NORTH AMERICAN TUNGSTEN CORPORATION LTD

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Sent by Email

January 31, 2012

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permits@mvlwb.com
lindsey@mvlwb.com

Attention: Ms. Lindsey Cymbalisty, Regulatory Officer

Re: Water License MV2002L2-0019 - 2012 Tails Management Plan Submission

Dear Ms. Cymbalisty,

Please find attached the 2012 Tails Management Plan (TMP) as requested by the McKenzie Valley Land and Water Board (MVLWB), updating the plan submitted in March 2011. As you are aware, the recent discovery of the potential liquefaction zone in the foundation material below the TSF4 berm has resulted in North American Tungsten Corp. (NATC) having to make some rather abrupt changes to tails management planning at the Cantung Mine. More details on the TSF4 issue are included in the 2011 TSF4 Geotechnical and Stability Report submitted to the MVLWB on January 31, 2012.

As outlined in more detail in the TMP, NATC has had to unexpectedly accelerate the development of an additional new long-term storage facility (TSF6), which would likely be situated to the south of the airstrip. This is required to ensure that use of TSF4 can be discontinued as quickly as possible, and to allow for the mitigation of the potential TSF4 stability issue. Just as importantly, this mitigation must be completed in a manner that will sustain the continued successful operation of the Cantung Mine, and in the long-term provide for the most effective environmental and geotechnical solution.

Of the four options proposed by Knight Piesold in the TSF4 Geotech Report, the only one that provides the required environmental benefit, while ensuring continued operational viability, was the reprocessing and removal of the TSF 4 tailings to a new secure TSF. The placement of this new facility (TSF6), along with the increased utilization of tails placement as underground backfill, will move the tailings away from the Flat River, mitigating any future potential environmental effects on the river. Any of the other options were very expensive “band-aid” solutions that would not provide the level of environmental or geotechnical benefit required. For example, options requiring relocation of the Flat River would clearly create their own set of environmental protection and permitting issues, and would not provide a long-term tails management benefit.

The plan developed by NATC is very aggressive, and while providing a long term solution to concerns regarding post liquefaction stability at TSF4, must be completed in a compressed time-frame to ensure the continued operation of the Cantung Mine. To achieve these objectives, the following tails deposition schedule must be met:

1. Solids discharge to TSF4 (Stage 4 raise) will continue to September 2012, with water sent to TSF5 for exfiltration.

2. Commissioning of the newly constructed underground backfill system will start in May 2012, reaching the required 25% tails deposition rate to underground by October 2012.
3. Solids discharge to TSF5 commences in October 2012 to October 2013, with water discharging to the new EP1 for exfiltration.
4. Solids discharge to commence to the new TSF6 in October 2013 and onward, with water discharging to the new EP2 for exfiltration.
5. Alternatively if TSF6 will not be ready for 2013:
    a) Solids discharge to TSF4 (Stage 5 raise) from September 2013 to September 2014, with water to EP1 for exfiltration;
    b) Solids discharge to TSF6 from October 2014 onward, with water to EP2 for exfiltration.

To meet the above tails deposition schedule, the following is a brief summary of the highlights of the construction activities that must occur as detailed in the 2012 TMP:

1. In 2012:
    a) Complete geotech study, design, regulatory approval and construction of a new exfiltration pond (EP1) between TSF4 and the townsite;
    b) Complete construction of TSF5 to the permitted 3760 ft elevation, and, complete geotech study, design, regulatory approval and construction of an additional raise on TSF5;
    c) Receive regulatory approval to commence accessing the area south of the airstrip for geotechnical and other studies for the planning and construction of a new tails storage facility (TSF6 & EP2) in 2013;
    d) Apply for and receive regulatory approval to complete in 2013 the previously designed Stage 5 raise on TSF4 as an alternative if it is not possible to complete construction of TSF6 in 2013.
2. In 2013:
    a) Complete design of, regulatory approval of, and construction of Stage 1 of TSF6 and EP2, including ancillary structures and equipment, and additional environmental monitoring stations as required;
    b) Construction of first stages of the Tails Reprocessing Plant, which may commence commissioning on TSF4 tails dependant upon status of TSF6 construction;
    c) Alternatively, if TSF6 construction and commissioning cannot be completed in 2013, construction of the Stage 5 raise on TSF4.
3. In 2014:
    a) Complete construction and commissioning of Stage 1 of TSF6 and EP2 if not completed in 2013;
    b) Full commissioning of the Tails Reprocessing Plant with tails deposition to underground and TSF6, assuming TSF6 is operational.
4. 2014 on: as per the TMP.

NATC has been in communication with Aboriginal Affairs and Northern Development Canada (AANDC), regarding the extension of the existing land leases to include the area where TSF6 is expected to be constructed. As covered under Parts E and G of the Cantung water license (WL), the modification of an existing structure or the construction of a new TSF is a normal, standard activity, ensuring optimal mine operations while maximizing protection of the environment. NATC will be applying for a Land Use Permit (LUP) to access the area south of the airstrip in early 2012 to commence the geotechnical and other studies required to complete the facility design prior to submitting the design to the MVLWB. NATC will be including provisions for additional water quality monitoring as may be required for the new facilities.

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NATC is aware of the very tight time frame required to complete the program as laid out in the TMP, but has been forced into accelerating the new TSF by the recent identification of the potential liquefaction zone in the ground below TSF4. The implementation of the TMP will ensure the Cantung mine continues to operate successfully and allow for the decommissioning and stability mitigation of TSF4 to be completed as quickly as possible. This will provide substantial environmental benefits by moving the tails facilities away from the Flat River to a more secure facility.

NATC looks forward to working with the MVLWB and other interested parties to facilitate the implementation of the TMP, as NATC will require the support of the regulators to expedite the design and permitting of the new TSF so it can be constructed in the 2013 field season. This will ensure the quickest start to the TSF4 berm mitigation. NATC will contact the MVLWB shortly to schedule a meeting to discuss the implementation of the TMP program.

If you have any questions or require further information, please contact myself or the Environmental Department at the minesite by telephone ((604) 759 0913, or by email at cantungenviro@natcl.ca.

Yours truly,
North American Tungsten Corporation

Jason McKenzie
General Manager

CC: D. Watt, Cantungenviro, S. Leahy, C. Scott, G. Bagnell, M. Martin (AANDC), R. Jenkins (AANDC), Malcolm Robb (AANDC), R. Hoos (EBA)

NORTH AMERICAN TUNGSTEN CORPORATION LTD.
CANTUNG MINE PROJECT



2012 TAILINGS MANAGEMENT PLAN

PREPARED FOR:

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VA101-433/10-1
Rev 0
January 31, 2012

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ISO 9001, ISO 14001
OHSAS 18001

NORTH AMERICAN TUNGSTEN CORPORATION LTD.
CANTUNG MINE PROJECT

2012 TAILINGS MANAGEMENT PLAN
(REF. NO. VA101-433/10-1)

Rev	Description	Date	Approved
0	Issued in Final	January 31, 2012	KJB

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CANTUNG MINE PROJECT

2012 TAILINGS MANAGEMENT PLAN
(REF. NO. VA101-433/10-1)

EXECUTIVE SUMMARY

Cantung Mine is located in the Nahanni area of western Northwest Territories, approximately 300 km northeast of Watson Lake, Yukon Territory. Cantung Mine produces tungsten concentrate from underground mine operations at a mill throughput rate of approximately 1,090 tonnes per day. The mine has been operating since the early 1960's, with periodic shutdowns due to low tungsten prices. The mine recently re-opened in October 2010, with resources estimated to support a life of mine plan of 8 to 10 years commencing in 2012.

Tailings generated from the milling operation are managed on surface in Tailings Storage Facilities (TSFs). Some process water from the mill is recycled within the milling process with excess water discharged on surface with the tailings slurry in the TSFs. Treated overflow from the sewage treatment plant is also discharged into the TSF.

The TSFs were previously referred to as Tailings Ponds. The facility naming convention was modified to reflect the storage objective of the facilities, which is to provide storage for the tailings solids, with minimal storage of supernatant water.

There are five TSFs at Cantung Mine; however, only two of these facilities are currently in operation. TSF 4 is currently used for tailings storage and TSF 5 is used for exfiltration. The recently identified foundation stability issue under TSF 4 berm has resulted in a shift in both short-term and long-term tails storage strategy by NATC as compared to the 2011 TMP. The 2012 Tailings Management Plan (TMP) was updated at the request of the MVLWB to include a long term plan, and therefore provides a plan for tailings management that extends through 2020. The updated plan includes the development of another TSF ("TSF 6") to provide the required surface storage for tailings for the longer plan, which includes continued mining operations for 8 to 10 years, as well as the reprocessing and removal of the tailings from TSF 3 and 4. Exfiltration ponds (EP1 and EP2) will also be added.

The process of identifying a preferred location for the TSF 6, completing a geotechnical investigation program, designing, permitting and constructing the facility is assumed to take approximately 20 months to complete, which is a very aggressive schedule. Prior to the completion of TSF 6 for commissioning in the fall of 2013, the TMP includes storing tailings in TSF 4 to approximately September 2012, at which time TSF 4 will have reached its storage capacity corresponding to the Stage 4 crest elevation constructed in 2012. TSF 5 would be expanded in 2012 to provide tailings storage for the period between depositing tailings in TSF 4 and the commissioning of TSF 6 in 2013. A new Exfiltration Pond (EP1) would be constructed between TSF 4 and the townsite for exfiltration of supernatant water while tailings are discharged into TSF 5.

