



Mackenzie Valley Land and Water Board
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Staff Report

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| Applicant: North American Tungsten Corporation Ltd. | |
| Location: CanTung Mine, NT | Application: MV2015L2-0003 |
| Date Prepared: November 15, 2018 | Meeting Date: December 10, 2018 |
| Subject: SNP Change Request | |

1. Purpose/Report Summary

The purpose of this Report is to present to the Mackenzie Valley Land and Water Board (MVLWB/the Board) a Request from North American Tungsten Corporation Ltd. (NATCL) for changes to the Surveillance Network Program (SNP) annexed to Water Licence MV2015L2-0003 (the Licence).

2. Background

- January 28, 2016 – Issuance and Effective Date of the Licence;
- September 9, 2015 – Notice received of temporary shutdown of Cantung mine, and transition to care & maintenance;
- September 8, 2016 – Board Directive (attached) sent to NATCL requiring them to address issues with minewater management and submit a request to change the SNP annexed to the Licence to reflect care & maintenance activities;
- May 5, 2017 – Request to change the SNP in the Licence received which did not address the Board’s September 8, 2016 Directive;
- June 7, 2017 – Board Directive (attached) requiring NATCL to revise their May 5, 2017 Request to address the Board’s September 8, 2016 Directive;
- September 5, 2017 – Revised SNP Change Request received;
- September 15, 2017 – Revised SNP Change Request distributed for review;
- September 22, 2017 – Update to SNP Change Request received (forgotten attachment included);
- October 11, 2017 – Reviewer Comments Received;
- October 18, 2017 – Proponent Responses Received;
- **December 10, 2018 – SNP Change Request presented to Board for decision; and**
- January 27, 2024 – Expiration of Licence.

3. Discussion

The Cantung Mine has been in care and maintenance status since September 9, 2015, when North American Tungsten Corporation Ltd. (NATCL) was placed in receivership. The mine is currently managed by the Receiver – Alvarez & Marsal Canada Inc., which is backed by funding from Indigenous and Northern

Affairs Canada (INAC), who are responsible for the lands associated with the mine site in accordance with the *Northwest Territories Devolution Agreement*.

Water Licence MV2015L2-0003 (renewal of MV2002L2-0019) was issued on January 28, 2016. Since issuance, NATCL has submitted several requests for deferral of submission dates for plans and reports associated with mining activities, and minor changes to the Surveillance Network Program (SNP) monitoring frequency. Part B, Condition 9 of the Licence states that “[t]he Schedules, the Surveillance Network Program, and any compliance dates specified in this Licence may be changed at the discretion of the Board”, granting the Board flexibility to make adjustments to the SNP when required.

Care & Maintenance Plan and Board Directives

This submission relates to several Directives issued by the Board regarding NATCL’s Care & Maintenance Plan (C&M Plan). On September 8, 2016, as part of a decision (attached) on a previous version of the C&M Plan, the Board noted that several locations had been identified at the mine site where water was discharging that was not being captured by an active SNP station associated with the Licence. The Board directed NATCL to submit a formal request for changes to SNP stations to reflect the care & maintenance status of the mine.

On May 5, 2017, NATCL submitted a request to change SNP monitoring under the Licence, however the request did not address the discharges noted in the Board’s September 8 Directive. The Board responded with a June 7, 2017 Directive (attached) which noted this deficiency and directed NATCL to revise and re-submit the request to address the September 8, 2016 Directive. The current submission before the Board was submitted in response to the two Directives.

Submission Description

Board staff note that NATCL’s September 5, 2017 Request was missing an attachment, which they corrected in their September 22, 2017 updated submission, which is the version being presented to the Board.

NATCL’s submission details a number of requested changes to SNP sampling requirements to better reflect current conditions at the mine, which remains in care & maintenance status. The changes are summarized as follows:

1. Re-activate SNP Station S4-13 during care & maintenance:
 - This request is in response to the Board’s concerns noted in their September 8, 2016 Directive regarding unmonitored discharge, and proposes reactivating a station where discharge has begun to occur due to the mine being allowed to flood during care & maintenance.
2. Addition of SNP Station at S5-2:
 - This request is also in response to the Board’s concerns noted in their September 8, 2016 Directive regarding unmonitored discharge, and proposes establishing a new SNP station at a site which is currently being monitored under the Metal Mining Effluent Regulations (MMER), but not the Licence.
3. Suspension of SNP Station S4-44:
 - Station S4-44 was established to monitor the effluent mixing zone emanating from the Wastewater Treatment Facility (WWTF) at the site. With operations being suspended at site, the WWTF is not currently operating. NATCL has therefore requested that sampling be suspended until the WWTF is recommissioned.

