



PROJECT DESCRIPTION

CANTUNG MINE, NT

VERSION #1.1

PREPARED BY NORTH AMERICAN TUNGSTEN CORPORATION LTD.

DATED: MARCH 2023

SUMMARY

North American Tungsten Corporation Ltd. (NATC or the Company) intends to continue care and maintenance of the Cantung Mine for up to a 10 year period while the Company completes its plan for a permanent mine closure. To complete this planning, NATC requires a new water licence and land use permit, and has submitted applications to the Mackenzie Valley Land and Water Board (MVLWB). This Project Description outlines the contents of the application package submitted to the MVLWB, as well as the description and rationale of the work to be undertaken.

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GLOSSARY AND ACRONYMS

Term	Definition
A&M	Alvarez & Marsal Canada Inc., Court-appointed Monitor of NATC
AEMP	Aquatic Effects Monitoring Program
Application	NATC's application for a new land use permit MV2023Dxxxx and Type-B care and maintenance water licence MV2023L2-xxx and all of its appended documents
Authorizations	New land use permit and water licence issued pursuant to the Application
BC	British Columbia
C&M	Care and Maintenance
Care and Maintenance	The status of a mine when it undergoes a temporary closure.
CCAA	<i>Companies' Creditors Arrangement Act</i>
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
Company	North American Tungsten Corporation Ltd.
Court	The Supreme Court of British Columbia
CWG	Communities Working Group
DQO	Discharge Quality Objectives
EEM	Environmental Effects Monitoring
EQC	Effluent Quality Criteria
FDP	Final Discharge Point
INAC	Indian and Northern Affairs Canada (now referred to as CIRNAC)
IOC	Investigation of Cause
Indigenous Groups	Affected and interested Indigenous rights holders
Inspector	An Inspector designated by the Minister under subsection 84(1) of the <i>Mackenzie Valley Resource Management Act</i>
Joint Sales Process	Joint sales and marketing process for the Cantung Mine and Mactung property undertaken by the Government of Canada and Government of Northwest Territories.
MDMER	<i>Metal and Diamond Mining Effluent Regulations</i>
MVLWB	Mackenzie Valley Land and Water Board
MVRMA	<i>Mackenzie Valley Resource Management Act</i>
Mine	Cantung Mine
Monitor	Alvarez & Marsal Canada Inc.
NATC	North American Tungsten Corporation Ltd.
New Water Licence	The new Type-B care and maintenance water licence being submitted as part of its application to the MVLWB to replace the existing Type-A mining and milling water licence (MV2015L2-0003), which is expiring in January 2024.
NT	Northwest Territories
RDAG	Resource Development Advisory Group
SNP	Surveillance Network Program
TCA	Tailings Containment Area
<i>Waters Regulations</i>	<i>Mackenzie Valley Federal Areas Waters Regulations</i>
WQO	Water Quality Objectives
WWTP	Wastewater Treatment Plant
YK	Yukon

1.0 INTRODUCTION

North American Tungsten Corporation Ltd.'s (NATC or the Company) Cantung Mine (Mine) is located on the Flat River, approximately 275 km northwest of Nahanni Butte, 300 km north of Watson Lake, just east of the Yukon border in the Dehcho Region of the Northwest Territories (NT).

The Cantung Mine, which opened in 1962, is North America's largest tungsten producer. It was most recently operated by NATC, up until the fall of 2015 when mining and milling ceased and the site entered care and maintenance. On June 9, 2015, NATC filed for creditor protection under the *Companies' Creditors Arrangement Act* (CCAA) and Alvarez & Marsal Canada Inc. (A&M or the Monitor) was appointed as Monitor by the Supreme Court of British Columbia (the Court). The Monitor is submitting applications (the Application) for a new Land Use Permit and a New Water Licence (together referred to as the Authorizations) to be issued by the Mackenzie Valley Land and Water Board (MVLWB), for the Cantung site, replacing the current Type A licence MV2015L2-0003 for the scope of which relates to mining and milling operations. This Project Description has been prepared by NATC to describe its plans for the Mine during care and maintenance (C&M) under the Authorizations and is provided in support of the Applications to MVLWB.

1.1 PURPOSE

The purpose of this document is to describe activities planned to be undertaken during Mine C&M within the duration of the Authorizations and provide context, background and rationale for other documents and aspects included in the Application submission.

1.2 OBJECTIVES

The objectives of C&M during the pendency of the term of the Authorizations are to:

- Maintain Mine site compliance with applicable authorizations and regulations;
- Protect public safety and interest relative to the Mine;
- Carry out risk reduction activities on site; and
- Conduct final closure planning.

It is NATC's intention and commitment to continue to engage with affected Indigenous Groups during the term of the Authorizations in respect of all C&M activities undertaken at the Cantung site.

Planned activities are detailed in Section 2.

1.3 APPLICANT - NATC

On June 9, 2015, NATC filed for creditor protection under the CCAA and A&M was appointed Monitor by the Court.

Subsequent to cessation of mining and operations at Cantung at or around November 16, 2015, the Monitor has managed the affairs of the Company pursuant to an Order of the Court. Funding of NATC's care and maintenance activities since November 2015 have been provided by Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC).

On November 18, 2015, the Government of Canada determined that the Mine is a New Site Requiring Remediation, as per section 6.28 of the *Devolution Agreement*. As such, the site is now a federal area under the *Mackenzie Valley Resource Management Act* (MVRMA), for which the Government of Canada is now responsible.

Prior to a decision by NATC to transition Cantung to permanent closure and remediation, NATC and the

Monitor solicited third parties for any interest in a possible investment or acquisition of Cantung that would see a restart of Mine operations. In that regard, a sale and investment solicitation process was conducted by the Company and the Monitor in 2015 which did not result in a transaction. Subsequently, with the assistance of the Monitor, a re-marketing of the Cantung Mine and Mactung property (formerly owned by NATC) was undertaken by the Government of Canada and Government of Northwest Territories (Joint Sales Process) during the period of July 2019 through March 2022. Despite interest from select interested parties, NATC and the respective governments did not identify or transact with a party to invest, acquire or otherwise partner with NATC to take a financial interest in the Mine with a possible restart of same.

In April 2022, NATC, with input from CIRNAC, decided to continue C&M in the near term and transition the Mine towards permanent closure and ultimately, remediation

Accordingly, the applicant continues to be NATC, by its Monitor, the contact details of which are:

North American Tungsten Corporation Ltd.

c/o Alvarez & Marsal Canada Inc.
925 W. Georgia St.
Suite 902, Cathedral Place Building
Vancouver, BC V6C 3L2
Ph : (604) 638-7440

Contact:

Todd M. Martin, Sr. Vice President

tmartin@alvarezandmarsal.com

or

Vicki Chan, Vice President

vchan@alvarezandmarsal.com

NATC's financial sponsor continues to be CIRNAC. Documents are provided as a part of this Application demonstrating the financial capacity and arrangements. Contact information in respect of CIRNAC is:

Crown-Indigenous Relations and Northern Affairs Canada

Northern Contaminated Site Program
25 Eddy St
Gatineau, QC K1A 0H4
Ph: (613) 222-1840

Contact: Jeff Mackey, Director

jeffrey.mackey@rcaanc-cirnac.gc.ca

1.4 SCOPE & TIMING

As stated in Section 1.3, the Mine has ceased commercial operations and planning for permanent closure is underway. In the interim, while permanent closure planning is underway, the Mine will remain in C&M temporarily, for the duration of the New Water Licence, expected to be for a period of up to 10 years, from 2024 to 2034.