Studies for identifying the preferred location for the additional TSF are in process; a location for the new TSF has not been finalized at this time. A Land Use Plan (LUP) application is being prepared to provide access to the area south of the airstrip for Geotech studies for TSF 6 and EP2, commencing in mid-2012.

Key components of the updated TMP include the following:

- Storing tailings in the mined out underground workings. It is estimated that approximately 25% of the milled tailings will be stored underground by October 2012.
- Constructing a TSF 6, located further away from the Flat River, with storage capacity for the tailings produced from both the underground mining operations and the re-processing of the tailings stored on surface.
- Re-mining and re-processing the tailings stored in TSF 3 and TSF 4 (and eventually TSF 5). This is scheduled to start soon after the commissioning of the new TSF.
- Constructing new exfiltration ponds. It is envisioned that EP 1 would be constructed between TSF 4 and the townsite. EP 1 would be used for exfiltration of supernatant water while tailings were discharged into TSF 5. An additional EP (EP 2) may be constructed near TSF 6, depending on its location.
- Decommissioning the TSF 3, 4 and 5 embankments as the tailings are re-mined and re-processed from these facilities. An added benefit to this is that it remediates the stability issues recently identified for the TSF 4 embankment under post liquefaction conditions, and moves the tailings either back underground or into new facilities located further from the Flat River. Although the risk of a seismic event strong enough to produce liquefaction in the TSF foundation materials is low in the short-term, NATC recognizes the long term environmental concern relating to the TSF 4 stability issues and has incorporated the remediation method in the TMP.

This report presents the surface storage requirements for the TMP from January 2012 through 2020. Details on underground tailings managment requirements are not discussed in this report.

It should be recognized that, although the TMP has been extended to reflect a longer mine plan as requested by MVLWB, it is conceptual and there are many details that still need to be defined as more information becomes available from the studies that will be undertaken. This document should be considered a work in progress and will undergo a number of revisions as additional information becomes available. It is anticipated that there will be considerable correspondence and dialogue between NATC and MVLWB to facilitate the development of the TSF 6 and allow NATC to continue to successfully operate the Cantung Mine undertaking.

The previously submitted TSF 4 Stage 5 raise will be required to be completed in 2013 to provide the required tailings storage capacity in the event that TSF 6 construction and commissioning is delayed to 2014 to ensure the Cantung mine can continue to operate. This would also defer the commissioning of the tailings reprocessing plant by at least a year as TSF 6 is required to store the tailings that will be removed from TSF 4.

Knight Piésold CONSULTING

NORTH AMERICAN TUNGSTEN CORPORATION LTD.
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2012 TAILINGS MANAGEMENT PLAN
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SECTION 1.0 - INTRODUCTION

1.1 PROJECT DESCRIPTION

1.1.1 Location and Access

Cantung Mine is located in the Nahanni area of western Northwest Territories, approximately 300 km northeast of Watson Lake, Yukon Territory. The location of Cantung Mine is shown on Figure 1.1.

Cantung Mine is accessible by road from Watson Lake through Highway 4 (Robert Campbell Highway) and Highway 10 (Nahanni Range Road) over the Harrison Pass, which separates Yukon and the Northwest Territories. The mine site also has a gravel airstrip which is maintained year round by North American Tungsten Corporation Ltd. (NATCL) for access via chartered aircrafts.

1.1.2 History and Status

The history and status of Cantung Mine is summarized as follows:

- Cantung Mine was initially owned by Canada Tungsten Mining Corporation Limited (CTMCL), which was comprised of Dome Mines, Venture Ltd. and Amax Inc. (Amax).
- The mine started operations in 1962 with periodic suspensions until it was shutdown in 1986 due to low tungsten prices.
- CTMCL formed a merger with Minerax and Canamax Resources in 1993 and developed Canada Tungsten Inc. (CTI). In 1994 Aur Resources Inc. (Aur) purchased 45% interest in CTI and a merger was formed between CTI and Aur in 1996.
- NATCL purchased Cantung Mine, including the related tungsten assets of the former CTI, in 1997.
- The mine re-opened in 2001, with short term closures from December 2003 to August 2005 and from October 2009 to September 2010.
- Recent strong tungsten prices allowed NATCL to resume mine operation in October 2010 with a current resource estimated to support a life of mine plan of 8 to 10 years commencing in 2012 (not a NI43-101 compliant estimate).

1.1.3 Site Facilities

The major features and facilities associated with Cantung Mine undertaking include:

- Mine Facilities: underground mine, primary crusher, process plant, diesel power plant, workshops, warehouses, administration buildings, a town site and single status accommodation, plus an airstrip.
- Waste Management Facilities: waste rock dumps, organic stockpiles and existing Tailings Storage Facilities (TSF) 1, 2, 3, 4 and 5.
- Additional Waste Management Facilities as proposed in this TMP: TSFs 6 and EPs 1 & 2.

A general arrangement of the Cantung Mine site is presented on Figure 1.2.

1.2 PROJECT BACKGROUND

The mine started operations in 1962 and TSFs 1 and 2 were used for tailings storage until the early 1970's. TSF 3 was commissioned as the primary tailings storage structure in 1971 with TSF 4 being operated as an exfiltration pond. Additional embankment raises to TSF 3 were permitted by the Mackenzie Valley Land and Water Board (MVLWB) as follows:

- 2001 – Stage 2 embankment raise from approximately 3,726 ft to 3,732.5 ft
- 2003 – Stage 3 embankment raise from approximately 3,732.5 ft to 3,739 ft, and
- 2005 – Stage 4 embankment raise from 3,739 ft to 3,764 ft on TSF 3.

Tailings fines slowly accumulated at the base of TSF 4, which steadily reduced the exfiltration rate. TSF 4 was dredged in late 2006 in an attempt to increase the exfiltration rate but it did not substantially improve. Therefore, a request was made to MVLWB to deposit tailings in TSF 4 and commission TSF 5 as a new exfiltration pond. The request was approved in February 2007 and TSF 4 became the primary location for tailings storage. Additional embankment raises were approved by MVLWB as follows:

TSF 4

- 2007 - Stage 1 embankment raise from 3,690 ft to 3,720 ft
- 2009 - Stage 2 and 3 embankment raises from 3,720 ft to 3,742.5 ft, and
- 2011 – Stage 4 embankment raise from 3,742.5 ft to 3,757 ft.

Recent geotechnical investigations at TSF 4 indicate the foundation materials are potentially liquefiable under seismic loading conditions. A stability assessment of the TSF 4 embankment[1] indicated that remediation is required for the foundation materials to improve the post liquefaction stability of the TSF 4 embankment. The remediation plan is summarized in this report.

[1] Knight Piésold Report - 2011 Stability Assessment for Tailings Storage Facility 4 – Final Report (Ref. No. VA101-433/8-1)

1.3 SCOPE OF REPORT

The TMP has been updated to reflect the current (non -NI43-101) resource estimate, which extends the mine life through 2020. The TMP assumes all the tailings are stored on surface until September 2012, at which time 25% of the total tailings will be deposited in the underground workings. This report covers that portion of the tailings which is stored on surface and does not discuss matters relating to managing underground tailings. The TMP also includes reprocessing the tailings stored on surface in a separate plant starting in year 2013, with tailings from both operations discharging into a new TSF.

Key considerations in updating the TMP include the following:

- Providing secure storage for tailings on surface for a timeline that corresponds to the current resource expectations of 8 to 10 years.
- Incorporating the stability mitigation requirements for the TSF 4 embankment.

As requested by the MVLWB, the TMP presented is a long term plan. The TMP beyond the current capacity of the existing TSFs is conceptual at this time. The TMP will be updated and re-issued as required, as the development of the additional facilities progresses. The TMP includes a brief discussion on the water management plan but the site water balance has not been updated for the TMP. Details on the water management plan and water balance will be included in future revisions of the Water Management Plan report. The Closure and Reclamation requirements will be addressed as part of the annual update to the Closure and Reclamation Plan (CRP).

SECTION 2.0 - TERMINOLOGY AND DEFINITIONS

The following definitions are provided to clarify the terminology used in this report:

Tailings – The fine grained solid material that remains after the minerals are extracted at the Mill.

Tailings Slurry – The dilute stream of tailings solids within process water that are piped from the Mill to the TSF.

Tailings Storage Facility (TSF) – An area used to manage the tailings and process water.

Exfiltration Pond (EP) - An area used to manage process and mine water.

Supernatant Water – The ponded water that is liberated after the tailings slurry consolidates within the TSF.

Inflow Design Flood (IDF) - The most severe inflow flood for which a dam and its associated facilities are designed, as per the Canadian Dam Association (CDA) guidelines.

Interstitial Water – The pore water that stays suspended between the soil particles of the settled tailings solids.

Exfiltration – The loss of water to underlying soils due to percolation or absorption.

Solids Content – The gravimetric percentage ratio formed from the dry mass of solids by the dry mass of solids plus the mass of water.

Freeboard – the vertical height between the pond elevation in the TSF and the lowest elevation on the embankment crest.

SECTION 3.0 - DESIGN BASIS AND OPERATING CRITERIA

3.1 GENERAL

The tailings from Cantung Mine operation are produced from conventional milling of tungsten ore at a throughput rate of approximately 1,090 tonnes (1200 st) per day. The tungsten ore enters the mill and is crushed and ground with the addition of water. The tungsten concentrate is separated by gravitational means and flotation processes in the mill, with the tailings stream being pumped into the TSFs. The discharge of tailings from the delivery pipeline is carried out by a series of spigots located along the crest of the TSF embankments. The coarse fraction of the tailings settles rapidly and accumulates closer to the discharge points, forming a gentle beach with a slope of about 1 percent. The finer tailings travel further and settle at a flatter slope adjacent to and beneath the supernatant pond. Tailings beaches are developed with the intent to optimize the TSF storage volume and to control the location of the supernatant pond. Selective tailings deposition is used to maintain the supernatant pond away from the embankments to reduce seepage through the embankment.