4. Removal of SNP Station S4-27-16:

- This groundwater monitoring station was established to monitor historic tailings which were deposited directly into the Flat River early in the mine's life. This station has posed problems for NATCL and Inspectors, due to a requirement in the Licence (Part G, Condition 41) that the Groundwater Pumping Contingency Plan be implemented in the event of any exceedances at this and a number of other stations. NATCL has reported exceedances at S4-27-16 but has provided evidence (attached) which shows that the exceedance is due to the sampling method rather than exceedances actually occurring in-situ. The Inspector has concurred with this assessment and determined the Groundwater Pumping Contingency Plan does not need to be implemented as a result of the noted exceedances (email attached). For these reasons, NATCL has proposed removing this site from the SNP.

5. Reduction of sampling frequency for remaining groundwater wells (4-27-4, 4-27-7 to 4-27-15, and 4-27-17):

- NATCL has requested a reduction in sampling frequency of groundwater wells to once-per-year during care & maintenance. NATCL noted that none of these stations have shown an EQC exceedance (with the exception of S4-27-16, discussed above) since sampling commenced at these stations in 2009.

4. Reviewer Comments

By October 11, 2017, comments and recommendations on the Request were received from the following reviewers:

- Acho Dene Koe First Nation (ADKFN);
- Environment and Climate Change Canada (ECCC); and
- Government of the Northwest Territories – Environment and Natural Resources (GNWT-ENR).

NATCL responded on October 18, 2017. The Review Summary and Attachments (attached) presents the concerns identified through this review.

ADKFN submitted a comment stating they would like to be engaged on the project. NATCL responded that they would contact ADKFN to discuss the SNP change as requested. Board staff suggest this response is satisfactory, however in reviewing the current version of NATCL's Engagement Plan, Board Staff note that ADKFN are not included as an affected party in the Plan. Board staff therefore recommends the Board require NATCL to update and resubmit the Plan accordingly.

Reviewers were amenable to reactivation of station 4-13, addition of station 5-2, and suspension of station 4-44. Board staff therefore recommend the Board make these requested changes to the SNP.

Both ECCC and GNWT-ENR expressed reservations about removal of station 4-27-16 as requested by NATCL. In response, NATCL suggested the station could be reduced to sampling once-per-year, similar to other groundwater monitoring stations. Board staff suggest this is a reasonable compromise, and recommend the Board reduce sampling for this station to once-per-year.

ECCC and GNWT-ENR were amenable to NATCL's request to reduce sampling to once-per-year for groundwater monitoring stations, however GNWT-ENR suggested the stations should be increased to twice-per-year if an exceedance is observed. Board staff suggest this is a reasonable course of action, and recommend the Board implement the change as requested.

A detailed discussion of comments received and recommended decisions is contained in the attached draft Reasons for Decision document.

Draft Licence

The Licence (attached) contains recommended changes to the SNP reflecting reviewer concerns and Board Staff recommendations.

5. Security

Not applicable.

6. Conclusion

Board staff conclude there are no outstanding issues or concerns with this submission.

The Engagement Plan should be revised to include ADKFN and re-submitted.

7. Recommendation

Board staff recommend the Board:

- a) **Make a motion to approve NATCL's requested changes to the Surveillance Network Program** appended to Water Licence MV2015L2-0003, with noted changes, and approve the attached Draft Reasons for Decision; and
- b) **Direct NATCL to revise the Engagement Plan** to include Acho Dene Koe First Nation, and re-submit the Plan for confirmation of conformity by Board staff.

A draft decision letter is attached.

8. Attachments

- [September 22, 2017 Updated Request for changes to the Surveillance Network Program](#)
 - [September 23, 2016 email from NATCL](#) regarding S4-27-16
 - [September 30, 2016 email from AANDC Inspector](#) regarding S4-27-16
- Review Summary and Attachments
- [September 8, 2016 Board Directive](#) requiring NATCL to address issues with mine water management and submit a request to change the SNP annexed to the Licence to reflect care & maintenance activities;
- [June 7, 2017 Board Directive](#) requiring NATCL to revise their May 5, 2017 Request to address the Board's September 8, 2016 Directive
- Water Licence Conditions with Draft Changes to the SNP
- Draft Reasons for Decision
- Draft Decision Letter from the Board