It is NATC's goal to advance to permanent closure as expediently as possible, with adequate consideration given to engagement, technical and regulatory aspects. The estimated C&M 10 year period is considered conservative and adequate to allow for closure planning, engagement and regulatory processes to occur to put in place a new closure water licence and related Final Closure Plan. Should aspects take less time than estimated, regulatory processes and Permanent Closure may commence earlier following receipt of necessary approvals.

The scope of the Application is limited to C&M activities, which are a continuation of activities ongoing since 2016 and not considered to be abandonment, decommissioning or other significant alteration of the Cantung mine.

1.5 APPLICATION COMPONENTS

Table 1 summarizes the component parts of the Application submission to the MVLWB. lists the components submitted to the MVLWB comprising the Application.

2.0 SETTING

The Mine property is located entirely on Federal Lands and includes claims and leases totaling 9,985 ha; the claim block containing the current mine site (NT-3129) has an area of 1,568 ha, with a total disturbed area at the Mine encompassing approximately 75 ha, an area that has remained relatively constant since the 1970s. The approximate coordinates at the centre of the site are 541,000 E and 6,871,000 N (WGS84, Zone 9).

A series of maps are provided with the Application identifying the Mine location, current facilities, water and waste management features, as well as monitoring locations.

2.1 ECOLOGICAL SETTING

The Mine is located within the Mackenzie Mountain Range, within the mid-boreal ecoregion of the Boreal Cordilleran Ecozone. Elevations range from 1,130 m above mean sea level (asl) at the Flat River up to 1,524 m asl at the open pit (Tetra Tech 2020a). The ecoregion is characterized by short wet summers and very cold, snowy winters. Mean annual temperature at the site is -4.0°C^1 . Severe winter conditions can occur from October to May, with temperatures dropping as low as -40°C . Based on historical site data, total annual precipitation averages 551 mm¹ with approximately half occurring as rain and half as snow.

The Mine is near the headwaters of the Flat River, which flows from northwest to southeast through the site, and drains into the South Nahanni River, which flows through the Nahanni National Park Reserve, and drains into the Liard River and then the Mackenzie River. The Flat River is characterized by the alpine hydrologic regime of the western mountains of the Canadian Cordillera and has a gross drainage area of approximately 155 square kilometers (km²) at the mine Bridge 2 (Tetra Tech 2020a).

The Flat River flows through a well-defined floodplain composed of glacial and fluvial deposits and has a meandering channel, characterized by riffles and pools at low flow, and confined by the narrow valley walls. (Tetra Tech 2020a, RCBio 2018); the river gradient at the Mine site is 0.1% (Tetra Tech 2020a). The Flat River is a low productivity watercourse due to its high elevation and northern latitude resulting in a short open water season and a low annual mean water temperature. The Flat River supports populations of Arctic grayling, bull trout, round whitefish and slimy sculpin (RCBio 2018). Sardine Creek flows through the north end of the site into the Flat River. Active geothermal areas occur on the Mine site with groundwater discharging periodically into Stinky Pond, and hot springs occurring beyond the extent of the airstrip; both of which ultimately discharge into the Flat River.

Natural upland vegetation consists mainly of white spruce, subalpine fir, scrub birch and grasses. In riparian areas, scrub birch, black spruce, willows, grasses and horsetails are the dominant vegetative communities, while high mountain slopes are mostly barren or frost-shattered rock and colluvium, devoid of vegetation. Much of the Mine site has been disturbed as a result of mining and development activities over time. Some revegetation has occurred, particularly in areas where soil texture is sufficiently fine to retain water and promote growth (Tetra Tech 2020a).

¹ Record period of 2017-2022, Cantung Weather Station

Table 1. Application components

Item	Document title	File Name
Application forms and supporting materials	Land Use Permit Application Form	130323_MV2023Dxxxx_LandUsePermit_Application
	Application for Licence, Amendment of Licence or Renewal of Licence in Federal Areas	230323_MV2023L2-xxxx_WaterLicence_Application
	Letter from CIRNAC to the MVLWB re. MV2015L8-0003 Renewal, NATC Financial Capacity	130323_MV2023L2-xxxx_FinancialCapacityLetter
	Map package	130323_MV2023L2-xxxx_MV2023Dxxxx_Figures
	Project Description	230323_MV2023L2-xxxx_MV2023Dxxxx_ProjectDescription
	Technical Memo from Tetra Tech Canada Inc. to NATC and CIRNAC re. Cantung Monitoring Requirements to Support Care and Maintenance Water Licence Application	130323_MV2023L2-xxxx_MV2023Dxxxx_SupportingDoc_TechnicalMemo
	Engagement log & summary	130323_MV2023L2-xxxx_MV2023Dxxxx_EngagementLog-Summary
Studies undertaken to date that support the application	Cantung Mine 2017 Fifth Cycle EEM Interpretive Report (RCBio 2018)	Available at : https://registry.mvlwb.ca/Documents/MV2015L2-0003/MV2015L2-0003%20-%20NATCL%20-%202017%20EEM%20Fifth%20Interpretive%20Report%20(Final)%20with%20Comment%20and%20Responses%20-%20Dec%208_20.pdf
	Conceptual Site Model Report (Tetra Tech, 2021a)	230323_MV2023L2-xxxx_MV2023Dxxxx_SupportingDoc_ConceptualSiteModel
	Phase III Environmental Site Assessment (Tetra Tech, 2020a)	230323_MV2023L2-xxxx_MV2023Dxxxx_SupportingDoc_Phase3
	2019 Geotechnical Investigation Report (Tetra Tech, 2020b)	230323_MV2023L2-xxxx_MV2023Dxxxx_SupportingDoc_Geotech
	Borrow Source Data summary (Tetra Tech, 2020c)	230323_MV2023L2-xxxx_MV2023Dxxxx_SupportingDoc_Borrow
	Diesel Plume Stability Memo (Tetra Tech, 2020d)	230323_MV2023L2-xxxx_MV2023Dxxxx_SupportingDoc_DieselPlume
	Geochemistry Report (Tetra Tech, 2020e)	230323_MV2023L2-xxxx_MV2023Dxxxx_SupportingDoc_Geochem
	Geotechnical Assessment of Existing Tailings Facilities (Tetra Tech, 2021b)	230323_MV2023L2-xxxx_MV2023Dxxxx_SupportingDoc_TSFGeotech
	Human Health and Environmental Risk Assessment Report (Tetra Tech, 2021c)	230323_MV2023L2-xxxx_MV2023Dxxxx_SupportingDoc_HHERA
	Cantung Biota Sampling Results (Tetra Tech, 2018)	230323_MV2023L2-xxxx_MV2023Dxxxx_SupportingDoc_Biota
	Cantung Geotechnical Stability Assessment (Tetra Tech, 2019)	230323_MV2023L2-