The TMP assumes all of the tailings are stored on surface through September 2012, at which time 25% of the tailings will be deposited underground.

3.2 DESIGN BASIS

A design basis was developed to support the framework for the TMP. The design basis and operating criteria are presented in Table 3.1 and are summarized as follows:

- Tailings throughput of 1,090 tonnes per day.
- The TMP includes storing 100% of the milled tailings on surface until September 2012, at which time provisions will be in place to store approximately 25% of the tailings underground.

The tailings design parameters are as follows:

January 2012 to September 2012

- Mill Throughput = 1,090 tonnes per day
- Tonnage to TSF = 1,090 tonnes per day (assumes 100% stored on surface)
- Tonnage to underground workings = 0 tonnes per day
- In-situ dry density of tailings = 1.6[(2)] tonnes per cubic metre
- Specific gravity of tailings solids = 3.1[(2)], and
- Discharged tailings solids content = 17.5%[(2)].

October 2012 forward

- Mill Throughput = 1,090 tonnes per day
- Tonnage to TSF = 645 tonnes per day (assumes 75% stored on surface)
- Tonnage to underground workings = 436 tonnes per day
- In-situ dry density of tailings on surface = 1.3[(2)] tonnes per cubic metre
- Specific gravity of tailings solids on surface = 3.1[(2)], and
- Discharged tailings solids content = 8%[(2)].

[2] EBA, July 2009. 2009 Tailings Monitoring Plan, Cantung Mine, NT

- Freeboard requirements include approximate storage capacity to store:
  - Runoff from the Inflow Design Flood (IDF) within the impoundment and catchment upslope.
  - Minimum of 1 m (3.3 ft) freeboard from the design operating level as per the current water license[3].
  - Additional freeboard to provide flexibility on the supernatant pond volumes, snowpack accumulation within the impoundment and uncertainties in the start times of the deposited tailings underground.

The design basis for the tailings materials assumed undrained shear strength values as described by the following relation:

$S_u/p' = 0.25$ (static and seismic loading)

where, Su = undrained shear strength

p' = effective vertical stress.

Dam Classifications from Canadian Dam Association (CDA) Guidelines, 2007 are shown on Table 3.2, with the suggested Design Flood and Earthquake levels shown on Table 3.3.

[3] March 2009. Design Report for the Stage 2 and Stage 3 Raises of the Containment Berm for Tailings Pond 4. Cantung Mine, NT.

SECTION 4.0 - CURRENT STATUS OF TAILINGS STORAGE FACILITIES

4.1 GENERAL

Five TSFs have been developed over the years at the Cantung Mine undertaking. Two TSFs remain in operation; TSFs 4 and 5 are used to store tailings solids. Descriptions of each existing TSF are summarized in Table 4.1 and are discussed in the following sections.

4.2 TAILINGS STORAGE FACILITIES 1 AND 2

TSFs 1 and 2 are located northeast of the Mill and adjacent to the Flat River. Both facilities were used for tailings storage from 1965 to the early 1970's, are currently reclaimed and being used as a storage area for equipment and unused machinery. The surfaces of both facilities are flat and densely compacted to permit the traffic and laydown of heavy equipment. The TSF 1 embankment is approximately 50 ft high from the lowest elevation from the downstream toe. The embankment slope is approximately 1.2H:1V. The TSF 2 embankment is approximately 43 ft high with a downstream slope of approximately 1.6H:1V slope. The reclaimed surface of TSF 1 grades towards the east which allows surface drainage to flow into TSF 2. Any surface flow on TSF 2 is collected along the northeast to southwest trending trench and diverted into a 12-inch culvert on the east site of the facility that feeds a lagoon.

4.3 TAILINGS STORAGE FACILITY 3

TSF 3 is adjacent to TSF 4 and northeast of the airstrip. TSF 3 was used for tailings storage after TSF 1 and 2 reached full capacity in 1971 and operated until 2007. The TSF 3 embankment is constructed to a crest elevation of 3,764 ft and is approximately 135 ft high from the lowest elevation from the downstream toe. The embankment slope is approximately 1.6H:1V and the surface area of the impoundment is approximately 840,000 ft^2. The impoundment is currently filled with tailings and the surface was dense enough to permit the traffic of heavy equipment near the drillholes as observed during the 2010 geotechnical drilling investigations. The water table in TSF 3 is approximately 75 feet below the tailings surface as observed during the 2010 site investigation program. A decant structure constructed from corrugated steel is located at the west side of TSF 3 adjacent to TSF 4. A sloped tailings beach is built around this decant structure that grades Southeast to Northwest. An irrigation system will be operated on the tailings surface for dust management.

4.4 TAILINGS STORAGE FACILITY 4

TSF 4 is located southwest of the town site and adjacent to TSF 3. TSF 4 is currently the only active facility for tailings disposal at Cantung Mine. The tailings slurry and process water from the Mill are discharged into TSF 4 with the supernatant water being pumped into TSF 5 for exfiltration. The TSF 4 embankment elevation is currently at 3757 ft, which is the permitted stage 4 elevation. The TSF 4 embankment is approximately 102 ft high from the lowest elevation from the downstream toe. The embankment slope is approximately 2H:1V and the surface area of the impoundment is approximately 375,000 ft^2. Tailings are discharged from the crest of the embankment and sloped tailings beaches are developed around the facility. The supernatant pond is located at the southwest end of TSF 4. Diversion ditches upslope of TSF 4 divert runoff away from the tailings facility.

An interim Stage 3 embankment raise was completed in 2010, which raised the crest elevation from 3,730 ft to 3,742.5 ft. A construction omission was identified as referred to in the letter dated November 10, 2010 issued by EBA. The remedial measures EBA recommended included:

- Mechanically placing tailings on the upstream face of the dam to approximate elevation 3,736 ft.
- Discharging the full tailings stream along the upstream face of the dam for at least 21 days after mill processing began.
- Managing the pond elevation below the tailings elevation while implementing measures 1 and 2.
- Increase piezometer reading frequency to weekly for at least four weeks.

NATCL has already implemented all of the remedial measures recommended by EBA. The construction omissions and the remedial actions will not affect the stability of the TSF 4 embankment.

A geotechnical investigation program completed in 2011 indicated there are potentially liquefiable soils under the TSF 4 embankment. Stability modelling completed for the TSF 4 embankment concluded that remedial action is required to improve the post liquefaction stability of the embankment. Details on the stability assessment and the potential remediation options are located in the Knight Piésold stability report(4). One of the options considered for remediation included decommissioning and dismantling the TSF 4 facility. This option includes re-milling the tailings to recover residual metals. The option to re-process the tailings in TS4 makes the most sense, both from a dam safety aspect as well as economically, and is the remediation option adopted for the TMP.

4.5 TAILINGS STORAGE FACILITY 5

TSF 5 is located between TSF 3 and the southwest valley slope. TSF 5 is currently used as an exfiltration pond. Solution from TSF 4 is pumped to TSF 5 for exfiltration into the underlying soils. Surface runoff from TSF 3 is also routed to TSF 5 via a culvert installed in 2011. TSF 5 is currently constructed to a crest elevation of approximately 3750 ft but is permitted to a crest elevation of 3,760 ft. The embankment height is approximately 43 ft high from the lowest elevation from the downstream toe and the current pond elevation is approximately 3,725 ft. The storage capacity is sized to store the IDF event from the catchment area of TSFs 3 and 5, which requires approximately 6 to 8 ft of freeboard above the operating level of the exfiltration pond. The embankment slope is approximately 2H:1V and the surface area of the impoundment is approximately 323,000 ft^2 at elevation 3,760ft. A diversion ditch is located at the southwest end of TSF 5 which diverts clean runoff from the upslope catchment area. The exfiltration rate of TSF 5 is, as expected, slowly reducing. The base of the TSF 5 impoundment was scraped in 2010 during the short-term hiatus in mine operation, with the dredged material stored on the tailings surface in TSF 3. The updated TMP includes using TSF 5 for tailings storage and the construction two new exfiltration ponds. NATC has completed initial plant trials to enhance the clarification of the mill tailings water, which will be implemented in 2012, thus reducing the siltation of the exfiltration ponds.

[4] Knight Piésold Report - 2011 Stability Assessment for Tailings Storage Facility 4 - Final Report VA101-433/8-1

SECTION 5.0 - 2012 TAILINGS MANAGEMENT PLAN

5.1 GENERAL OVERVIEW

An updated TMP has been developed to reflect the current resource estimate which includes approximately 8 to 10 years of underground mining. The TMP also includes re-processing the tailings stored in TSFs 3, 4 and 5. The following schedule for managing the tailings on surface assumes 25% of the tailings are stored underground starting in October 2012. The tailings management schedule is presented on Figure 5.1.

Past TMP's were based on continued use of TSFs 3, 4 and 5 in the short term (4 to 5 years). Consideration for possible new TSFs in the future was part of long-term planning that NATC had scheduled for completion by 2012 year-end. Due to the recently identified stability issue with TSF 4, and the requirement to develop a mitigation plan, the long-term conceptual plan has been accelerated, and is included in this TMP as requested by the MVLWB.