Respectfully submitted,



Julian Morse
Regulatory Specialist

Review Comment Table

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| Board: | MVLWB |
| Review Item: | North American Tungsten Corporation Ltd. - SNP Change Request (MV2015L2-0003) |
| File(s): | MV2015L2-0003 |
| Proponent: | North American Tungsten |
| Document(s): | MV2015L2-0003 - NATCL - SNP Change Request Sep5 17 (440 KB) |
| Item For Review Distributed On: | Sep 15 at 16:30 Distribution List |
| Reviewer Comments Due By: | Oct 11, 2017 |
| Proponent Responses Due By: | Oct 18, 2017 |
| Item Description: | <p>North American Tungsten Corporation Ltd. (NATCL) has submitted a Request for changes to the Surveillance Network Program annexed to Water Licence MV2015L2-0003, related to care & maintenance activities occurring at the Cantung Mine. This Request has been submitted in accordance with the Board's September 8, 2016 Directive, and subsequent June 7, 2017 Directive (links below).</p> <p>The relevant Board Directives can be found at the following links:</p> <p>September 8, 2016 Directive: http://registry.mvlwb.ca/Documents/MV2015L2-0003/MV2015L2-0003%20-%20NATCL%20-%20Care%20and%20Maintenance%20Plan%20-%20amd%20IRCP%20-%20Board%20Directive%20-%20Sept8-16.pdf</p> <p>June 7, 2017 Directive: http://registry.mvlwb.ca/Documents/MV2015L2-0003/MV2015L2-0003%20-%20NATCL%20-%20Care%20and%20Maintenance%20Plan%20-%20Directive%20-%20Jun7-17.pdf</p> <p>Reviewers are invited to submit questions, comments, and recommendations using the Online Review System (ORS) by the review comment deadline specified below. Please provide comments and recommendations on the:</p> <ul style="list-style-type: none"> • SNP Change Request <p>All documents that have been uploaded to this review are also available on our public registry. If you have any questions or comments about the ORS or this review, please contact Board staff identified below.</p> |
| General Reviewer Information: | <p>This review item has also been distributed by fax to the following organizations:</p> <p>Fort Liard Metis Local #67 Ernie McLeod President (867)770-4573;</p> |

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| | <p>Fort Simpson Métis Local #52 Marie Lafferty President (867)695-2040;</p> <p>Hay River Metis Council Trevor Beck President (867)874-4472; hrmc@northwestel.net;</p> <p>Northwest Territory Métis Nation Garry Bailey c/o Tim Heron NWTMN IMA Coordinator (867)872-3586; rcc.nwtmn@northwestel.net;</p> |
| Contact Information: | <p>Jen Potten 867-766-7468 Julian Morse 867-766-7453</p> |

Comment Summary

| Acho Dene Koe First Nation: Julie Swinscoe | | | | |
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| ID | Topic | Reviewer Comment/Recommendation | Proponent Response | Board Staff Analysis |
| 1 | Engagement | <p>Comment (doc) ADKFN should be engaged where possible in the proposed SNP plan and its associated activities</p> <p>Recommendation ADKFN should be engaged where possible in the proposed SNP plan and its associated activities</p> | <p>Dec 1: NATC appreciates the ADKFN's interest in the SNP program and will contact the ADKFN to determine an approach to discuss project activities.</p> | <p>This response is satisfactory as NATCL has indicated they will engage with ADKFN on activities, however in reviewing the current version of NATCL's Engagement Plan, Board Staff note that ADKFN are not included as an affected party in the Plan. Board staff therefore recommends the Board require NATCL to update and resubmit the Plan accordingly.</p> |
| 2 | Employment | <p>Comment Employment opportunities.</p> <p>Recommendation ADKFN community members and businesses are to be involved in archaeological studies and monitoring, environmental</p> | <p>Dec 1: NATC understands parties interests in being involved in employment and business opportunities at the mine. Positions during Care and Maintenance are limited,</p> | <p>Satisfactory Response.</p> |

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| | | monitoring, construction, as well as camp operations and catering when required. | but are advertised locally (in News North) as they arise. | |
| 3 | SNP Station | Comment NATCL has recommended a SNP station addition at the same location as S5-2. Recommendation ADKFN requires more information on the specifics for the addition of this SNP station, such as the associated construction plans. | Dec 1: The addition of a SNP station at S5-2 does not require construction. A water sample location already exists to support sampling requirements under MMR. | Satisfactory Response. |
| 4 | Response | Comment (doc) Please see the attached document for ADKFN response on MV2015L2-003 SNP change request. Recommendation Comments have additionally been individually uploaded on this page. | Dec 1: No response required. | Response provided above. |

Environment and Climate Change Canada: Gabriel Bernard-Lacaille

| ID | Topic | Reviewer Comment/Recommendation | Proponent Response | Board Staff Analysis |
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| 5 | General File | Comment (doc) ECCC Comments Cover Letter Recommendation | | Noted. |
| 1 | ECCC 1- SNP amendment request document; SNP stations S4-13 and S5-2 | Comment As discussed in the Surveillance Network Program (SNP) amendment request document, water from the mine site during the Care and Maintenance period flows from either the mine portal (S4-13) into Sardine Creek (S4-32) prior to discharging to the Flat River, or it flows from the mine's conveyor gallery (S4-42) to the old lagoon (S5-2) prior to discharging to the Flat River. To date, each of these flows has been monitored through either the Water License SNP | Oct 18: Noted. Nov 8: Noted. | Noted. The Licence, with station 4-13 reactivated in the SNP Annex, and station 5-2 added, is being presented to the Board for consideration. |