Item	Document title	File Name
		xxxx_MV2023Dxxxx_SupportingDoc_GetotechStability
Draft Water Licence and Land Use Permit	Conditions Annexed to and Forming Part of Land Use Permit # MV2023Dxxxx – Draft	130323_MV2023L2-xxxx_LandUsePermit_DraftT&C
	Conditions Annexed to and Forming Part of Water Licence # MV2023L2-xxxx – Draft	130323_MV2023L2-xxxx_WaterLicence_DraftT&C
Management Plans	Care and Maintenance Plan	130323_MV2023L2-xxxx_MV2023Dxxxx_C&MPlan
	Emergency Response Plan	130323_MV2023L2-xxxx_MV2023Dxxxx_EmergencyResponsePlan
	Engagement Plan	130323_MV2023L2-xxxx_MV2023Dxxxx_EngagementPlan
	Groundwater Pumping Contingency Plan	130323_MV2023L2-xxxx_MV2023Dxxxx_GroundwaterPumpingContingencyPlan
	Landfill Management Plan	130323_MV2023L2-xxxx_MV2023Dxxxx_LandfillMgmtPlan
	Operation, Maintenance, and Surveillance Manual, Cantung Mine Tailings Storage Facility	130323_MV2023L2-xxxx_MV2023Dxxxx_TSFOMSManual
	Spill Response Plan	230323_MV2023L2-xxxx_MV2023Dxxxx_SpillResponsePlan
	Waste Management Plan	230323_MV2023L2-xxxx_MV2023Dxxxx_WasteMgmtPlan
	Water Management Plan	130323_MV2023L2-xxxx_MV2023Dxxxx_WaterMgmtPlan
	Water Sampling Quality Assurance and Quality Control Plan	130323_MV2023L2-xxxx_QAQCPlan

2.2 CULTURAL SETTING

The Mine is located within the Treaty 11 boundary, the traditional territory of the Dehcho First Nations, and the asserted territory of the Kaska Dena First Nation. The Dehcho community of Nahanni Butte and the Nahą Dehé Dene Band is most proximal to the Mine. The Mine area and the Flat River watershed are used for cultural practices and traditional land uses including hunting, fishing, trapping and spiritual practices.

2.3 MINE SITE, INFRASTRUCTURE AND FACILITIES

The Cantung Mine site consists of an open pit, underground workings with seven separate openings, vents or adits, a processing and mill complex, a historic town site, five tailings containment areas, water and sewerage infrastructure, fuel storage tankage and distribution pipelines, a gravel airstrip and non-hazardous waste landfill.

The historic Tungsten townsite and current Mine facilities at the site are situated mainly on the west side of the Flat River valley, on a bench about 91 m above the Flat River. The underground mine portal is located above the concentrator facilities at an elevation of 1,204 m and the open pit is located in a cirque above the underground mine.

The following infrastructure is currently located on site:

- Sixty-three buildings and structures (milling and surface plant facilities, accommodation, utilities, old town site, recreation and storage).
- Several above ground fuel storage tanks, with the largest in-service tank containing up to 600,000 L of diesel.
- A series of several day, mobile and/or skid-mounted tanks are used to fuel to generators, incinerator, pumphouse and sewage treatment plant.
- Two water supply tanks.
- Five tailings containment areas (TCA), two of which are historic and covered (TCA 1 & 2; West TCA) three of which are more recent and uncovered (TCAs 3, 4, 6; East TCA).
- One sewage treatment plant.
- Several waste rock storage areas, as well as other deposits around the site.
- A main portal and conveyor adit to the underground workings, along with a ventilation raise.
- One water supply pumping and treatment station (at Flat River about 200 m north of the Maintenance Shop).
- A waste water treatment facility for treating mine process effluent.
- An airstrip (southeast of main site).
- One non-hazardous waste landfill.
- One incinerator.
- Three bridges across the Flat River: Bridge 1 upstream of TCA 1 and TCA 2 and accesses the established borrow area; Bridge 2 is immediately northeast of TCA 4; and Bridge 3 is southeast of the airstrip and accesses the landfill.
- Three stream crossings consisting of culverts under gravel roads (Sardine Creek)
- Approximately 2 km of pipelines for conveying water, fuel, sewage or historically, tailings.
- Approximately 20 km of roads in the greater mine site area.

Of those listed above, the facilities that remain active (intermittently) during C&M:

- Administration building (partial);
- Power house (partial);
- Freshwater pumphouse (partial);
- Sewage treatment plant and lift station;
- Surface maintenance shop (partial);
- Carpenter shop (partial);
- Doghouse surrounding radio amplifier for site communications;
- Bulk fuel storage (partial) and some day tanks.

During mining operations, the underground workings were dewatered, with water conveyed to TCA 5 for disposal. However, on October 15, 2015, the dewatering of the underground workings was stopped, and the mine flooded to the elevation of the Main Portal at 3,950 ft by April 2017. Currently, the mine continues to be flooded to the 3,950 ft level and mine water exits through two locations: the Main Portal and at the Conveyor Adit.

The Mine is supplied with electric power from diesel generators. Diesel, gasoline and propane are delivered on a regular schedule by truck via the Nahanni Range Road.

Water is taken from the Flat River from the pump house. Water is conveyed directly to the Administration Building and other active buildings on site.

Treated sewage effluent is discharged to TCA 5.

Hazardous wastes are handled, stored and disposed of in accordance with applicable regulations.

An active non-hazardous waste landfill is located in a former borrow pit approximately 3 km southeast of the Townsite, across the Flat River. Site garbage is incinerated and the residue, along with other solid non-hazardous, non-combustible, non-putrescible waste, is buried at the landfill.

3.0 REGULATORY CONTEXT

3.1 LICENSING CRITERIA - WATER USE AND WASTE DEPOSIT

It is understood that licensing criteria as per the *Mackenzie Valley Federal Areas Waters Regulations (Waters Regulations)* depends on the nature of the water use and deposit of waste, and the classification of the undertaking, as listed in Schedule II of the *Waters Regulations*.

As a non-placer Mining and Milling Undertaking, the criteria in Schedule V of the *Water Regulations* applies to the Mine. Given the criteria listed in Schedule V of the *Waters Regulations* and NATC's intended water use outlined directly below and described in greater detail within the Application, a Type B water licence for a Mining and Milling Undertaking is required.