Mitigation of the possible instability of the TSF4 embankment in a post-seismic liquefaction scenario is of prime importance to NATC, but must be completed in a manner that fits with the operational and economic parameters of the Cantung Mine.

The tailings schedule utilizes the existing TSFs (TSF 4 and 5) for tailings storage and exfiltration and also includes the development of a new Exfiltration Pond (EP 1) near the townsite, and a new, more remote TSF (TSF 6) which will also include a new separate Exfiltration Pond (EP 2). Planning is underway to start a geotechnical investigation program in early 2012 to evaluate the geotechnical and hydrogeological conditions for a location north of TSF 4 for EP1. Additionally, a Land Use Plan (LUP) application is being prepared to provide access to the area south of the airstrip for Geotech studies for TSF 6 and EP2, commencing in mid-2012.

The proposed location of EP 1 is directly north of TSF 4, between the TSF and the old townsite. The location of TSF 6 has yet to be clearly identified, but conceptually is expected to be situated to the south of the airstrip on the west side of the Flat River. TSF 6 will ultimately provide sufficient capacity to store the tailings from the continued underground operations plus the re-processed tailings that are currently stored in TSF 3, 4 and 5. This ultimately includes decommissioning and dismantling TSF 3 and 5 (along with TSF 4 as discussed above) which are currently located very close to the Flat River.

It is recognized by Cantung Mine that the early identification of a suitable location for TSF 6 is critical for the TMP schedule as there is limited capacity in the current TSFs and the development of TSF 6 is required to allow the mine undertaking to continue beyond the third quarter of 2013. Additionally the sooner TSF 6 can be commissioned, the sooner the reprocessing and removal of tailings from TSF 4 can commence.

5.2 UNDERGROUND BACKFILL

Deposition of a portion of the mill tailings back underground is an integral part of the TMP. Backfill will reduce the amount of tails deposited on the surface, and also provides ground support for specific mining

methods. The coarse underflow tailings from the cyclone separation process will be deposited in the voids of the underground workings and contained in a series of engineered bulkheads. The water liberated from these settled tailings will be collected in a network of sumps and pumped to surface to be managed in the TSFs. Any additional water infiltrated into the underground mine will continue to be recycled and reused underground to provide water for mining activities.

5.3 SCHEDULE OF ACTIVITIES FOR THE TAILINGS MANAGEMENT PLAN

A schedule of the major activities for the Tailings Management Plan is set out below. The intent of the schedule of activities is to outline the major components and approximate timing to support the TMP. Although not included in the schedule, reports would be issued for the geotechnical investigation programs, design reports, construction programs, TSF annual inspections, and the Dam Safety Review (the next Dam Safety Review is scheduled for 2012). Additionally, a number of the activities will include considerable interaction with MVLWB to obtain the necessary permits, amendments and approvals, as outlined in the water licence, to expand the current tails storage facilities and develop new ones. A detailed schedule is in the process of being developed which includes key dates for receipt of the necessary permits associated with the timeline outlined in the updated TMP.

2012

- TSF 4
  - Tailings stored in TSF 4 through August 2012. Commissioning of the underground deposition system is expected to be completed in mid 2012. The portion of tailings stored underground is expected to ramp-up to approximately 25% by October 2012.
  - Apply for and receive approval from the MVLWB for the Stage 5 Raise in 2013 as per the 2011 Design Report to ensure continuity of operations if the TSF 6 construction is delayed beyond 2013.
- TSF 5
  - TSF 5 used for exfiltration of supernatant water while TSF 4 is in operation. TSF 5 receives water for exfiltration from TSF 4, surface runoff from TSF 3, and mine water.
  - Completing a geotechnical investigation program at TSF 5. The geotechnical site investigation program is scheduled to start in February 2012.
  - Design of TSF 5 raise to provide tailings storage to October 2013.
  - Construction of the TSF 5 embankment raise.
- EP 1 – Exfiltration pond
  - Completing a geotechnical investigation program to support the design and permitting of the new exfiltration pond. The geotechnical site investigation program is scheduled to start in February 2012.
  - Design EP 1 for use as a new exfiltration pond.
  - Construct EP 1, scheduled for the summer of 2012.
- TSF 6 – Tailings Storage Facility
  - Obtaining a Land Use Permit to allow required investigations for locating and designing TSF 6 and EP 2 in 2012.
  - Completing a geotechnical investigation program for the TSF 6 (location to be identified). TSF 6 is scheduled to be in operation in the fall of 2013.

  - It is anticipated that the process of identifying, obtaining the Land Use Permits, drilling, designing, permitting, and constructing a new TSF is on the critical path for allowing the mine to continue operating past September 2013. The geotechnical site investigation program is scheduled for the summer of 2012.
- EP 2 – Exfiltration pond
  - Completing a Phase 1 geotechnical investigation program for the new exfiltration pond near TSF 6 (location to be identified). EP 2 is scheduled to be in operation in the fall of 2013.
  - It is anticipated that the process of identifying, obtaining the Land Use Permits, drilling, designing, permitting, and constructing a new EP is on the critical path for allowing the mine to continue operating past September 2013. The geotechnical site investigation program is scheduled for the summer of 2012.

2013 - Reprocessing of the tailings scheduled to commence following the completion of TSF 6. The schedule assumes the re-mining starts in the fall of 2013 but the actual start date, or the sequence of tails pond reprocessing, for this activity is yet to be determined.

- TSF 3
  - Surface runoff from TSF 3 routed to EP 1 for exfiltration.
- TSF 4
  - Commence first stage of re-mining and re-processing tailings stored in TSF 4 upon completion of the TSF 6 stage 1 embankment. Milled tailings discharged into TSF 6 and underground. Surface runoff from TSF 4 routed to EP 1 for exfiltration.
  - Decommissioning of the first stage of TSF 4 embankment.
  - Alternate - Construction of the Stage 5 Raise as per 2011 Design Report if TSF 6 construction is delayed beyond 2013.
- TSF 5
  - Surface runoff from TSF 5 routed to EP 1 for exfiltration.
- EP 1
  - EP 1 used for exfiltration of surface water from TSF 3. 4 and 5. Underground mine water also pumped to EP 1 for exfiltration.
- TSF 6
  - Tailings discharged in TSF 6 starting in the fall of 2013, except for that portion discharged underground as backfill.
- EP 2
  - Supernatant water from TSF 6 routed to EP 2 for exfiltration starting in the fall of 2013.

2014 to 2020 – Re-mining and re-processing surface tailings.

- TSF 3
  - Possible first stage of re-mining and re-processing the stored tailings in TSF 3. Milled tailings discharged into TSF 6.
  - Possible first stage decommissioning of the TSF 3 embankment.
- TSF 4
  - Continued re-mining and re-processing the stored tailings in TSF 4. Milled tailings discharged into TSF 6.
  - Continued decommissioning of the TSF 4 embankment.

- TSF 5
  - Possible first stage re-mining and re-processing the stored tailings in TSF 5. Milled tailings discharged into TSF 6.
  - Possible first stage decommissioning of the TSF 5 embankment.
- EP 1
  - EP 1 used for exfiltration of surface water from TSF 3, 4 and 5. Underground mine water also pumped to EP 1 for exfiltration.
- TSF 6
  - All tailings from the underground mining operation and the re-processing operation discharged and stored in TSF 6, except for that portion discharged underground as backfill.
- EP 2
  - Supernatant water from TSF 6 routed to EP 2 for exfiltration.

A tailings management flow sheet for years 2014 to 2020 is shown on Figure 5.2.

SECTION 6.0 - WATER MANAGEMENT

6.1 GENERAL

Cantung Mine produces tungsten concentrate by conventional milling processes. The tungsten ore enters the mill and is crushed and ground with the addition of water from groundwater that infiltrates into the underground mine with additional water from the Flat River as required. Some process water from the mill is recycled within the milling process and excess water is discharged on surface with the tailings slurry in the TSFs in addition to treated overflow from the sewage treatment plant located on site. Supernatant water is pumped or routed into the exfiltration ponds for discharge.

6.2 HYDROMETEOROLOGY

Knight Piésold reviewed the hydrometeorology data from the Tungsten meteorological station at Cantung Mine. The results of the analyses were consistent with the average annual precipitation and evaporation values provided in the Cantung Mine Water Management Plan[(5)] Details on each of these parameters are discussed in the following subsections.

6.2.1 Precipitation and Evaporation

The hydrometeorology data was sourced from the Atmospheric Environment Service of Canada, which is based on monthly precipitation records from the Tungsten weather station located at the mine. The Tungsten weather station operated from 1966 to 1990 and was used for developing estimates for precipitation based on geographic proximity and period of record. The mean annual precipitation for the Project site was estimated to be 639 mm.

Lake evaporation estimates for the Project area were based on mean annual evaporation models from data records up to 1990 and regional meteorological data from 1991 to 2008. The mean annual lake evaporation for the Project site was estimated to be 280 mm.

6.2.2 Water Management

The water management plan for Cantung Mine is reported in the “Combined Water Management Plan and Erosion and Sediment Control Plan” document. The latest revision of this document was issued in October 2011. This document will be updated as required to reflect the updated TMP. A schematic of the water management flows, which includes the new facilities, is shown on Figure 6.1.