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| | | <p>or requirements under the Metal Mining and Effluent Regulations (MMER). North American Tungsten Corporation Ltd. (the Proponent) proposes to re-activate SNP station S4-13, as the mine has flooded and water (a mix of mine/groundwater and seepage water) is discharging from this location. As well, the Proponent proposes the addition of SNP station S5-2, which is currently sampled as part of the requirements under the MMER. This would provide two SNP sampling points along each of the 2 current water discharge paths.</p> <p>Recommendation ECCC supports the re-activation of SNP station S4-13 and the addition of SNP station S5-2, which will increase the number of SNP stations along the discharge paths.</p> | | |
| 2 | ECCC 2- SNP amendment request document; SNP station S4-44 | <p>Comment As per the SNP amendment request document, SNP Station S4-44 (mixing zone boundary) is located on the Flat River approximately 180 m downstream of the final discharge point from the Proponent's Wastewater Treatment Facility (WWTF), and was implemented January 14, 2013 in anticipation of the initial effluent discharge from the WWTF which was commissioned in August 2013. The Proponent proposes that sampling at this location be suspended during</p> | <p>Oct 18: SNP Station S4-44 was established as a surface water quality station solely for the purpose of monitoring the mixing zone for the WWTF effluent in the Flat River (MV2015L2-0003 Water License Reasons for Decision, 29 Dec 2015). There are 5 other SNP sample locations along the Flat River from which to obtain representative data to confirm that Site-specific Water Quality Objectives (SSWQOs) that are protective of the receiving environment are met.Nov 8: SNP Station S4-44 was established as a</p> | <p>Board staff confirms NATCL is correct as to the purpose of this station, for monitoring of the mixing zone from the WWTF. Therefore, it appears ECCC is amenable to the request.</p> <p>Board staff agree that de-activation of this Station is reasonable at this time.</p> |

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| | | <p>Care and Maintenance, as the WWTF is not currently operational. Additionally, safety risks were noted at this site. It is implied that the sole rationale for SNP station S4-44 is to monitor the mixing zone boundary for the WWTF. The Proponent should clarify whether this station served any other purpose. If there is no other rationale for this station, it would seem reasonable to temporarily suspend monitoring at this SNP location until no later than three months prior to the discharge of effluent from the WWTF, as proposed by the Proponent.</p> <p>Recommendation ECCC recommends that the Proponent clarify if SNP station S4-44 had other purposes than to monitor the mixing zone boundary for the WWTF.</p> | <p>surface water quality station solely for the purpose of monitoring the mixing zone for the WWTF effluent in the Flat River (MV2015L2-0003 Water License Reasons for Decision, 29 Dec 2015). There are 5 other SNP sample locations along the Flat River from which to obtain representative data to confirm that Site-specific Water Quality Objectives (SSWQOs) that are protective of the receiving environment are met.</p> | |
| 3 | <p>ECCC 3- SNP amendment request document & September 30, 2016 letter from Indigenous and Northern Affairs Canada to North American Tungsten Corporation Ltd. re: Water Licence MV2015L2-0003 S4-27-16 TSS Exceedance;</p> | <p>Comment SNP station S4-27-16, a groundwater monitoring well installed in the floodplain of the Flat River within the historical tailings area (deposited in the 1960s), has had repeated Total Suspended Solids (TSS) exceedances during late summer and fall. According to the SNP amendment request document, these results are consistent with historical TSS results dating back to 2009 when the well was installed. The Proponent is proposing that SNP Station 4-27-16 be permanently removed from the Surveillance Network Program based primarily on</p> | <p>Oct 18: NATC acknowledges that Attachment 2 was inadvertently omitted from the original SNP Amendment submission; it was provided to the MVLWB on 22 September 2017. NATC suggests that SNP Station S4-27-16 could be sampled once annually, as with the other groundwater monitoring stations identified in the SNP Amendment and referenced in ENR-7. Should elevated TSS levels occur for the same reasons as historically noted for this station, NATC would submit a letter to the Inspector to document the issue and confirm with the</p> | <p>Rather than directly address ECCC's specific information requests, NATC has agreed to continue sampling this Station once per year along with the other groundwater stations. Board staff believe this is acceptable considering the current status of the site. However, NATC will need to continue to rely on the Inspector to determine whether</p> |