NATC plans to continue direct and indirect water use. Direct water use will continue for an undertaking other than milling or production leaching, being predominantly domestic use, at a rate of 100 m³ or more per day. While it is anticipated that current water use volumes may remain below 100 m³/day (on average 81 m³/day were used in 2022), NATC is applying for a Type B water licence for use of 100 m³ or more per day for compliance certainty in the event that water use periodically increases over 100 m³/day.

NATC plans to continue indirect water use in the following ways: maintaining water course crossings in the form of bridges; watercourse training in the form of culverts; diversions of mine water at surface. NATC is not planning to construct a flood control structure nor is it planning to alter flow and store water

behind a dam or dike.

Waste deposit to land may occur >100 m upland from water courses, or within facilities. This waste deposit is unrelated to milling and will not result in waste entering the waters of the Mackenzie Valley. Accordingly, no deposit of waste is planned as set out in the *Waters Regulations*.

3.2 LAND TENURE AND PERMITTING

NATC holds a series of federal surface leases and territorial mining leases, making it eligible to hold a water licence, allowing exclusive surface access, and allowing it to carry out of defined activities.

NATC does not currently hold a land use permit for mining and milling activities, nor has it historically. Based on outcomes of pre-application engagement, it was indicated by parties that NATC may now require a land use permit to continue carrying out existing licensed activities on its leases. Accordingly, NATC is applying for a new land use permit.

3.3 TRANSITIONAL PROVISIONS UNDER THE MVRMA AND PRELIMINARY SCREENING

Cantung was an existing licensed operating mine prior to December 22, 1998, when the *MVRMA* came into force, and accordingly, there was an associated existing right to the land and the existing licence at the time was continued.

Further to Section 157.1 of the *MVRMA* Cantung was also a licenced undertaking prior to June 22, 1984. As the scope under the Authorizations does not pertain to abandonment, decommissioning or other significant alteration of the project, and rather is a continuation of activities ongoing onsite, Part 5 of the *MVRMA* does not apply and the Application is exempt from screening.

The application for the current water licence, MV2015L2-0003, was also exempt from screening.

The current Application scope is limited to continuation of activities that have been ongoing since at least 1984² or earlier, is consistent with the existing water licence MV2015L2-0003, and is not intended for activities requiring new processes, therefore the Application is expected to be exempt from preliminary screening pursuant to Part 5 of the *MVRMA*. As a result, an impact assessment is not included with the Application.

3.4 APPLICATION OF THE MDMER

Until April 10, 2020 when Mine was granted closed mine status by Environment and Climate Change Canada (ECCC), Cantung was the subject of Environmental Effects Monitoring (EEM) pursuant to the *Metal and Diamond Mining Effluent Regulations (MDMER)*. EEM is comprised of: effluent and water quality monitoring studies including effluent characterization, sublethal toxicity testing and water quality monitoring in relation to a final discharge point (FDP³) (*MDMER* Schedule 5 Part 1); biological monitoring studies in the aquatic receiving environment to determine if mine effluent is having an effect on fish, fish habitat or the use of fisheries resources and includes studies on fish, fish habitat, benthic invertebrates, water quality, and sediment quality within an exposure area adjacent to the Mine and FDP (*MDMER* Schedule 5 Part 2). Effluent and water quality monitoring occurred on a routine basis, while biological monitoring was undertaken every few years, including 5 studies in total between 2006 and 2017, taking place both during Mine operations and C&M.

Each biological monitoring study design and interpretive report, including that which informed granting of closed mine status, is subject to peer review through a Technical Advisory Panel (TAP) convened by

² Leases 16-7-2, 16-16-2, and 16-8-2 cover areas and activities associated with the mine, the airstrip the tailings containment area and the landfill. These leases from 1984 contain renewal clauses, suggesting an intended continuation of a right over time.

³ The FDP was located at SNP station 4-20.

ECCC to provide technical and scientific advice on study designs and interpretative reports. The 2019 TAP that reviewed the fifth and final EEM biological study interpretive report was comprised of technical experts from ECCC, Parks Canada, the MVLWB and the Government of Northwest Territories. This study was undertaken in 2017, reported in 2018 (RC Bio 2018) and informed the achievement of closed mine status in 2020; a link to this report is provided in Table 1.

Following achievement of closed mine status, the *Metal and Diamond Mining Effluent Regulations (MDMER)* no longer apply to Cantung.

3.4.1 DISCUSSION OF EEM RESULTS

The fifth and final biological monitoring study reported similar results to the four preceding studies, concluding that there was no evidence to suggest the current or recent historical Mine operations or care and maintenance activities resulted in any adverse effects to the aquatic environment (RC Bio 2018).

Only one effect endpoint related to benthos community structure (Bray-Curtis Similarity Index) was statistically significantly different in multiple studies and so required further study through an Investigation of Cause (IOC). The IOC indicated that the manner in which the Bray-Curtis Similarity Index is calculated can produce false positives, thus identifying an effect where no effect is present, and accordingly, may have resulted in the indication of an effect. It was also postulated that the chemistry of tailings deposited in the Flat River in the 1960's may cause a statistically significant difference in benthos community composition. Neither of these causes related to current or recent historic Mine practices.

3.5 MANAGEMENT PLANS

A number of management plans submitted with the Application are continued from the existing licence, have been updated to reflect the Application scope, or are new. These, along with a brief discussion of rationale and changes, are listed in Appendix A.

4.0 ENGAGEMENT

NATC has been carrying out engagement with interested parties in accordance with its Engagement Plan and in relation to the Joint Sales Process since 2016. Engagement specific to the Application has been conducted commencing in mid-2022, as detailed in the Engagement Log and summarized below

4.1 INDIGENOUS

NATC engages with affected and interested Indigenous rights holders (Indigenous Groups) routinely through the Communities Working Group (CWG), and directly on a bi-lateral basis as requested by specific Indigenous Groups.

The CWG typically convenes on a quarterly basis, with meeting materials and supporting documentation shared electronically. Formal written notice of the Application submission was provided to all Indigenous Groups in November 2022, along with an invitation to engage. Follow-up telephone calls and email correspondence with CWG members in December 2022 and January, February and March 2023 included dispatch of draft Application materials which were shared starting in late December 2022, and related follow-up. Individual meetings have been held with some Indigenous Groups including in-person meetings with Chief, Council and various technical advisors. Comments received and resulting changes made have been tracked in the Engagement Log.

4.2 REGULATORY

NATC has engaged with various regulatory agencies on matters specific to the Application, commencing

in April 2022. Regular meetings are held with the MVLWB staff (virtually and in person) to discuss process and scope aspects and to plan for the licensing and permitting process⁴. Routine meetings are held in person and virtually with the Inspector to provide updates and discuss Authorization aspects. A meeting was held virtually with the Mackenzie Valley Impact Review Board in December 2022 to provide an update. Similarly, a meeting with representatives of the Resource Development Advisory Group (RDAG) facilitated by the Northern Project Management Office within the Canadian Northern Economic Development Agency, was held in January 2023 to provide an update on the status of the Application.

