Notice of Alteration Form

Manitoba
Environment, Climate and Parks

File No. :	Environment Act Licence No. : 973
Legal name of the Licencee: Tantalum Mining Corporation of Canada Ltd.	
Name of the development: Bernic Lake Mine	
Category and Type of development per Classes of Development Regulation: Mining — Milling facilities	
Licencee Contact Person: Joey Champagne Mailing address of the Licencee: P.O Box 2000 City: Lac du Bonnet Province: Manitoba Postal Code: R0E 1A0 Phone Number: (204) 884-2400 Fax: (204) 884-2211 Email: joey.champagne@sinominecorp.com	
Name of proponent contact person for purposes of the environmental assessment (e.g. consultant): Jerry White	
Phone: (519) 573-0024 Fax:	Mailing address: Same as Licencee
Email address: jerry.white@sinominecorp.com	
Short Description of Alteration *(max 90 characters):* Installation of a new 66kV switchyard/substation.	
Alteration fee attached: Yes: ☑ No: ☐ If No, please explain:	
Date: 2023-01-26	Signature: [redacted] Printed name: Joey Champagne

A complete Notice of Alteration **(NoA)** consists of the following components:

- ☑ **Cover letter**
- ☑ **Notice of Alteration Form**
- ☑ **1 hard copy and 1 electronic copy of the NoA detailed report** (see "Information Bulletin - Alteration to Developments with Environment Act Licences")
- ☑ **$500 Application fee, if applicable** (Cheque, payable to the Minister of Finance)

Submit the complete NoA to:
Director, Environmental Approvals Branch
Manitoba Environment, Climate and Parks
1007 Century Street
Winnipeg, Manitoba R3H 0W4
EABDirector@gov.mb.ca

For more information:
Phone: (204) 945-8321 Fax: (204) 945-5229
https://www.gov.mb.ca/sd/permits_licenses_approvals/eal/licence/index.html

Note: Per Section 14(3) of the Environment Act, Major Notices of Alteration must be filed through submission of an Environment Act Proposal Form (see "Information Bulletin – Environment Act Proposal Report Guidelines")

Tantalum Mining Corporation of Canada – Bernic Lake Mine

Electrical Substation Upgrade Notice of Alteration (2023)

Date:

January 20, 2023

Tantalum Mining Corporation of Canada, Limited
Bernic Lake
Box 2000
Lac du Bonnet, Manitoba
MB R0E 1A0
Canada

January 20, 2023

Ms. Jennifer Winsor
Environmental Approvals Branch
Department of Sustainable Development
1007 Century Street
Winnipeg, MB.
R3H 0W4

Dear Ms. Winsor:

Re: Tantalum Mining Corporation of Canada Bernic Lake Mine – Electrical Substation Upgrade Notice of Alteration (2023)

Tantalum Mining Corporation of Canada (TANCO) is submitting this report describing proposed changes to electrical site services at the Bernic Lake Mine (BLM). The proposed alteration includes the construction of a new 66kV substation that would provide the required electrical capacity necessary for the forecasted site development and allow for the decommissioning of the current electrical substation in the future, if it becomes necessary.

Please find enclosed, the information required for the alteration regulatory process that details TANCO's proposed alterations. There will be some minor potential effects observed onsite associated with the installation of new infrastructure but the effects will be negligible as construction and operation of the new electrical substation will be limited to areas within surface leases M145-SL and M146-SL. Please note it is anticipated that the potential environmental effects from these alterations will be minor and that the alterations can be implemented within the limits, terms and the conditions of the current Environmental Licence (No. 973).

If you have any questions, or require further information on the report, please do not hesitate to contact me.

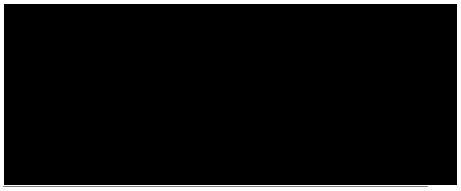
Sincerely,

Date: January 20, 2023

Joey Champagne
Facility General Manager
Tantalum Mining Corporation of Canada Limited

TANCO Bernic Lake Mine
Electrical Substation Upgrade
Notice of Alteration Report (2023)

Prepared and reviewed by:



Date: January 20, 2023

Jerry White, M.Sc.
Environmental Specialist
Tantalum Mining Corporation of Canada

Disclaimer
The information presented in this document with respect to the Electrical Substation Upgrade was derived from a conceptual design drawings and information provided to TANCO by the consulting engineers at the time the report was drafted. There may be modifications to the design of the substation during project development but if any design changes affect the overall impact of the proposed alteration in this assessment, then a notice will be sent to Manitoba Sustainable Development detailing those effects.

Executive Summary

This alteration notification is intended to notify the Director of proposed alterations to the electrical site services at the Tantalum Mining Corporation of Canada (TANCO) Mine in Bernic Lake, Manitoba as required under the Environment Act (S.14(1)). This document also contains sufficient information for the Director to determine the significance of the environmental effects associated with these proposed alterations to determine the appropriate approval process (minor or major) for the alteration.