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| | <p>SNP station S4-27-16</p> | <p>the following grounds: - The water at this location has not been demonstrated to contain any deleterious substances or characteristics, particularly in situ, that are affecting animals or the environment; - Each time an exceedance occurs, it requires permission from the Inspector to forego the initiation of the Groundwater Pumping Contingency Plan, which is an extensive undertaking with the reduced capacity of the current Care and Maintenance crew; and - It creates an incorrect perception that the Proponent regularly exceeds groundwater Effluent Quality Criteria at this location. ECCC notes that Attachment 2 (memo on TSS results for S4-27-16) was referenced in the SNP amendment request document, but was not provided as an attachment. As per a September 30, 2016 letter from Indigenous and Northern Affairs Canada (INAC) to North American Tungsten Corporation Ltd. [re: an exceedance of Total Suspended Solids and pH from SNP S4-27-16], the Proponent reported that this exceedance only occurs due to the oxidation of the groundwater during a specific time of year when it is brought to the surface during sampling. After lengthy discussions with the licensee, INAC concluded that the groundwater pumping contingency plan did not need</p> | <p>Inspector that the Groundwater Pumping Contingency Plan would not require implementation. Nov 8: NATC acknowledges that Attachment 2 was inadvertently omitted from the original SNP Amendment submission; it was provided to the MVLWB on 22 September 2017. NATC suggests that SNP Station S4-27-16 could be sampled once annually, as with the other groundwater monitoring stations identified in the SNP Amendment and referenced in ENR-7. Should elevated TSS levels occur for the same reasons as historically noted for this station, NATC would submit a letter to the Inspector to document the issue and confirm with the Inspector that the Groundwater Pumping Contingency Plan would not require implementation.</p> | <p>future TSS exceedances warrant implementation of the Plan.</p> <p>Note that some of the information ECCC is seeking is included in the Memo, which (along with the Inspector's response) has been available on the public registry since September, 2016.</p> |
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| | | <p>to be implemented as the exceedance was indeed due to oxidation at the surface. From the information provided, it appears that samples collected in June do not have oxidation issues and that sampling could continue at that time of year.</p> <p>Recommendation Rather than removing SNP Station S4-27-16 from the Surveillance Network Program, it would be preferable to look for potential solutions to address the oxidation problem more specifically. To support this approach, ECCC recommends that the Proponent provide the following additional information: - Attachment 2 - clarify if oxidation occurs in June - rationale for this SNP station, - information on the seasonality of exceedances, - potential alternative solutions, and - identify what information gaps would result from the proposed removal of SNP Station S4-27-16 and from potential alternative solutions.</p> | | |
| 4 | ECCC 4- SNP amendment request document; Groundwater SNP station sampling frequency | <p>Comment Of the 18 groundwater stations present, 13 wells are sampled three times per year and sampling has been suspended on the remaining wells. Aside from SNP station 4-27-16, there have been no exceedances from any groundwater well since sampling began in 2009. Many of these wells are quite deep and involve extensive time and equipment</p> | <p>Oct 18: The groundwater stations were installed to monitor any potential issues at the site, most notably in relation to tailings deposition areas. To date, water quality levels have remained well below EQCs established for these stations, and NATC expects that this will continue during C&M. We note that there is generally little discernible difference in the water quality observed</p> | <p>Satisfactory response. Considering the historical data set for these stations, and the current status of the site, Board staff agree that the reduction in sampling frequency is reasonable for these stations. The sampling frequency</p> |

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| | | <p>requirements, making the groundwater sampling program difficult to achieve with the current staffing levels. The Proponent is proposing that the frequency required for SNP Stations 4-27-4, 4-27-7 to 4-27-15, and 4-27-17 be reduced to once per year (between late June and October) until the first ice-off season following the re-commencement of commercial operations. ECCC notes that additional information is required to evaluate the proposed reduction in groundwater monitoring.</p> <p>Recommendation ECCC recommends that the Proponent clearly identify the monitoring goals of SNP stations 4-27-4, 4-27-7 to 4-27-15, and 4-27-17 and discuss what information gaps would result from the proposed reduced sampling frequency. Potential alternatives, such as sampling twice per year, should also be considered/discussed.</p> | <p>between the 3 samples obtained at any given station, so it is expected that an annual sample will suffice to continue to monitor trends. Additionally, as per ENR-7, NATC is committed to increasing the monitoring frequency to twice per year, should elevated values be observed. Nov 8: The groundwater stations were installed to monitor any potential issues at the site, most notably in relation to tailings deposition areas. To date, water quality levels have remained well below EQCs established for these stations, and NATC expects that this will continue during C&M. We note that there is generally little discernible difference in the water quality observed between the 3 samples obtained at any given station, so it is expected that an annual sample will suffice to continue to monitor trends. Additionally, as per ENR-7, NATC is committed to increasing the monitoring frequency to twice per year, should elevated values be observed.</p> | <p>should be increased to twice per year if EQC exceedances are observed.</p> |
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GNWT - ENR: Central Email GNWT

| ID | Topic | Reviewer Comment/Recommendation | Proponent Response | Board Staff Analysis |
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| 8 | General File | Comment (doc) ENR Letter with Comments and Recommendations Recommendation | | Noted. |
| 1 | Topic 1: SNP Station 4-13 | Comment Surveillance Network Program (SNP) Station 4-13 is located at the mine portal from which water | Oct 18: Noted. Nov 8: Noted. | Noted. The Licence, with station 4-13 reactivated in the SNP Annex is being |

