slope Angle	☐		☐
Slope Not Uniform	☐		☐
Erosion	☒	Minor erosion of dam face and at right abutment.	☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☒	Moderately covered with grasses and brush.	☒
Animal Burrows	☐		☐
Ponded Water	☐		☐
Toe Vegetation	☐		☐
Sand Boils/Piping	☐		☐
Soft Ground at Toe	☐		☐
Seepage	☐		☐
Location:			
Rate:	☐Damp	☐Trickle ☐Steady ☐Est. Flow: l/sec	
Clarity:	☐Clear	☐Muddy ☐Sample	
Comments:			☐

Upstream Slope and Tailings Surface:

Condition	Observed	Notes	Action
Slope Angle	☐		☐
Slope Not Uniform	☐		☐
Erosion	☐		☒
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☒	Sporadic vegetation.	☐
Animal Burrows	☐		☐
Sinkholes	☐		☐
Upstream Surface	☒		☐
		☐Tailings ☒Water ☐Ice/Snow	
Comments:	Shallow pond. Pump not running.		☐

Spillway/Flow Control Structure:

Type	☒None	☐Decant	☐Spillway	Dimensions:	
	☐Weir	☐Wing Walls		Invert:	m
Flow:	☐Gauge	☐Reading		☐Est. Flow:	l/sec
Clarity:	☐Clear	☐Muddy	☐Ice		

Condition	Observed	Notes	Action
Inlet Blockage	☐		☐
Outlet Blockage	☐		☐
Erosion	☒	Erosion around last check berm at inlet upstream of right abutment.	☐
Comments:			☐

Instrumentation:

Instrument	Observed	Notes	Action
VW Piezometer	☐		☐
SP Piezometer	☒		☐
Slope Inclinometer	☐		☐
Survey Monument	☐		☐
Settlement Plate	☐		☐
Readings	☐		☐
Comments:			☐

Tailings/Reclaim Lines:

Condition	Observed	Notes	Action
Leaks	☐		☐
Erosion	☐		☐
Buried Valves	☐		☐
Liner Tears	☐		☐
Comments:			☐

Active Work at Time of Visit:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☐		☐
Other:	☐		☐
Comments:			☐

Changes From Previous Inspection:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☐		☐
Seepage	☐		☐
Other:	☐		☐
Comments:	Increased sediment in pond.		☐

Monitoring/Maintenance Required:

Condition	Notes	Action
☐None		☐
☒Routine Monitoring/Maint.	Empty sediment in pond when required. Monitor erosion and make repairs as needed.	☒
☐Increased Monitoring/Maint.		☐
☐Remediation/Eng. Req'd		☐
Comments:		☐

Recommendations:

Notes	Action
1. Control/remove vegetation on dam. Spraying at West/South Dams should be appropriate here.	☒
2. Empty sediment in pond when required.	☒

Attachments:

Items	Notes
☒Photos	See Appendix B.
☐Sketch/Plan	
☐Other:	

Note that these observation sheets are to be read in conjunction with the accompanying report.

New Afton Project:	Tailings Storage Facility Annual Inspection - 2014
Project Number:	0921011-01-03
BGC Rep.(s):	Clint Logue, P.Eng.; Eric Coffin, P.Eng.; Jessica Steeves, E.I.T.
Date:	October 1, 2014
Weather:	Partially cloudy
Structure:	☐Dam A ☐Dam B ☐Dam C ☐South Dam ☐West Dam ☐Pothook Dam ☒Other: Seepage Pond #2

Observations:

Check the appropriate box if the condition is observed and provide a description as notes; indicate if follow-up action is required.

Crest:

Condition	Observed	Notes	Action
Cracking	☐		☐
Settlement/Uneven	☐		☐
Erosion	☐		☐
Other Movement	☐		☐
Vegetation	☐		☐
Comments:			☐

Downstream Slope and Toe:

Condition	Observed	Notes	Action
Slope Angle	☐		☐
Slope Not Uniform	☐		☐
Erosion	☐		☒
Settlement/Uneven	☐		☐
Bulging/Cracking	☒		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☒	Sporadic vegetation.	☐
Animal Burrows	☐		☐
Ponded Water	☐		☐
Toe Vegetation	☐		☐
Sand Boils/Piping	☐		☐
Soft Ground at Toe	☐		☐
Seepage	☐		☐
Location:			
Rate:	☐Damp	☐Trickle ☐Steady ☐Est. Flow: l/sec	
Clarity:	☐Clear	☐Muddy ☐Sample	
Comments:			☐

Upstream Slope and Tailings Surface:

Condition	Observed	Notes	Action
Slope Angle	☐		☐
Slope Not Uniform	☐		☐
Erosion	☒	Erosion at inlets. Continue to monitor and repair as needed.	☒
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☒	Sporadic vegetation.	☐
Animal Burrows	☐		☐
Sinkholes	☐		☐
Upstream Surface	☐		☐
		☐Tailings ☐Water ☐Ice/Snow	
Comments:			☐

Spillway/Flow Control Structure:

Type	☒None	☐Decant	☐Spillway	Dimensions:	
	☐Weir	☐Wing Walls		Invert:	m
Flow:	☐Gauge	☐Reading		☐Est. Flow:	l/sec
Clarity:	☐Clear	☐Muddy	☐Ice		