6.2.3 Inspections and Monitoring

As per the Water Licence MV2002L2-0019, an annual site inspection of the TSFs is conducted each year by a registered Geotechnical Engineer in the Northwest Territories as per the existing

[5] EBA Report – Combined Water Management Plan and Erosion and Sediment Control Plan – December 2011 - EBA File:V13201456

water license issued by the Mackenzie Valley Land and Water Board (MVLWB). The site inspection of all TSFs includes the following activities:

- Inspection of the upstream and downstream slopes for signs of distress.
- Inspection of the embankment crests for signs of transverse cracking and differential settlement.
- Inspection of the abutments and downstream toes for evidence of seepage.
- Inspection of the surface runoff diversion works.
- Review of geotechnical instrumentation, including slope inclinometers and piezometers.

A Dam Safety Review (DSR) of the TSF's was completed in September 2007 by SRK Consulting (Canada) Inc. The next DSR is scheduled for completion by October 1, 2012 as required by Part E, item 3(d) of the license issued by the Mackenzie Valley Land and Water Board. The 2012 DSR report will be completed and submitted to MVLWB by the end of December 2012. This report will document the current status of the TSFs to evaluate the safety of these facilities under current and short-term future operating conditions and identify any deficiencies relative to the 2007 CDA Guidelines.

In addition to the annual site inspections and dam safety reviews, NATCL is committed to weekly visual inspections of the TSF embankments, and monitoring the instrumentation on site. Geotechnical instrumentation is monitored to assess embankment performance and to identify any conditions different to those assumed during design and analysis. Geotechnical instrumentation is comprised of vibrating wire piezometers, standpipe piezometers, slope inclinometers and movement monuments installed at TSF 4 and TSF 5. The results from the geotechnical instrumentation are submitted to the Geotechnical Engineer for review to provide quality assurance.

Groundwater wells are also installed downstream of TSFs 3, 4 and 5 to monitor water levels and water quality. The wells are used to monitor groundwater levels and recover samples for water quality monitoring as per the Surveillance Network Program specified in the current water license issued by MVLWB. The results of water quality monitoring data are summarized in an annual report and are submitted to the MVLWB for final review.

6.2.4 Decommissioning and Closure

The closure and decommissioning objectives for the TSFs as defined in the Closure and Reclamation Plan, are to maintain long-term stability, protect the downstream environment and manage surface water during operations and at closure. A short term closure plan has been developed by NATCL as a contingency option should operations at the Cantung mine be suspended for a short period of time (NATCL, 2005a). Additional abandonment and restoration plans for the TSFs are also outlined in the Cantung Mine Abandonment and Restoration Plan (EBA, 2007f).

NATCL prepares an annual update to the reclamation plan which is submitted each March to the MVLWB, (the latest in March 2011). A final reclamation plan summarizing these activities and additional work to be completed at closure will be submitted as per the current MVLWB water license requirements.

SECTION 7.0 - SUMMARY AND CONCLUSIONS

This report presents an updated 2012 TMP for Cantung Mine located in the Northwest Territories, Canada. The TMP reflects the current, unofficial resource estimate which supports a mine life in the order of 8 to 10 years. The TMP is a long term plan, as requested by MVLWB, and as such will be subject to continued review and refinement.

The process of identifying a preferred location for the TSF 6, completing a geotechnical investigation program, designing, permitting and constructing the facility is assumed to take approximately 20 months to complete, which is a very aggressive schedule. Prior to the completion of TSF 6 for commissioning in the fall of 2013, the TMP includes storing tailings in TSF 4 to approximately September 2012, at which time TSF 4 will have reached its storage capacity corresponding to the Stage 4 crest elevation constructed in 2012. TSF 5 would be expanded in 2012 to provide tailings storage for the period between depositing tailings in TSF 4 and the commissioning of TSF 6 in 2013. A new Exfiltration Pond (EP1) would be constructed between TSF 4 and the townsite for exfiltration of supernatant water while tailings are discharged into TSF 5.

Studies for identifying the preferred location for the additional TSF are in process; a location for the new TSF has not been finalized at this time. A Land Use Plan (LUP) application is being prepared to provide access to the area south of the airstrip for Geotech studies for TSF 6 and (EP2), commencing in mid-2012.

Important updates to the TMP include:

- Storing tailings in the mined out underground workings. It is estimated that approximately 25% of the milled tailings will be stored underground by October 2012.
- Constructing a new TSF with storage capacity for the tailings produced from both the underground mining operations and the re-processing of the tailings stored on surface.
- Re-mining and re-processing the tailings stored in TSF 3 and TSF 4 (and eventually TSF 5). This is scheduled to start soon after the commissioning of the new TSF.
- Constructing new Exfiltration Ponds (EP). A new EP will be constructed between TSF 4 and the townsite. This EP would be used for exfiltration of supernatant water while tailings were discharged into TSF 5. An additional EP will be constructed near the new TSF depending on its location.
- Decommissioning the TSF 3, 4 and 5 embankments as the tailings are re-mined and re-processed from these facilities. An added benefit to this is that it remediates the stability issues recently identified for the TSF 4 embankment under post liquefaction conditions.

The updated TMP is a work in progress and will undergo a number of revisions as additional information from upcoming studies become available.

It should be recognized that, although the TMP has been extended to reflect a longer mine plan as requested by MVLWB, it is conceptual and there are many details that still need to be defined as more information becomes available from the studies that will be undertaken. This document should be considered a work in progress and will undergo a number of revisions as additional information becomes available. It is anticipated that there will be considerable correspondence and dialogue between NATC

and MVLWB to facilitate the development of the TSF 6 and allow NATC to continue to successfully operate the Cantung Mine undertaking.

The previously submitted TSF 4 Stage 5 raise will be required to be completed in 2013 to provide the required tailings storage capacity in the event that TSF 6 construction and commissioning is delayed to 2014 to ensure the Cantung mine can continue to operate. This would also defer the commissioning of the tailings reprocessing plant by at least a year as TSF 6 is required to store the tailings that will be removed from TSF 4.

SECTION 8.0 - CERTIFICATION

This report was prepared, reviewed and approved by the undersigned.

Prepared:

Andrew Chung, E.I.T
Staff Engineering

Reviewed: Jan 31/12

Les Galbraith, P.Eng.
Senior Engineer

Approved:

Ken Brouwer, P.Eng.
Managing Director

Knight Piésold
CONSULTING

TABLE 3.1

NORTH AMERICAN TUNGSTEN CORPORATION LTD.
CANTUNG MINE PROJECT

2012 TAILINGS MANAGEMENT PLAN
DESIGN BASIS AND OPERATING CRITERIA

Print 31/01/2012 13:18

ITEM		DESIGN CRITERIA
1.0 GENERAL DESIGN CRITERIA		
1.1	General	An updated Tailings Management Plan (TMP) was developed to manage the tailings and process water from the current resource estimate, which extends to 2020. The TMP assumes 25 5 of the tailings will be backfilled underground by October 2012. The TMP only covers that portion of the tailings which is stored on surface and does not discuss matters relating to the tailings deposited underground.
1.2	Mine Production	• Mill Throughput – 1,090 tonnes per day (tpd)
1.3	Site Elevation	• Approximately 3,700 ft to 9000 ft • Mill site elevation of 3,760 ft asl
1.4	Characteristics of Tailings Stored on Surface	• January 2012 to September 2012: Slurry solids content: 17.5% solids by weight [1] Tailings specific gravity: 3.1 [1] Settled dry density: 1.6 tonnes/ m^3 • October 2012 forward: Slurry solids content: 8-10% solids by weight [1] Tailings specific gravity: 3.0 [1] Settled dry density: 1.3 tonnes/ m^3
2.0 TAILINGS STORAGE FACILITIES (TSFs)		
2.1	Dam Classification [3]	• Tailings Storage Facility Embankments – "Significant Consequence" – based on 2007 Canadian Dam Association Guidelines (CDA)
2.2	Inflow Design Flood (IDF) from CDA Guidelines	• Between 1/100 and 1/1000; See 2.4 • 1/1000 was adopted for the design of the Stage 4 and Stage 5 embankment raises
2.3	Earthquake Design Ground Motion (EDGM) from CDA Guidelines	• 1/1000; PGA = 0.315g; This includes an amplification factor of 1.5 • Design earthquake magnitude of 7.2 based on regional tectonics, seismic source zones and historical seismicity.
2.4	Hydrology Criteria	• Mean annual precipitation is 639 mm [5] • Mean annual lake evaporation is 280 mm [5] 'Significant Consequence' – Runoff from 1 in 1000 yr Inflow Design Flood (IDF) of 174 mm as per the 2007 CDA Guidelines.
2.5	Operational Freeboard	• Runoff from the IDF within the impoundment and surrounding catchment upslope • Freeboard for wave run-up = 3.3 ft (1 m) as stipulated by the MVLWB Water License [2] • Additional freeboard allowance to provide flexibility on the supernatant pond volumes, snowpack accumulation within the impoundment and uncertainties in the start times of the deposited tailings underground.
2.6	Closure Criteria [1,4]	• All TSFs will be reclaimed based on the Tailings Containment Area Cover Study and the Closure and Reclamation Plan to be approved by MVLWB, as stipulated in the Water License.