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| | | <p>flows into Sardine Creek (S4-32) prior to discharging into the Flat River. During operations, this site was "inactive" as the mine was dewatered and there was no water discharging at the portal. As a result of care and maintenance activities, the underground is now flooded and the portal is now a discharge location which is currently being monitored under NATCL's MMER requirements. As such, NATCL proposes that SNP Station 4-13 be reactivated.</p> <p>Recommendation 1) ENR concurs that SNP Station 4-13 be reactivated to monitor water discharging from the mine portal.</p> | | <p>presented to the Board for consideration.</p> |
| 2 | <p>Topic 2: Station S5-2.</p> | <p>Comment Similarly, water from the conveyor gallery flows to the old lagoon prior to discharging into the Flat River and as such is currently being monitored under NATCL's MMER requirements as MMER Final Discharge Point S5-2. As such, NATCL proposes that this location be added as an SNP station.</p> <p>Recommendation 1) ENR concurs that Station S5-2 be added as a SNP Station.</p> | <p>Oct 18: Noted.Nov 8: Noted.</p> | <p>Noted. This addition has been made in the Draft SNP Annex being presented to the Board.</p> |
| 3 | <p>Topic 3: Effluent Quality Criteria</p> | <p>Comment In NATCL's request, it was noted the MVLWB has recognized that EQC for the Wastewater Treatment Facility may not necessarily be transferable to new mine water discharge locations. Of note, in the Board directive dated September 8, 2016 and June 7, 2017 directives, there are inclusions from a May</p> | <p>Oct 18: NATC respectfully notes that while the MVLWB Staff Report suggests that the more appropriate EQC for S4-13 and S4-42 would be those developed for S4-43, the Board's Reasons for Decision do not include this consideration and instead state that these EQC are not necessarily transferrable and</p> | <p>In the absence of EQC that have been developed for the current wastewater discharge volumes and locations on site, Board staff agree that the EQC set for S4-43 would be more appropriate than</p> |

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| | | <p>2016 reviewer comment table related to the 2016 Care and Maintenance Plan. Within that table, the Board made a comment related to NATCL's request for the use of groundwater EQCs for surface water discharge: "Although the source of the mine discharge is groundwater, it is being collected and discharged directly to the Flat River. This is in contrast to the wastewater that infiltrates from groundwater through soil to the receiving environment. EQC for groundwater going to the environment through infiltration are not equivalent to EQC for waste being discharged to surface waters. The more appropriate EQC would be those that are already in the WL for SNP station S4-43. Based on the SNP monitoring data provided by NATCL, the water from SNP S4-13 would meet the existing EQC for S4-43." As such, ENR interprets this as the Board recommending that EQCs from the WWTF would be appropriate for surface water discharge. ENR supports this position. ENR does note that NATCL has outlined that while discharges are within MMER limits, they have on occasion been above the EQC for the WWTF for sulphate, iron, copper, zinc and TSS. If water from these two discharge locations are exceeding existing EQCs, NATCL will have to manage this water. Water that is</p> | <p>that any proposed changes to the SNP should provide evidence that these discharges do not pose a risk to the receiving environment. It is NATC's opinion that the existing EQCs were designed for a specific process at a specific location. Additionally, it is our opinion that SSWQO's being achieved in the Receiving Environment (i.e. the Flat River) provide the evidence requested and therefore do not necessitate storage/treatment of mine water discharges that may exceed S4-43 EQC values. NATC continues to investigate the mine water as part of its Phase III Environmental Site Assessment (ESA), including a Human Health and Ecological Risk Assessment (HHERA), to more fully understand potential risks. Nov 8: NATC respectfully notes that while the MVLWB Staff Report suggests that the more appropriate EQC for S4-13 and S4-42 would be those developed for S4-43, the Board's Reasons for Decision do not include this consideration and instead state that these EQC are not necessarily transferrable and that any proposed changes to the SNP should provide evidence that these discharges do not pose a risk to the receiving environment. It is NATC's opinion that the existing EQCs were designed for a specific process at a specific location. Additionally, it is our opinion that SSWQO's</p> | <p>the groundwater EQC as noted in the 2016 Care and Maintenance Plan Review Summary Table; however, these EQC are likely more conservative than necessary for the much lower volumes that are currently being discharged. Board staff agrees that the fact that SSWQOs are being met in the Flat River is evidence that the current discharge water quality and volume is not posing new or increased risk to the Flat River, and as such, Board staff agree that continuing to apply the MMER limits to the current discharge locations is appropriate for the interim. However, Board staff suggest that a more thorough assessment of suitable EQC for these discharge locations should be presented following the conclusion of the Phase III ESA and HHERA as noted in NATC's response to ENR-4 below. An amendment</p> |
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| | | <p>higher than surface water EQC would need to be diverted to the WWTF for treatment prior to discharge into the receiving environment.</p> <p>Recommendation 1) ENR recommends that any discharge water that is above the existing EQCs for S4-43 (WWTF) be stored and/or transferred to the WWTF for treatment prior to discharge into the receiving environment.</p> | <p>being achieved in the Receiving Environment (i.e. the Flat River) provide the evidence requested and therefore do not necessitate storage/treatment of mine water discharges that may exceed S4-43 EQC values.</p> <p>NATC continues to investigate the mine water as part of its Phase III Environmental Site Assessment (ESA), including a Human Health and Ecological Risk Assessment (HHERA), to more fully understand potential risks.</p> | <p>process should be conducted at that time to revise both location and the EQC values for the wastewater discharges.</p> |
| 4 | None | <p>Comment None</p> <p>Recommendation 2) As an alternative, NATCL could propose to amend the Type A Water Licence to revise EQCs for the Cantung mine site at the mine portal and the conveyor gallery/lagoon pathway.</p> | <p>Oct 18: As noted in the C&M Plan V6, NATC is committed to updating the Water Management Plan to better determine the expected mine water quality and volumes during C&M, now that the mine is flooded. In considering that SSWQO continue to generally be met in the receiving environment, NATC feels that it would be premature to propose an amendment to the Water License prior to conducting an assessment of predicted water volumes and quality at S4-13 and S4-42 during C&M. As noted above, NATC continues to investigate mine water as part of its Phase III ESA and HHERA to more fully understand potential risks.</p> <p>Nov 8: As noted in the C&M Plan V6, NATC is committed to updating the Water Management Plan to better determine the expected mine water quality and volumes during C&M, now that the mine is flooded.</p> | <p>As above.</p> |