4.3 PUBLIC

Public engagement has involved outreach, in the form of a written letter, to leaseholders within a 25 km radius of the mine, facilitated by the Government of Northwest Territories. The letter invited leaseholders to reach out to the Monitor should they have any questions or concerns regarding the Application.

Further, similar outreach, in the form of a written letter, to nearby municipalities, being Watson Lake, Nahanni Butte and Fort Simpson, was issued in December 2022, with follow-up up by phone occurring in early January 2023.

5.0 CARE AND MAINTENANCE ACTIVITIES

Care and maintenance activities planned for the near-term and during the pendency of the term of the New Water Licence until the start of permanent closure are a continuation of activities already underway and ongoing since 2015. NATC plans to modify some aspects to allow for flexibility and realize cost savings where possible/available. Care and maintenance activities planned to occur for the duration of the New Water Licence are described below. Table 2 provides a comparison between existing licenced activities and planned C&M activities.

5.1 ACCESS

The Mine is currently accessible overland from Yukon (YK) by the public Nahanni Range Road, or by air from YK, British Columbia (BC) or NT via helicopter or fixed wing utilizing the existing Cantung airstrip. Access within the Mine site occurs via 20 km of private roads and three bridges across the Flat River, transited by light duty trucks and heavy equipment. The Mine is resupplied from Whitehorse, YK by weekly scheduled fixed wing flights, supplemented by trucking from Watson Lake, YK (primarily related to fuel deliveries) as needed.

Throughout C&M, NATC has maintained the airstrip, site roads and bridges, and the Nahanni Range Road from kilometer 134 to Mine site and plans to continue to do so for in the near-term. Thereafter, NATC may pursue seasonal air and ground access, with resupply occurring from either YK, BC or NT, depending on need and availability. Private mine roads will be maintained as necessary and access around the site may occur with snowmobiles or all-terrain vehicles, or equivalent.

⁴ 11 meetings were held since April 2022.

Table 2. Comparison of current and planned activities, Cantung Mine.

Activity	Licensed under MV2015L2-0003	Planned to occur under MV2023L2-xxxx
Withdrawal of Water for continued mining and milling operations to the Water Supply Facility	X	
Withdrawal of Water for domestic purposes through the Water Supply Facility	X	X
Deposit of Waste to the Tailings Containment Area, Dry Stack Tailings Storage Facilities, and underground	X	X ⁵
Deposit of Waste through the Wastewater Treatment Facilities	X	
Deposit of Waste to the Solid Waste Disposal Facility and Landfarm	X	X ⁶
Disposal of Waste Rock in underground workings and above ground	X	
Disposal of Sewage	X	X
Handling and storage of petroleum products and hazardous materials	X	X
Operation and maintenance of Sewage Disposal Facilities	X	X
Operation and maintenance of Wastewater Treatment Facilities	X	
Operation and maintenance of Dry Stack Tailings Processing Facility	X	
Operation and maintenance of Dry Stack Storage Facilities	X	
Operation and maintenance of Tailings Containment Area	X	X ⁷
Operation and maintenance of Solid Waste Disposal Facilities and Landfarm	X	X ⁶
Progressive Reclamation and associated closure activities	X	X

5.2 SITE PRESENCE

The Mine is currently occupied continuously to secure, preserve and maintain mine assets and certain infrastructure, ensure that health and safety regulations are maintained and carry out compliance monitoring under the current water licence and/or other regulatory requirements. Under the New Water Licence being sought by NATC, the Company plans to reduce its workforce on site as well as the frequency of accessing the Mine, commensurate with seasonal considerations and compliance/surveillance requirements. For example, the Mine site will typically be subject to full time presence during freshet to provide adequate surveillance and monitoring as appropriate, while periodic access during shoulder seasons and winter is considered adequate.

The Mine is currently staffed by NATC personnel and serviced by a variety of contractors. NATC plans to continue its site staffing arrangement in the near-term and may shift to having a contractor administer its C&M program in the future as a means of reducing administrative costs and providing, where feasible, benefits to impacted communities through contracting opportunities.

⁵ NATC plans to continue deposit of treated sewage effluent to the TCA. Deposit of waste to the Dry Stack Tailings Storage Facilities, and underground do not apply.

⁶ NATC plans to continue use of the existing non-Engineered Solid Waste Disposal Facility, referred to as the Landfill.

⁷ NATC plans to continue maintenance only of the Tailings Containment Area.

Regardless of which staffing model is in place, NATC is committed to ensuring that minimum personnel requirements for safe work are adhered to, that adequately trained and experienced personnel are assigned, and designated professionals are appropriately assigned where required. A designated Site Manager will continue to be assigned and responsible for all activities on site, with appropriate authority to delegate tasks to other workers.

5.3 CAMP

The facilities in use by the current NATC crew (6 persons per cross shift on average) are operational-scale facilities⁸. NATC is exploring options to retrofit or replace the existing accommodations (including mess, dry and supporting infrastructure) with alternatives that allow for easy, intermittent use by the small C&M workforce, reduce water use and waste generation, and reduce power consumption.

Current accommodations and related power and buildings in use will continue in the near term while the site is continuously occupied, and possibly in the future during seasonal activities as needed. When it transitions to seasonal intermittent access of site, NATC plans to replace existing out of service accommodations and supporting infrastructure (water, waste and fuel management) with a modular camp to allow for an easier and more efficient start-up and shut down for short durations.

While modular camp specifications are not yet available, facilities are expected to be in the form of a temporary hard-wall modular accommodations facility for up to approximately 10 persons, including a mess and dry, with its own separate smaller generators and individual fuel containers, greywater collection in a tank with manual pumping and disposal to the tailings containment area, sewage collection in pacto-style toilets or a blackwater tank, and waste incineration or backhaul offsite. Water for domestic use will be withdrawn from the Flat River at the location of the current water intake. Prior to installing the modular camp, NATC will submit for review and approval relevant updated management plans, including the *Care and Maintenance Plan* and the *Waste Management Plan*, that will reflect the details of the modular camp.

Following installation of modular accommodations, the bulk fuel storage and distribution system may be drawn down and removed from service; the main generators, drinking water withdrawal, treatment and distribution system, and the sewage treatment system withdrawn from service and the current accommodations building closed and removed from use.

The planned changes to bed space, water, waste and fuel management do not represent an expansion of facilities; rather they are a continuation of existing activities, carried out in a different manner and in some instances, in a different location within the existing disturbed area associated with the Mine footprint. Further, removing existing physical works from service is not considered to be final abandonment, decommissioning, or other significant alteration of the Mine site.

5.4 EQUIPMENT

The surface equipment fleet currently in use, or approximate equivalent, will continue to be used on site as needed to support maintenance and surveillance of existing facilities, risk reduction activities and any further assessment activities related to permanent closure planning.