Condition	Observed	Notes	Action
Inlet Blockage	☐		☒
Outlet Blockage	☐		☐
Erosion	☐		☐
Comments:			☐

Instrumentation:

Instrument	Observed	Notes	Action
VW Piezometer	☐		☐
SP Piezometer	☐		☐
Slope Inclinometer	☐		☐
Survey Monument	☐		☐
Settlement Plate	☐		☐
Readings	☐		☐
Comments:			☐

Tailings/Reclaim Lines:

Condition	Observed	Notes	Action
Leaks	☐		☐
Erosion	☐		☐
Buried Valves	☐		☐
Liner Tears	☐		☐
Comments:			☐

Active Work at Time of Visit:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☐		☐
Other:	☐		☐
Comments:			☐

Changes From Previous Inspection:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☐		☐
Seepage	☒	Increased sediment.	☐
Other:	☐		☐
Comments:			☐

Monitoring/Maintenance Required:

Condition	Notes	Action
☐None		☐
☒Routine Monitoring/Maint.	Empty sediment in pond as needed. Continue to monitor erosion and repair as needed.	☒
☐Increased Monitoring/Maint.		☐
☐Remediation/Eng. Req'd		☐
Comments:		☐

Recommendations:

Notes	Action
1. Empty pond/sediment as needed.	☒
2. Monitor erosion at inlets and impoundment slopes and repair as needed.	☒

Attachments:

Items	Notes
☒Photos	See Appendix B.
☐Sketch/Plan	
☐Other:	

Note that these observation sheets are to be read in conjunction with the accompanying report.

New Afton Project:	Tailings Storage Facility Annual Inspection - 2014
Project Number:	0921011-01-03
BGC Rep.(s):	Clint Logue, P.Eng.; Eric Coffin, P.Eng.; Jessica Steeves, E.I.T.
Date:	October 1, 2014
Weather:	Partially cloudy
Structure:	☐Dam A ☐Dam B ☐Dam C ☐South Dam ☐West Dam ☐Pothook Dam ☒Other: Seepage Pond #3

Observations:

Check the appropriate box if the condition is observed and provide a description as notes; indicate if follow-up action is required.

Crest:

Condition	Observed	Notes	Action
Cracking	☐		☐
Settlement/Uneven	☐		☐
Erosion	☐		☐
Other Movement	☐		☐
Vegetation	☐		☐
Comments:			☐

Downstream Slope and Toe:

Condition	Observed	Notes	Action
Slope Angle	☐		☐
Slope Not Uniform	☐		☐
Erosion	☐		☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☐		☐
Animal Burrows	☐		☐
Ponded Water	☐		☐
Toe Vegetation	☐		☐
Sand Boils/Piping	☐		☐
Soft Ground at Toe	☐		☐
Seepage	☐		☐
Location:			
Rate:	☐Damp	☐Trickle ☐Steady ☐Est. Flow: l/sec	
Clarity:	☐Clear	☐Muddy ☐Sample	
Comments:			☐

Upstream Slope and Tailings Surface:

Condition	Observed	Notes	Action
Slope Angle	☐		☐
Slope Not Uniform	☐		☐
Erosion	☐		☐
Settlement/Uneven	☐		☐
Bulging/Cracking	☐		☐
Sloughing	☐		☐
Slope Protection	☐		☐
Slope Vegetation	☒	Sporadic vegetation.	☐
Animal Burrows	☐		☐
Sinkholes	☐		☐
Upstream Surface	☐		☐
		☒Tailings ☒Water ☐Ice/Snow	
Comments:			☐

Spillway/Flow Control Structure:

Type	☒None	☐Decant	☐Spillway	Dimensions:	
	☐Weir	☐Wing Walls		Invert:	m
Flow:	☐Gauge	☐Reading		☐Est. Flow:	l/sec
Clarity:	☐Clear	☐Muddy	☐Ice		

Condition	Observed	Notes	Action
Inlet Blockage	☐		☐
Outlet Blockage	☐		☐
Erosion	☐		☐
Comments:			☐

Instrumentation:

Instrument	Observed	Notes	Action
VW Piezometer	☐		☐
SP Piezometer	☐		☐
Slope Inclinometer	☐		☐
Survey Monument	☐		☐
Settlement Plate	☐		☐
Readings	☐		☐
Comments:			☐

Tailings/Reclaim Lines:

Condition	Observed	Notes	Action
Leaks	☐		☐
Erosion	☐		☐
Buried Valves	☐		☐
Liner Tears	☐		☐
Comments:			☐

Active Work at Time of Visit:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☐		☐
Other:	☐		☐
Comments:			☐

Changes From Previous Inspection:

Condition	Observed	Notes	Action
Repairs	☐		☐
Construction	☒	Inlet from spill containment from valve on tailings line added.	☐
Seepage	☐		☐
Other:	☐		☐
Comments:		Increased sediment and water level.	☐

Monitoring/Maintenance Required:

Condition	Notes	Action
☐None		☐
☐Routine Monitoring/Maint.		☐
☐Increased Monitoring/Maint.		☐
☐Remediation/Eng. Req'd		☐
Comments:		☐

Recommendations:

Notes	Action
	☐

Attachments:

Items	Notes
☒Photos	See Appendix B.
☐Sketch/Plan	
☐Other:	

Note that these observation sheets are to be read in conjunction with the accompanying report.