M:\1\01\00433\10\A\Report\1 - 2012 Tailings Management Plan\Tables\Table 3.1 - Design Basis and Operating Criteria_Rev 0.docx

NOTES:

1. EBA, JULY 2009. TAILINGS MONITORING PLAN, CANTUNG MINE, NT.
2. EBA, MARCH 2008. DESIGN REPORT FOR THE STAGE 2 AND 3 RAISES OF THE CONTAINMENT BERM FOR TAILINGS POND 4, CANTUNG MINE, TUNGSTEN, NT.
3. EBA, JUNE 2009. OPERATION, MAINTENANCE AND SURVEILLANCE MANUAL - CANTUNG MINE TAILINGS STORAGE FACILITY, CANTUNG MINE, TUNGSTEN, NT.
4. EBA, 2007. ABANDONMENT AND RECLAMATION PLAN, CANTUNG MINE, TUNGSTEN, NT.
5. EBA, APRIL 2009. CANTUNG MINE WATER MANAGEMENT PLAN, CANTUNG MINE, NT.

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TABLE 3.2

NORTH AMERICAN TUNGSTEN CORPORATION LTD.
CANTUNG MINE PROJECT

2012 TAILINGS MANAGEMENT PLAN
DAM CLASSIFICATION

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Dam Class	Population at risk [1]	Incremental losses		
		Loss of life [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)

Note 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).

Note 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.

M:\1\01\00433\10\A\Report\1 - 2012 Tailings Management Plan\Tables\[Table 3.2 and 3.3_2007 CDA Guidelines_Rev 0.xls]Table 3.3

NOTE:

1. REPRODUCED FROM TABLE 6-1 OF THE CANADIAN DAM ASSOCIATION'S (CDA) "DAM SAFETY GUIDELINES", 2007.

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TABLE 3.3

NORTH AMERICAN TUNGSTEN CORPORATION LTD.
CANTUNG MINE PROJECT

2012 TAILINGS MANAGEMENT PLAN
SUGGESTED DESIGN FLOOD AND EARTHQUAKE LEVELS
(for use in Deterministic Assessments)

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Dam Class	AEP	
	IDF[2]	EDGM[3]
Low	1/100	1/500
Significant	Between 1/100 and 1/1000 [4]	1/1000
High	1/3 between 1/1000 and PMF [5]	1/2500 [6]
Very high	2/3 between 1/1000 and PMF [5]	1/5000 [6]
Extreme	PMF [5]	1/10,000

Acronyms: AEP, annual exceedance probability; EDGM, earthquake design ground motion; IDF, flow design flood; PMF, probable maximum flood.

Note 1. As defined in Table 3.2: Dam Classification.

Note 2. Extrapolation of flood statistics beyond 1/1000 year flood (10^{-3} AEP) is discouraged.

Note 3. AEP levels for EDGM are to be used for mean rather than median estimates for the hazard.

Note 4. Selected on the basis of incremental flood analysis, exposure, and consequences of failure.

Note 5. PMF has no associated AEP. The flood defined as "1/3 between 1/1000 and PMF" or "2/3 between 1/1000 year and PMF" has no defined AEP.

Note 6. The EDGM value must be justified to demonstrate conformance to societal norms of acceptable risk. Justification can be provided with the help of failure modes analysis focused on the particular modes that can contribute to failure initiated by a seismic event. If the justification cannot be provided, the EDGM should be 1/10,000.

M:\1\01\00433\10\A\Report\1 - 2012 Tailings Management Plan\Tables\[Table 3.2 and 3.3_2007 CDA Guidelines_Rev 0.xls]Table 3.3

NOTE:

1. REPRODUCED FROM TABLE 6-1 OF THE CANADIAN DAM ASSOCATION'S (CDA) "DAM SAFETY GUIDELINES", 2007.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
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TABLE 4.1

NORTH AMERICAN TUNGSTEN CORPORATION LTD.
CANTUNG MINE PROJECT

2012 TAILINGS MANAGEMENT PLAN
TAILINGS STORAGE FACILITY DESCRIPTION SUMMARY

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Description	Tailings Storage Facility Details				
	1	2	3	4	5
Dam Type	Side Hill Impoundment	Side Hill Impoundment	Side Hill Impoundment	Side Hill Impoundment	Cross Valley Impoundment
Location	Southwestern valley slope; immediately adjacent to the Flat River	Southwestern valley slope; immediately adjacent to the Flat River and TP 1	Southwestern valley slope; upslope of the Flat River and west of the airstrip	Southwestern valley slope; immediately northwest and abutting against TP 3	Between TP 3 and the valley slope
Dam Construction Method	Upstream Method	Centreline Method	Downstream and Centreline Method	Downstream Method in Stage 1 Upstream Method in Stages 2 and 3	Downstream Method
Use	Tailings Containment	Settling Pond and later Tailings Containment	Tailings Containment	1970 to 2007 - Exfiltration Pond 2007 to present - Tailings Containment	2006 to present - Exfiltration pond
Dam Length (ft)	350	340	3,450	1,390	550
Maximum Dam Height (ft)	50	43	134	88	35
Dam Classification [1]	Significant	Significant	Significant	Significant	Significant
Operation Period	1963 to 1971	1969 to 1971	1971 to 2007	1970 to present	2006 to present
Current Status	Capped and Reclaimed	Capped and Reclaimed	Uncapped	Operating	Operating
Instrumentation	None	None	None	11 vibrating wire piezometers - EBA 2007 5 vibrating wire piezometers - 2010 KP 3 standpipe piezometers - 2010 KP 6 inclinometers - 2007 EBA	4 vibrating wire piezometers - EBA 2007
Design and Construction Documentation	Golder (1976b)	Golder (1976b)	Golder (1976a, 1980, 1985); EBA (2001a, 2001b)	EBA (200b, 2007c, 2007d, 2008a, 2008b, 2008c)	Golder (1985); EBA (2006, 2007g)

M:\1\01\00433\10\A\Report\1 - 2012 Tailings Management Plan\Tables\[Table 4.1 - TSF 1-5 Descriptions_Rev 0.xlsx]Table 4.1

NOTE:

1. DAM CLASSIFICATION IS BASED STUDIES COMPLETED BY EBA ENGINEERING CONSULTANTS USING THE 2007 CANADIAN DAM ASSOCIATION GUIDELINES.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
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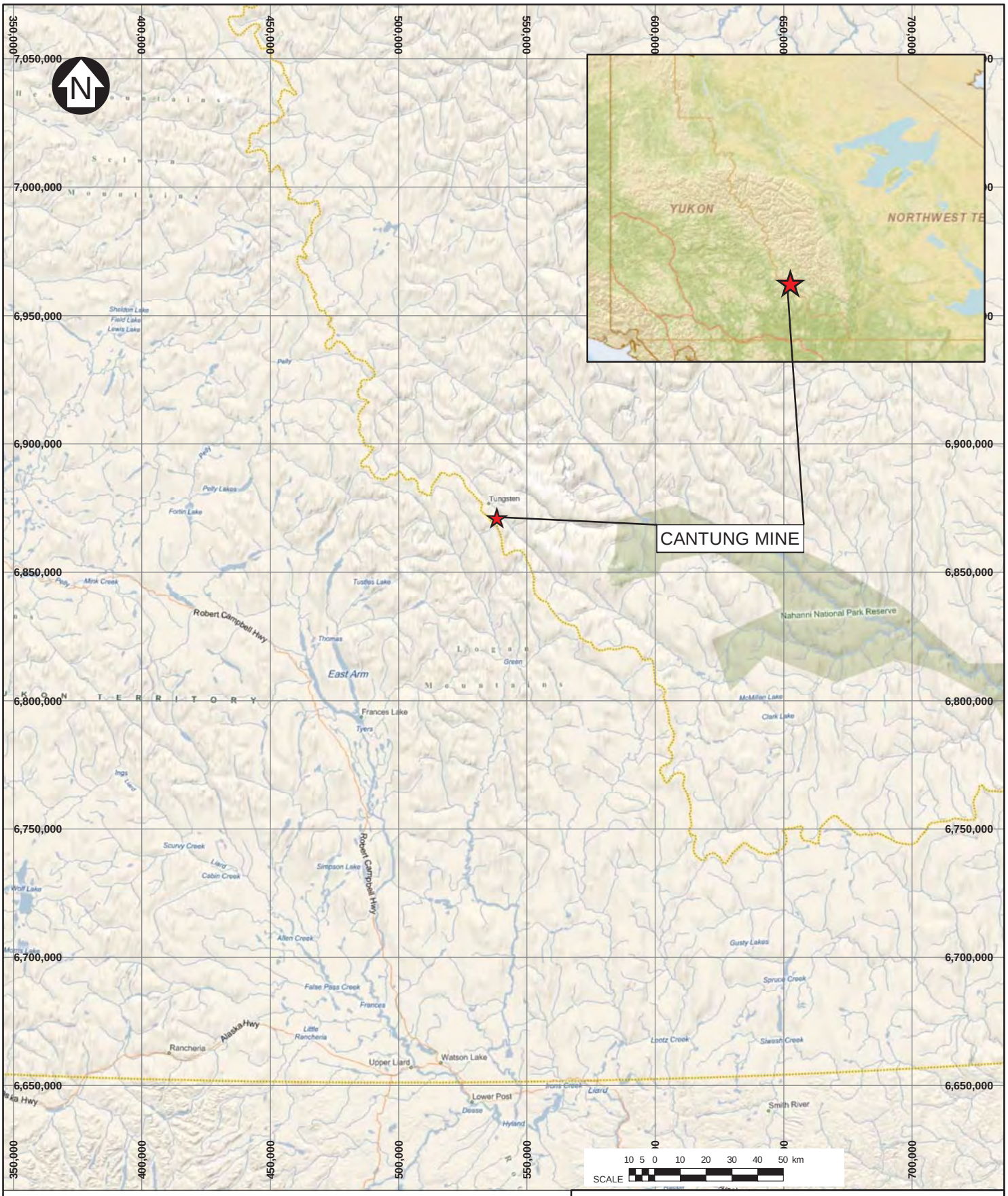

LEGEND:

PROJECT LOCATON

NOTES:

1. BASE MAP: (C) MICROSOFT BING MAPS.

2. COORDINATE GRID IS IN METRES.
DATUM: NAD 83.
PROJECTION: UTM ZONE 9.

3. THIS FIGURE IS PRODUCED AT A NOMINAL SCALE OF 1:2,000,000 FOR 8.5x11 (LETTER) PAPER. ACTUAL SCALE MAY DIFFER ACCORDING TO CHANGES IN PRINTER SETTINGS OR PRINTED PAPER SIZE.