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| | | | In considering that SSWQO continue to generally be met in the receiving environment, NATC feels that it would be premature to propose an amendment to the Water License prior to conducting an assessment of predicted water volumes and quality at S4-13 and S4-42 during C&M. As noted above, NATC continues to investigate mine water as part of its Phase III ESA and HHERA to more fully understand potential risks. | |
| 5 | Topic 4: SNP Station S4-44 | <p>Comment SNP Station S4-44 is located 180m downstream of the former WWTF discharge location and was developed based on the plume delineation from the WWTF discharge. Given that there is no discharge from the WWTF during care and maintenance, NATCL requests that this sampling location be de-activated during care and maintenance. NATCL has noted there are safety issues associated with this location as a result of a steep bank in addition to some inconsistent ice conditions. It is also noted that there are additional stations at various points downstream along the Flat River which will continue to be monitored.</p> <p>Recommendation 1) ENR supports the recommendation that SNP Station S4-44 be deactivated until such time that the WWTF once again becomes fully operational.</p> | Oct 18: Noted. Nov 8: Noted. | Board staff agree that de-activation of this Station is reasonable at this time. |

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| 6 | Topic 5: SNP Station S4-27-16 | <p>Comment NATCL has also requested the removal of SNP S4-27-16 which is a groundwater monitoring well. There have been some historic TSS exceedances in 2015 and 2016 which NATCL believe to a result of iron oxidation which is creating a precipitate and contributing to elevated TSS levels post-collection as there appears to be no in-situ TSS during collection. On August 4th, 2013, NATCL issued a memo to the Board outlining this issue which concluded that the water sampled at this location is not high in any deleterious metals or in situ TSS and that since the elevated TSS has been documented to occur several hours after being collected from the well, it is not sufficient grounds to necessitate the activation of the Groundwater Pumping Contingency Plan. ENR concurs that based on the evidence presented, an exceedance of TSS at groundwater at SNP S4-27-16 may not be sufficient grounds to necessitate the activation of the Groundwater Pumping Contingency Plan. However, ENR notes that sampling requirements for this station are not limited to TSS and there remains value in retaining a sampling station at this location. A better solution to the issue at hand may to amend Part G, Item 41 to exclude TSS from 4-27-16 as a trigger for implementation of</p> | <p>Oct 18: At this time, NATC prefers to commit to sampling this station once per year during C&M (as noted for other groundwater monitoring wells in ENR-7). Should elevated TSS levels occur for the same reasons as historically noted for this station, NATC would submit a letter to the Inspector to document the issue and confirm with the Inspector that the Groundwater Pumping Contingency Plan would not require implementation.Nov 8: At this time, NATC prefers to commit to sampling this station once per year during C&M (as noted for other groundwater monitoring wells in ENR-7). Should elevated TSS levels occur for the same reasons as historically noted for this station, NATC would submit a letter to the Inspector to document the issue and confirm with the Inspector that the Groundwater Pumping Contingency Plan would not require implementation.</p> | <p>NATC has agreed to continue sampling this Station once per year. Board staff believe this an appropriate approach, because this Station is also monitored for parameters other than TSS, as noted in ENR's comment.</p> <p>An amendment process would be necessary to consider removing TSS at this Station as a trigger for the Groundwater Pumping Contingency Plan, and NATC has indicated it does not intend to pursue this at this time. As a result, NATC will need to continue to rely on the Inspector to determine whether future TSS exceedances warrant implementation of the Plan.</p> |
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| | | <p>the Groundwater Pumping Contingency Plan.</p> <p>Recommendation 1) ENR recommends that NATCL consider applying to amend Part G, Item 41 of the Water Licence to exclude TSS from 4-27-16 as a trigger for the implementation of the Groundwater Pumping Contingency Plan.</p> | | |
| 7 | <p>Topic 6: Groundwater SNP Station Sampling Frequency Reduction</p> | <p>Comment NATCL notes that there are a total of 18 groundwater stations that require sampling three times a year. On August 25th, approval was granted for the suspension of six wells and two surface water stations related to TSFs 6 and 7 until 3 months prior to construction. Aside from the TSS issues at S4-27-16, there have been no exceedances of any groundwater well since monitoring began in 2009. NATCL has also noted difficulties in this sampling program with current staffing capacities. As such, NATCL is proposing that sampling of these stations be reduced to once yearly until the first ice-off season following the re-commencement of commercial operations.</p> <p>Recommendation 1) ENR supports this request from NATCL to reduce groundwater sampling to once yearly. However, if there are exceedances in metals or contaminants of interest, the sampling program may need to be increased to twice per year until conditions once again stabilize.</p> | <p>Oct 18: Noted. NATC agrees with the GNWT that, should exceedances in metals or other EQCs be observed, sampling frequency would be increased to twice per year (spring and fall) until conditions stabilize. Nov 8: Noted. NATC agrees with the GNWT that, should exceedances in metals or other EQCs be observed, sampling frequency would be increased to twice per year (spring and fall) until conditions stabilize.</p> | <p>Satisfactory response. Considering the historical data set for these stations, and the current status of the site, Board staff agree that the reduction in sampling frequency is reasonable for these stations. The sampling frequency should be increased to twice per year if EQC exceedances are observed.</p> |