5.5 WATER USE AND MANAGEMENT

Water use and management will continue for undertakings other than milling or production leaching and may at times exceed 100 m³ per day; water use and management is largely a continuation of what has already been occurring throughout C&M, and is discussed further below. Where changes to

⁸ For example, the sewage treatment plant has a design influent hydraulic loading capacity of 39,000 gpd or 147 m³/day and at its maximum, treated sewage for the entire Mine site as well as the Townsite, approximately 600 persons. Similarly, the total bedspace capacity during Mine operations was 310, with 205 beds remaining functional throughout C&M.

monitoring are requested additional detail can be found in the mark-up of the water licence provided with the Application, and supported by independent technical advice, also provided with the Application.

5.5.1 DOMESTIC WATER

Domestic water will continue to be withdrawn from the Flat River at the current water intake location (Surveillance Network Program (SNP) station 4-1). Withdrawal facilities, such as the intake pump size, may be modified to something smaller following installation of a modular camp.

Water withdrawal volume will remain approximately consistent with, or less than, the current withdrawn volumes (on average 81 m³/day) but may occasionally exceed the 100 m³ per day threshold and so is within the criteria for a Type B water licence, as set out in Schedule V, Column II of the *Waters Regulations*.

5.5.2 MINE WATER

Mine water discharges to surface at two locations, the Main Portal or E Zone Discharge, and the Conveyor Adit or Gallery, monitored at SNP stations 4-13 and 4-42, respectively. Once at surface, the mine water flows in open ditches and culverts to tributary streams and eventually to the Flat River: mine water discharged from the Main Portal flows into Sardine Creek and from there directly into the Flat River (monitored at SNP station 4-32)⁹; mine water discharged from the Conveyor Gallery flows to an open ditch behind the Mill building, then by ditch and culvert into the Polishing Pond. Water from the Polishing Pond infiltrates into the ground beside the Flat River or overflows through a culvert directly into the Flat River (monitored at SNP station 5-2).

Average daily discharge¹⁰ monitored at SNP Stations 4-13 and 4-42 was 163 and 646 m³/day, respectively, when flowing. Discharge varies throughout the year with an increase in spring (starting in May) due to snow melt and corresponding increases in infiltration, as well as groundwater seepage into the fully flooded mine workings during spring freshet. The variability during the summer is understood to be related to changes in infiltration and groundwater inflow rates in response to precipitation events (Tetra Tech 2020a).

Mine water quality is well understood, having been the subject of monthly monitoring under the SNP for the duration of C&M to date; monitoring is proposed to continue in much the same manner as it has occurred to date, under a new water licence.

Mine water at the Mine does not come within the definition of 'Waste' for the purpose of the *MVRMA* and the *Waters Regulations*, therefore, mine water is not an effluent, and Effluent Quality Criteria (EQC) are not applicable. Further, the mine water is not being treated, processed or changed, by heat or other means nor is it degrading or altering, or contributing to the degradation or alteration of, the aquatic receiving environment (as evidenced by the data arising from monthly monitoring under the SNP for the several years since the mine flooded to the 3,950 ft level where the mine water largely remained below the EQCs already in the water licence).

As discussed in Section 3.3, the Mine achieved Recognized Closed Mine status under the *MDMER* on May 27, 2020. Prior to achieving closed mine status, the Mine undertook five cycles of EEM biological monitoring studies as well as ongoing quality monitoring, including toxicity testing. No effects related to current or recent historic Mine practices, including Mine operations and related effluent discharge to the Flat River, nor C&M and related mine water discharge to tributary streams and eventually to the Flat River, resulted in any adverse effects to the aquatic environment. Accordingly, the mine water discharged at SNP stations 4-13 and 5-2 should not be considered a waste as defined under the *MVRMA*

⁹ Mine water discharge to Sardine Creek is a historic practice dating back to at least 1995 wherein it was authorized in water licence N3L2-0004.

¹⁰ As calculated between April 1, 2017 (when the mine filled to the 3,950 ft level) to the end of 2022.

as it is not detrimental to the aquatic environment.

Notwithstanding the foregoing, NATC feels that it is prudent to both continue to monitor the mine water quality and also compare the mine water quality to site-specific discharge quality objectives (DQO) and the Flat River water to the existing Water Quality Objectives (WQO). DQOs have been developed and their application is included in the *Water Management Plan* submitted with the Application¹¹. WQO in the current water licence have been carried forward into the *Water Management Plan*.

5.5.3 GROUNDWATER

Groundwater flows and quality at the Mine are well understood; quantity and quality monitoring will continue. NATC is proposing modifications to the SNP to: (i) optimize use of best existing monitoring infrastructure; (ii) remove redundant or unsuitable sampling locations; and (iii) revise frequency based on expert advice. Revisions to the SNP are detailed in the mark-up of the water licence included with the Application; independent technical advice is provided in a supporting memorandum from Tetra Tech Canada Inc. (Tetra Tech 2023a) also included with the Application.

NATC plans to continue to implement where required, the current approved *Groundwater Pumping Contingency Plan*. The plan has been updated to reflect the site status being in C&M and also to address elevated total suspended solids (TSS) that has been observed in annual sampling for several years at one of the pumping wells. As a result of this occurrence, the Inspector is required to be notified and additional sampling and reporting undertaken; however, evidence has been provided previously indicating that this condition is natural and not specifically Mine-related, and accordingly, the Inspector has waived the need to further analyze and report in each instance. Given the Inspector's indicated position, revisions to the *Groundwater Pumping Contingency Plan* have been made to relieve the administrative and reporting burden associated with the ongoing occurrence of this condition.

5.5.4 SURFACE WATER

Surface water quality and quantity is well understood at the Mine and monitoring will continue through execution of the SNP and *Water Management Plan*, including sampling of the Flat River in several locations as well as Sardine Creek and Stinky Pond. NATC is proposing changes to the SNP to more accurately reflect the conditions and infrastructure planned for use on site: several SNP stations were in place to support wastewater treatment plant discharge (WWTP) and associated mixing, however, with the cessation of mining and the related WWTP withdrawal from service, these stations are not considered necessary. Further, sampling frequency is being modified pursuant to independent technical advice (Tetra Tech 2023a).

There is currently no Aquatic Effects Monitoring Program (AEMP) in place at Cantung. Given the Mine is not returning to commercial operations, NATC is requesting that the requirement for an AEMP be removed from New Water Licence. An AEMP is intended to be an operational management tool; the Mine is no longer in operations and is moving towards permanent closure. In addition, NATC notes that MVLWB policy (2011) indicates that an AEMP is typically a requirement associated with a Type A water licence, or advanced mineral or petroleum exploration, none of which apply to Cantung at present.