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NORTH AMERICAN TUNGSTEN CORPORATION LTD.

CANTUNG MINE PROJECT

PROJECT LOCATION

Knight Piésold CONSULTING

P/A NO. VA101-433/10

REF NO. 1

FIGURE 1.1

REV 0

SAVED: M:\1\101\00433\07\A\GIS\Figs\ProjectLocation.mxd: Mar 10, 2011 2:41:35 PM ksmith

203 000 N
200 000 E
202 000 N
201 000 E
201 000 N
202 000 E
200 000 N
203 000 E
199 000 N
204 000 E
199 000 N
205 000 E

EDGE OF BORROW LEASE AREA

FORMER LANDFILL SITE

ACCESS ROAD

FLAT RIVER

POND

ACCESS ROAD

SWALE

AGOON

EXFILTRATION POND 1 (LOCATION TBD)

TUNGSTEN TOWNSITE

TAILINGS STORAGE FACILITY 4

TAILINGS STORAGE FACILITY 3

TOPSOIL STOCKPILE

DIVERSION DITCH

TOPSOIL STOCKPILE

TAILINGS STORAGE FACILITY 5

ACCESS ROAD

ACCESS ROAD

DIVERSION DITCH

TAILINGS STORAGE FACILITY 6 AND EXFILTRATION POND 2 (LOCATION TBD)

SCALE A
200 0 200 400 600 800 1000 ft

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D
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NORTH AMERICAN TUNGSTEN CORP. LTD.

CANTUNG MINE PROJECT

GENERAL ARRANGEMENT

Knight Piésold CONSULTING

P/A NO. VA101-433/10

REF NO. 1

FIGURE 1.2

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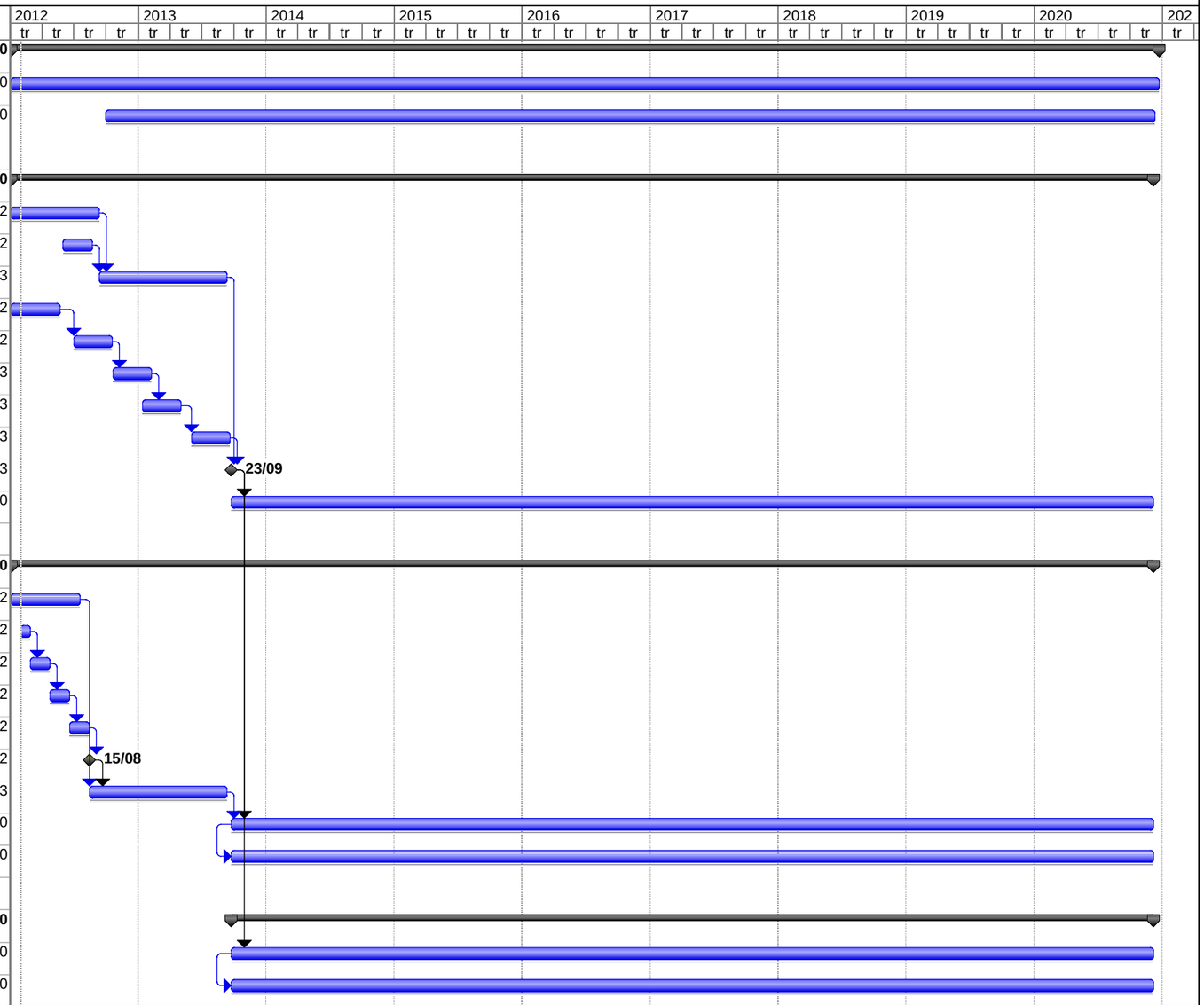
Figure 5.1
Cantung Mine
Tailings Management Plan Preliminary Schedule