Acho Dene Koe
— FIRST NATION —



Memorandum

To: Todd M. Martin (Vice President), North American Tungsten Corporation
From: Julie Swinscoe, Project Director
c.c.: Boyd Clark, Operations Manager; Chief Gene Hope, Acho Dene Koe First Nation
Date: November 7, 2017
Re: NATCL SNP Amendment Response MV2015L2-003

The following Referral response is being submitted online via the MVLWB Online Review System on behalf of Acho Dene Koe First Nation.

1. Background

Acho Dene Koe First Nation (ADKFN) understands that North American Tungsten Corporation Ltd. (NATCL) is requesting an amendment to the Surveillance Network Program (SNP) in Annex A of Water License MV2015L2-003, as part of the Updated Care and Maintenance Plan (the Plan) regarding the Catung Mine.

ADKFN further understands that this amendment to the SNP reflects water management, reduced operational activities and discharges on site, as well as personnel safety concerns during care and maintenance.

The SNP site area falls within ADKFN's traditional territory in Northwest Territories. ADKFN has a number of questions and points of consideration regarding the amendment, which have been itemized in Section 2 *Topics of Consideration* below. ADKFN encourages NATCL to consider these issues for potential integration into the Plan, or alternatively to provide a rationale for their exclusion.

2. Topics of Consideration

Below are topics of consideration that should be considered by NATCL with respect to the SNP amendment request.

2.1. Objectives

As stated in ADKFN's response to NATCL's Updated Care and Maintenance Plan for the Catung Mine, ADKFN maintains that the objective of any plan relating to changes on the land must include the creation of healthy landscapes while protecting ecological, social, and economic values. In striving to achieve this objective, the remediation plan should outline ways to prevent, reduce, and mitigate the effects of development on ADKFN land. ADKFN sees the primary values for protection being:

- Landscape preservation and rehabilitation;
- Maintaining and enhancing the biodiversity of the area;
- Maintaining access to traditional land use areas, and protecting the quality of these areas;
- Protecting the traditional hunting and gathering way of life;
- Recreational opportunities; and
- Agricultural practices.

As stated in ADKFN's response to the Care and Maintenance Plan, ADKFN requests that NATCL provide information on how the proposed SNP addresses ADKFN's concerns, in addition to ADKFN values and their associated activities on ADKFN land, and how they relate to the proposed remediation.

2.2. General Comments

In regards to the SNP amendment, ADKFN's overarching comments include the following:

- Engagement: ADKFN should be engaged where possible in the proposed SNP plan and its associated activities.
- Employment and economic opportunities: ADKFN community members and businesses are to be involved in archaeological studies and monitoring, environmental monitoring, construction, as well as camp operations and catering when required.

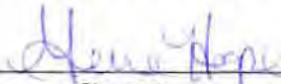
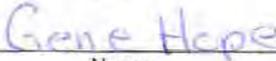
A more specific comment relating to the sections of the proposed SNP amendment is provided in Section 2.3 below. Note that lack of comments for particular sub-sections do not imply support of those sections.

2.3. Specific Comments: Addition of SNP Station at S5-2 (Section 2)

NATCL has recommended a SNP station addition at the same location as S5-2. ADKFN requires more information on the specifics for the addition of this SNP station, such as the associated construction plans.

3. Authorization

These recommendations were provided on behalf of Acho Dene Koe First Nation on the ___ day of October, 2017.

| Acho Dene Koe First Nation | Landmark Resource Management |
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|  _____ Signature |  _____ Signature |
|  _____ Name | Julie Swinscoe _____ Name |
|  _____ Title | Project Director _____ Title |