Aquatic effects have been well studied throughout mine operations and into C&M under the *MDMER*. NATC proposes that the water licence conditions, SNP and related management plans are adequate to monitor project effects on the receiving environment given milling and related tailings deposit and effluent discharge have ceased, and the stability of the Mine site is well understood following multiple years of C&M monitoring.

¹¹ Further refinement of the proposed DQOs is ongoing, specifically to consider current data. Revised DQOs are expected to be available and subject to party review and comment prior to the Technical Meeting.

5.5.5 STORMWATER

Mine site stormwater is collected and conveyed through, or diverted around, the Mine site via existing surface ditches and buried infrastructure, with stormwater discharge to the Polishing Pond, or the Flat River, respectively. Runoff originating outside the Mine site is collected in a series of diversion ditches designed to direct flow around Mine infrastructure and discharge into the Flat River.

The Polishing Pond was created with a low berm of rock sectioning off an oxbow of the Flat River at this location and was constructed in conjunction with historic spill contingency planning to act as a catchment pond for surface runoff from the site to provide for containment and clean-up of any spills prior to reaching the Flat River. No spills have occurred that reached the pond, therefore, the pond has never been utilized for this purpose. This site typically discharges during freshet only (approximately 6 weeks per year between June and July). In the event that water of poor quality is detected within the Polishing Pond, runoff is temporarily redirected to the TCA.

Conveyance is monitored in accordance with the *Water Management Plan*. No changes to infrastructure, stormwater quality or quality are expected throughout routine C&M activities.

5.6 WASTE MANAGEMENT

As mining and milling has ceased, no further mineral waste will be produced or managed. Existing mineral waste on site, including tailings and waste rock, will be further considered and managed during permanent closure.

Similarly, historic petroleum hydrocarbon-contaminated soils that have been stockpiled in advance of treatment in a biopile are currently not planned for treatment and will be addressed at the permanent closure stage. Despite this, NATC has retained the existing conditions in the water licence that pertain to landfarming, in the event that landfarming is pursued during C&M.

Non-mineral waste management will continue in much the same manner as is currently undertaken including hazardous waste consolidation and backhaul, non-hazardous non-putrescible waste placement in the landfill, non-hazardous combustible waste incineration and open burning, recycling backhaul for offsite management, and sewage treatment with disposal of effluent to the TCA. Continued use of waste infrastructure such as the landfill, incinerator and sewage treatment plant is planned for the near-term. With the possible introduction of a modular camp, infrastructure may change including use of a smaller incinerator, sewage management through a package treatment plant, pacto-style toilets and incineration or backhaul, or a blackwater tank and backhaul. Changes to these components will be addressed through an update to the *Waste Management Plan* submitted for review and approval.

5.7 CONSTRUCTION AND BORROW

NATC is not planning to construct any new facilities during C&M.

Borrow for interim cover at the landfill or site maintenance activities may be obtained from existing borrow stockpiles.

5.8 FUEL

Continued used of bulk fuel is planned in the near-term. While some existing tanks will remain in service, some smaller tanks may be redeployed or replaced on site to support energy reduction measures. Drummed fuel may be used during reduced site presence and seasonal use of a modular camp, with a corresponding fuel cache established at a suitable location.

5.9 EMERGENCY RESPONSE

Emergency preparedness and response planning has been updated to reflect reduced and intermittent

site presence and to consolidate planning and response measures into a single document, suitably applicable to tailings or other emergencies.

6.0 RISK REDUCTION

In response to input received from Indigenous Groups during pre-Application engagement, NATC plans to undertake risk reduction activities throughout C&M, as summarized in the following sections. None of the planned activities are intended to constitute abandonment, decommissioning or other significant alteration of the Mine site, but rather, are considered a continuation of activities ongoing onsite over the life of the Mine. Where required, approval of Component-Specific Closure Plans may be sought, following completion of detailed risk reduction planning, which is currently ongoing. These aspects are discussed in greater detail in the *Care and Maintenance Plan*.

6.1 DEMOLITION

NATC plans to continue demolition of retired infrastructure and site components, that has occurred intermittently over the life of the Mine. Non-hazardous demolition waste will either be placed in the landfill or stockpiled for disposal at the permanent closure stage, with foundations broken up or filled and buried. An example of where demolition may occur is the historic townsite, where many of the buildings are damaged, abandoned or otherwise in disrepair.

6.2 EARTHMOVING

NATC plans to carry out earthmoving activities such as regrading, stockpiling and staging in areas that are no longer in use and where public access needs to be impeded during intermittent site access. An example of where earthmoving may occur is the pit, where the pit walls can be regraded for drainage and safety, and the road access to the pit blocked to restrict access prior to closure of the access road.

6.3 ASSET REMOVAL

NATC plans to continue to demobilize items from site that are no longer useful to NATC and are saleable or otherwise useful offsite. This may involve dismantling facilities that have been withdrawn from use and staging for backhaul, with backhaul occurring intermittently during C&M during periods of active maintenance of the Nahanni Range Road.

6.4 HAZARDOUS WASTE ABATEMENT AND REMOVAL

NATC plans to continue its planned hazardous waste abatement and removal in general, and specifically in the historic townsite, where many of the buildings contain asbestos, and decommissioning and removal of transformers. Materials will be staged for backhaul or disposal, as appropriate, with backhaul occurring intermittently during C&M when there is active maintenance of the Nahanni Range Road and it is safe to do so.

7.0 CLOSURE PLANNING

Prior to entering C&M, NATC was actively planning for development of an updated *Interim Closure and Reclamation Plan* (ICRP). In 2013, the MVLWB approved 36 closure objectives. Subsequently, NATC undertook engagement on closure options and closure criteria in 2014. The approved closure objectives and draft closure options were incorporated into the 2015 draft ICRP. A plan was in place to refine, engage on, and develop closure criteria, and satisfy the requirement to have approved ICRP. However, this process was paused when the Mine went into C&M and the CCAA proceeding commenced.

Following the commencement of the CCAA proceeding and the start of the C&M program in 2015, NATC and CIRNAC recommenced closure planning, with studies being undertaken to inform either an ICRP or a *Final Closure Plan*, depending on the outcomes of the Joint Sales Process. As outlined in Section 1.3, the Joint Sales Process was unsuccessful and the decision was made in April 2022 to progress the Mine towards permanent closure. Accordingly, permanent closure planning is currently ongoing and is expected to continue for the remainder of C&M until NATC has carried out adequate studies and related engagement to support submission of a *Final Closure Plan*, and related applications to the MVLWB.

NATC does not have an approved ICRP in place, nor does it have a *Final Closure Plan* in place; to date NATC has requested the MVLWB allow it to defer its required ICRP submission until the outcomes of the Joint Sales Process and related future of the Mine were known. Given these outcomes are now known and the related recent decision (April 2022) to move towards permanent closure, NATC believes that its efforts and those of parties are most appropriately focused on permanent closure planning as opposed to development of an ICRP which may be in place for a short duration. For the duration of C&M, NATC intends to rely on the *Care and Maintenance Plan*, as originally directed by the MVLWB and subsequently updated and submitted with the Application, to guide its activities.