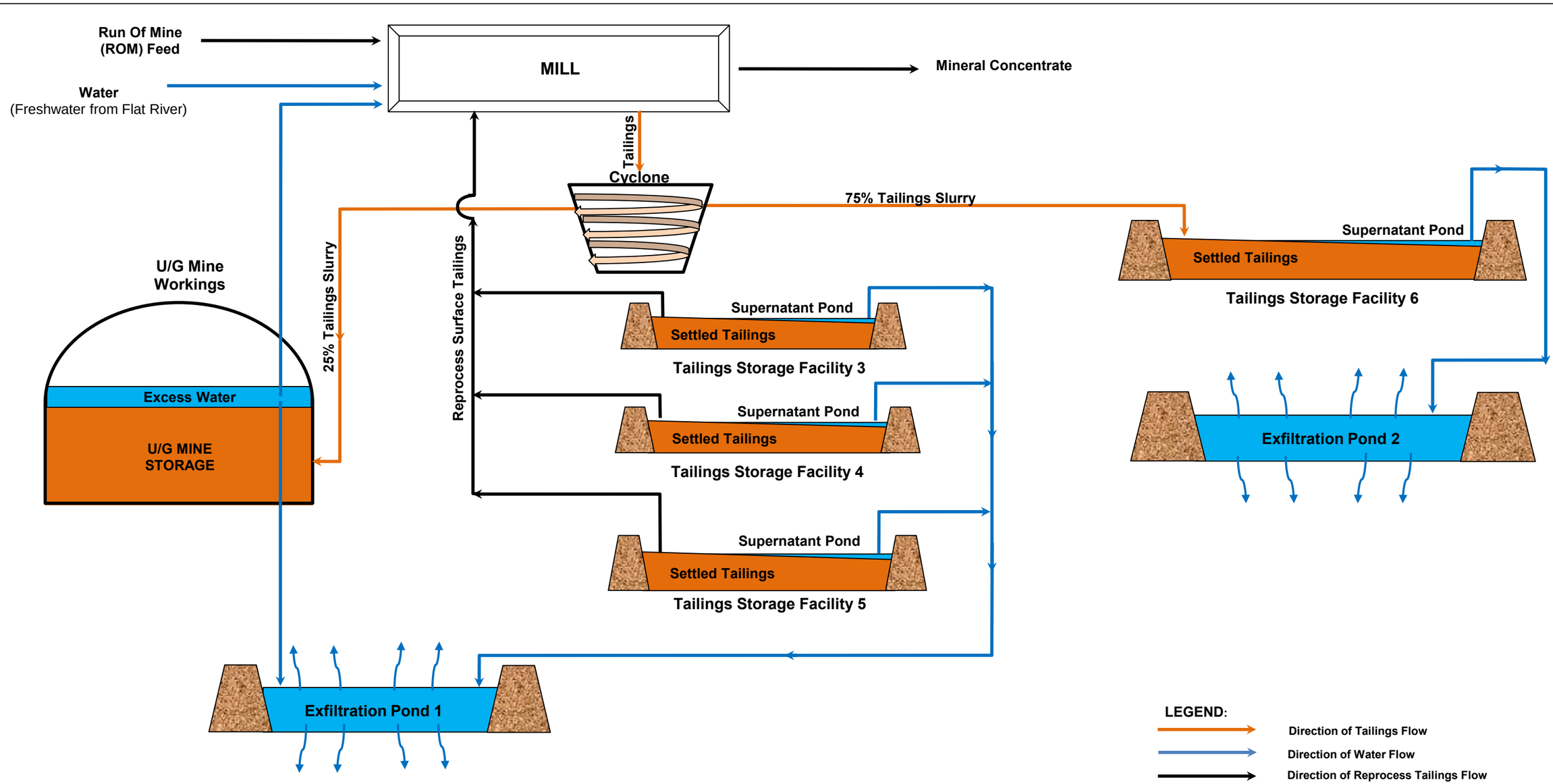
ID	Task Name	Duration	Start	Finish
1	**Mining**	**2340 days**	**Thu 05/01/12**	**Wed 23/12/20**
2	Underground	117 mons	Thu 05/01/12	Wed 23/12/20
3	Underground Backfill (25%)	107 mons	Mon 01/10/12	Fri 11/12/20
4				
5	**Tailings Storage (Underground Backfill 25% starting October 2012)**	**2328 days?**	**Thu 05/01/12**	**Mon 07/12/20**
6	Tailings Storage in TSF 4 (Stage 4)	9 mons	Thu 05/01/12	Wed 12/09/12
7	Embankment Raise on TSF 5	3 mons	Fri 01/06/12	Thu 23/08/12
8	Tailings Storage in TSF 5	13 mons	Thu 13/09/12	Wed 11/09/13
9	TSF 6 - LUP	5 mons	Thu 05/01/12	Wed 23/05/12
10	TSF 6 - Site Geotechnical	4 mons	Mon 02/07/12	Fri 19/10/12
11	TSF 6 - Preliminary Design	4 mons	Mon 22/10/12	Fri 08/02/13
12	TSF 6 - Permitting	4 mons	Mon 14/01/13	Fri 03/05/13
13	TSF 6 - Construction - 2013	4 mons	Mon 03/06/13	Fri 20/09/13
14	TSF 6 - Commissioning - 2013	1 day?	Mon 23/09/13	Mon 23/09/13
15	TSF 6 - Operation for Tailings Storage	94 mons	Tue 24/09/13	Mon 07/12/20
16				
17	**Water Management**	**2327 days?**	**Fri 06/01/12**	**Mon 07/12/20**
18	TSF 5	7 mons	Fri 06/01/12	Thu 19/07/12
19	Exfiltration Pond 1 - Site Geotechnical	1 mon	Wed 01/02/12	Tue 28/02/12
20	Exfiltration Pond 1 - Design	2 mons	Wed 29/02/12	Tue 24/04/12
21	Exfiltration Pond 1 - Permitting	2 mons	Wed 25/04/12	Tue 19/06/12
22	Exfiltration Pond 1 - Construction	2 mons	Wed 20/06/12	Tue 14/08/12
23	Exfiltration Pond 1 - Commissioning	1 day?	Wed 15/08/12	Wed 15/08/12
24	Exfiltration Pond 1 - (tailings water)	14 mons	Thu 16/08/12	Wed 11/09/13
25	Exfiltration Pond 1 - (mine Water)	94 mons	Tue 24/09/13	Mon 07/12/20
26	Exfiltration Pond 2 - (tailings water)	94 mons	Tue 24/09/13	Mon 07/12/20
27				
28	**TSF 4/TSF 3/TSF 5 - Re-Processing**	**1880 days**	**Tue 24/09/13**	**Mon 07/12/20**
29	Re-process Surface Tailings	94 mons	Tue 24/09/13	Mon 07/12/20
30	Decommission TSF 4/TSF 3/TSF 5	94 mons	Tue 24/09/13	Mon 07/12/20



Project: TMP Schedule for 2012 TMP
Date: Mon 30/01/12

Task — Progress — Summary — External Tasks — Deadline
Split — Milestone — Project Summary — External Milestone

Rev 0



NOTES:

1. THE TAILINGS MANAGEMENT PLAN (TMP) FOR THE CANTUNG MINE IS A TMP THAT INCLUDES STORING THE TAILINGS BOTH ON SURFACE AND UNDERGROUND. THE TMP ASSUMES 25% OF THE TOTAL TAILINGS STORE UNDERGROUND AND 75% OF THE TAILINGS STORE ON SURFACE AS OF OCTOBER 2012
2. THE UPDATED TMP INCLUDES EXCESS WATER FROM UNDERGROUDN MINE STORAGE AND SUPERNATANT WATER FROM TSFS PUMP TO EXFILTRATION PONDS.
3. THE UPDATED TMP INCLUDES RE-MININING AND RE-PROCESSING SURFACE TAILINGS OF TSFS 3, 4 AND 5.

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NORTH AMERICAN TUNGSTEN CORPORATION LTD.

CANTUNG MINE PROJECT

TAILINGS MANAGEMENT CONCEPTUAL FLOW SHEET 2014 TO 2020

Knight Piésold CONSULTING

P/A NO. VA101-433/10

REF. NO. 1

FIGURE 5.2

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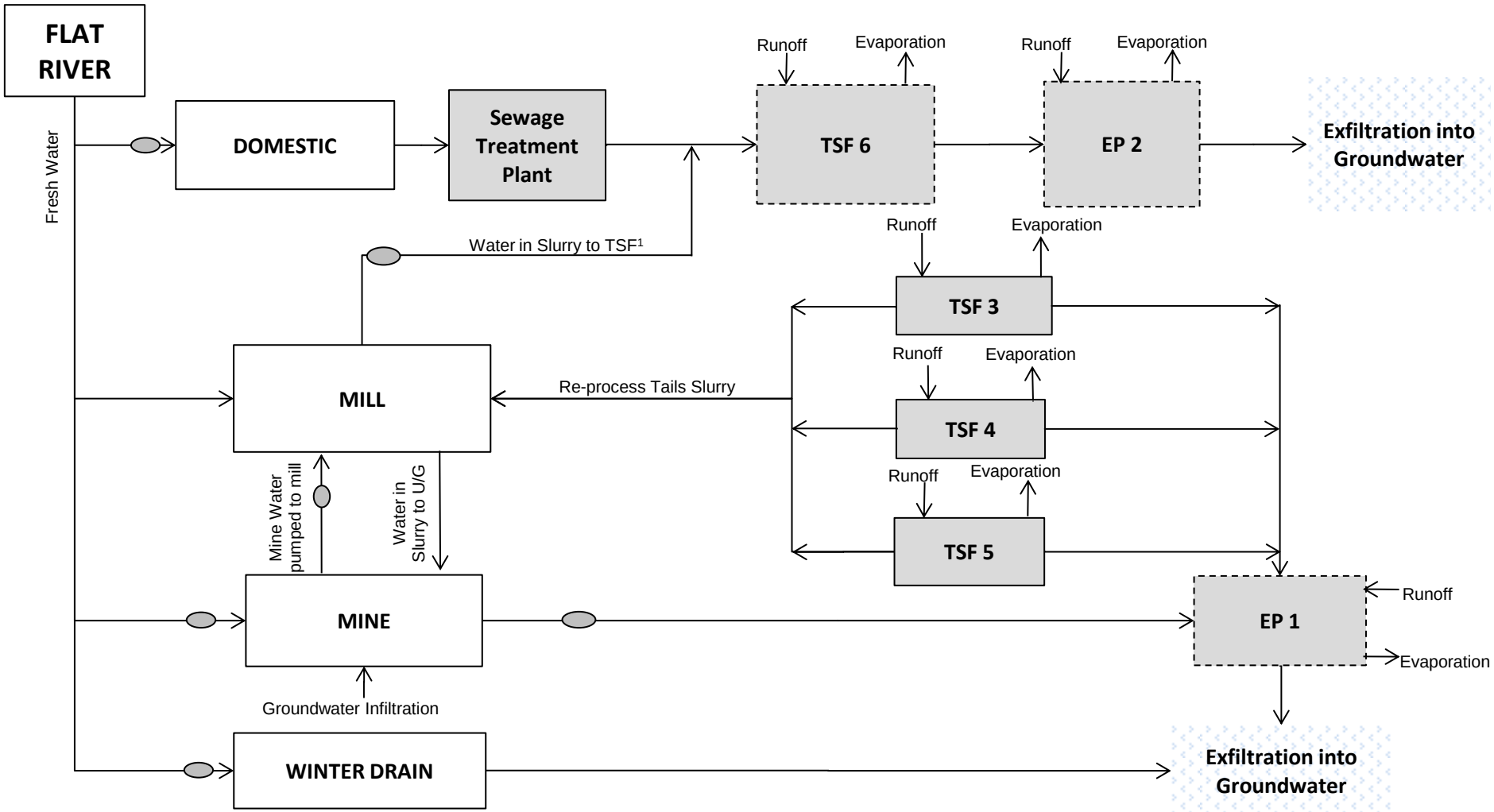

NOTE:

1. THE WATER BALANCE ASSUMES 75% OF THE TOTAL TAILINGS IS STORED ON SURFACE OF TSF AND 25% OF THE TOTAL TAILINGS ARE STORED UNDERGROUND AS OF OCTOBER 2012.

LEGEND:

Contaminated water treatment
Fresh Water
TSF or EP details to be determined
Flow Measurement

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NORTH AMERICAN TUNGSTEN CORPORATION LTD.

CANTUNG MINE PROJECT

WATER MANAGEMENT CONCEPTUAL FLOW SHEET 2014 TO 2020

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P/A NO. VA101-433/10

REF. NO. 1

FIGURE 6.1

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