To date, closure planning has involved various studies and assessments to inform future permanent closure planning. These studies have been the subject of engagement with Indigenous Groups including presentation and discussion through the CWG, workshops and in person meetings. Those studies informing the current understanding of the Mine as described in the Conceptual Site Model (Tetra Tech 2021a) are included with the Application.

Other studies that have been initiated or carried out to inform final closure and remediation planning include a Land Use Survey for the area in and around the Cantung Mine site completed by the Naha Dehe Dene Band (2018/2019), a *Knowledge, Land Use and Occupancy Study* by the Łı́ı́ Łı́ Łı́ Łı́ First Nation (2012), a *Failure Modes and Effects Analysis* conducted on the TCAs (Tetra Tech 2023) and an ongoing analysis of remedial options. Work is ongoing to plan additional studies that may need to be undertaken in the upcoming seasons to inform development of a *Final Closure Plan*. These studies and others, as appropriate, are reasonably expected to comprise part of the future submission to the MVLWB related to a water licence for permanent mine closure.

Closure-related engagement continues with the CWG and directly with individual parties where requested. Near-term planned closure related activities include engagement with Indigenous Groups on prior approved closure objectives and subsequent engagement on remedial options. The format of subsequent engagements related to final closure planning aspects is also the subject of discussion in upcoming CWG meetings.

8.0 SCHEDULE

NATC is planning for care and maintenance to last for up to 10 years, during which permanent closure planning and licensing will progress. The schedule for activities occurring during C&M is provided in Figure 1 and is expected to change based on engagement and outcomes of ongoing technical studies. The schedule is conservative; NATC reasonably expects scheduling gains may be available with careful planning and strategic execution. It is committed to progressing the Mine towards permanent closure in a manner that balances technical feasibility, seasonal operating constraints, the interests of Indigenous Groups and fiscal responsibility.

Item	2023				2024				2025				2026				2027				2028				2029				2030				2031				2032				2033																													
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																														
Engagment																																																																						
Engage with CWG	■																																																																					
Regulatory																																																																						
Water licence renewal	■																																																																					
Develop closure licence application																	■																																																					
Processes related to closure licencing																									■																																													
Care and Maintenance																																																																						
Plan risk mitigation work	■																																																																					
Undertake risk mitigation			■		■																				■		■																																											
Closure Planning																																																																						
Issue final Failure Modes and Effects Analysis	■																																																																					
Revisit and engage on closure objectives			■		■																																																																	
Engage on remedial options, site visit			■		■																																																																	
Finalize Remedial Options Memos			■		■																																																																	
Plan supplementary assessment work			■		■																																																																	
Undertake supplementary assessment work (as needed)			■		■																																																																	
Develop supplementary assessment reports			■		■																																																																	
Develop Closure and Reclamation Plan			■		■																																																																	
Closure																																																																						
Undertake final closure																																			■		■		■		■		■		■		■		■		■		■		■		■		■		■		■		■		■		■	

Figure 1. Approximate schedule of activities for the duration of Care and Maintenance, Cantung Mine

9.0 REFERENCES

- Companies' Creditors Arrangement Act*. R.S.C., 1985, c. C-36.
- Mackenzie Valley Resource Management Act*. S.C. 1998, c. 25.
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- Tetra Tech. 2019. Cantung Mine Closure Geotechnical Stability Assessment. Prepared for North American Tungsten Corp. Ltd. c/o Alvarez & Marsal LLC

Tetra Tech. 2018. Implementation of Small Mammal Sampling Program, Cantung Mine Site. Technical Memo issued November 20, 2018 to A&M and CIRNAC.

APPENDIX A

APPENDIX A MANAGEMENT PLAN STATUS

Plans/Manuals	MV2015L2-0003		MV2023L2-xxxx		
	Required	Status	Continued	Revised	New plans proposed
Engagement Plan	X	Submitted and accepted in 2020.	X	X	
Final Detailed Construction Plan - Landfarm	X	Deferred	X		
Final Detailed Construction Plan – Solid Waste Disposal Facility	X	Not submitted. New engineered facility not constructed.	X		
Final Detailed Construction Plan – Dry Stack Tailings Storage Facilities	X	Not submitted. Dry stack tailings facilities have not and will not be constructed.			
Final Detailed Cover Design Plan – TSF4b and TSF7	X	Not submitted. Dry stack tailings facilities have not and will not be constructed.			
Final Detailed Cover Design Plan – TSF6	X	Not submitted. Dry stack tailings facilities have not and will not be constructed.			
Final Detailed Construction Plans – Engineered Structures	X	Not submitted. New engineered structures not constructed.			
Waste Management Plan	X	Submitted in 2014	X	X	
Water Management and Mine-site Erosion and Sediment Protection Plan	X	Submitted in 2013	X ¹²	X	
Flat River Erosion and Sediment Protection Plan	X	Submitted in 2011	X ¹²	X	
Tailing Containment Area Monitoring Plan	X	Submitted in 2011. Program terminated in December 2022.			

¹² Revised to become the Water Management Plan, including all water management aspects (hydrology, sediment and erosion control)

Plans/Manuals	MV2015L2-0003		MV2023L2-xxxx		
	Required	Status	Continued	Revised	New plans proposed
Research and Monitoring Plan for Dry Stack Tailings Storage Facility TSF4b	X	Not submitted. Dry stack tailings facilities have not and will not be constructed.			
Tailings Processing and Storage Facilities Management and Monitoring Plan	X	Not submitted. Dry stack tailings facilities have not and will not be constructed.			
Groundwater Pumping Contingency Plan	X	Submitted in 2013	X	X	
Tailings Containment Area and Dry Stack Tailings Storage Facilities Emergency Preparedness Plan	X	Revision approved in December 2022	X ¹³	X	
Flat River Hydrology Plan	X	Submitted in 2014	X ¹²	X	
Nitrogen Response Plan	X	Not submitted, no return to commercial operations.			
AEMP Design Plan	X	Not submitted, no return to commercial operations.			
AEMP Response Plan	X	Not submitted, no return to commercial operations.		As above	
Spill Contingency Plan	X	Submitted in 2020	X	X	
Interim Closure and Reclamation Plan	X	Deferred			
Final Closure and Reclamation Plan	X				
Operation, Maintenance, and Surveillance Manual, Cantung Mine Tailings Storage Facility	X	Revision accepted in December 2022			
Water Sampling QA/QC Plan	X	Submitted in 2016			

¹³ Revised to become the site-wide Emergency Preparedness and Protection Plan

Plans/Manuals	MV2015L2-0003		MV2023L2-xxxx		
	Required	Status	Continued	Revised	New plans proposed
Care and Maintenance Plan	X	Revision accepted in December 2022	X	X	
Landfill Management Plan					X
Component-Specific Closure Plans					X