The proposed alteration includes the installation and operation of a new electrical substation that will increase electrical capacity at the facility to meet the electrical requirements forecasted for future development at the site. Environmental and safety controls currently used at the facility will be implemented in the construction and operational phases of the new infrastructure to control potential risks associated with the proposed development.

Environmental effects associated with the physical environment, emissions, water resources and ecological aspects remain virtually unchanged as the proposed alteration is contained within the Mine's surface leases and current measures used at the facility are sufficient to control any additional environmental effects. No anticipated increases in environmental effects are expected with regard to water usage or surface water quality in the receiving environment due to the alteration.

The proposed amendment to site electrical services at the TANCO Bernic Lake Mine are expected to be minor as most potential negative environmental and human health effects resulting from the alteration can be mitigated through TANCO's environmental and health and safety policies currently in place at the Mine.

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1. Introduction

1.1 Objectives

TANCO's vision is to be a prosperous mining, milling and chemical processing facility through the development of our people, our resources and our community. Site objectives focus on strategic priorities of building strong foundations, striving for operational excellence and development of our site resources. There is currently a strong global market demand for both cesium and lithium products which TANCO believes provides a unique opportunity for growth and development that aligns with our company's vision and site objectives.

This Notice of Alteration (NoA) is intended to notify the Director of proposed alterations to *Environmental Act* Licence No. 973 for the TANCO Bernic Lake Mine as required under the *Environment Act* (S.14(1); Government of Manitoba 2012). This NoA provides details for the installation of a new electrical substation and supporting infrastructure at the site. The objective of this report is to provide the Director with sufficient information to determine the significance of environmental effects associated with the proposed development. Once the level of significance is determined by the Director, the appropriate approval process (minor or major) can be identified for the proposed development.

This report provides supporting information which describes the physical changes at the Mine as a result of the installation of the new electrical substation. It also quantifies the anticipated change in environmental effects from the Mine as compared to pre-alteration levels which includes an environmental assessment resulting from the alteration on the environment.

1.2 Environmental Assessment Criteria

Environmental significance is commonly considered in the context of its magnitude, geographic extent, duration, frequency, degree of reversibility and possibility of occurrence or any combination of these factors.

The significance criteria used in this analysis of the electrical substation alteration is defined in Table 1, as well as a description of the significance level (I to III) for each criterion. Although presented as distinct levels in Table 1, significance can be a gradient between not significant (Level I) to potentially significant (Level II) to very significant (Level III).

Table 1 Significance Criteria and Levels of Significance.

Significance Level	Context		Magnitude / Geographic Extent	Duration / Frequency	Likelihood of Occurrence	Reversibility
	Ecological / Biophysical	Socio-Cultural				
I	No meaningful adverse biophysical effects	No meaningful adverse effects to socio-economic interests	Magnitude and/or geographical extent of impact(s) considered to be minor, and primarily or solely confined to Mine site	Construction phase of Mine, or during closure phase(s)	Unlikely to Occur	Readily reversible
II	Adverse effects involve commonplace species or communities	Adverse effects would involve meaningful inconvenience to local residents or land users	Magnitude and/or geographical extent of impact(s) have the potential to meaningfully affect off-property residents, lands or receiving waters	Life of Mine	Could reasonably be expected to occur	Can be reversed with difficulty
III	Adverse effects involve locally or regionally important species or communities	Adverse effects to livelihoods and/or property values	Magnitude and/or geographical extent of impact(s) expected to meaningfully affect off-property residents, lands or receiving waters	Extends beyond life of Mine	Will occur, or is likely to occur	Not reversible

2. Proposed Alterations

2.1 Physical Alterations

The alteration includes the construction and operation of a new 66kV electrical substation in an area adjacent to Manitoba Hydro's 66kV transmission line corridor (MBH Line 78). The proposed location of the electrical substation is within the boundaries of TANCO's surface leases M145-SL and M146-SL and includes the installation of a 10MVA transformer, 3 voltage regulators and 2 switchgears in Phase 1 of the project (4th quarter 2023) and an additional 15MVA transformer in Phase 2 of the project (1st quarter 2025; Figure 1).

All civil and earthworks will be completed in Phase 1 of the project which includes brush clearing and grading for the substation/switchyard for both phases and brush clearing and road building for access to the substation and the overhead power lines. The area to be cleared for the substation is approximately 75 m by 105 m, while the area to be cleared for the minor construction/maintenance road for the new overhead lines will be approximately 30 m by 1000 m long. The road leading from the mine to the area the new electrical substation will be located which was constructed as part of NoA 20 and then decommissioned when the project was cancelled, will need to be reinstated as part of the project to allow for construction and maintenance of the substation.

The substation will be mounted on small concrete pads that will be sized slightly bigger than the electrical equipment's footprint and will be a raft design with no deep foundation requirements. No mining activities will occur in the area of the substation and surface water coming into contact with the area will not treatment after the installation of the equipment. The gravel pad will allow surface water to infiltrate into the native soil and surface run-off will drain from the substation in all directions.

2.2 Process Alterations

There are no alterations to processes at the Mine associated with the proposed alteration.

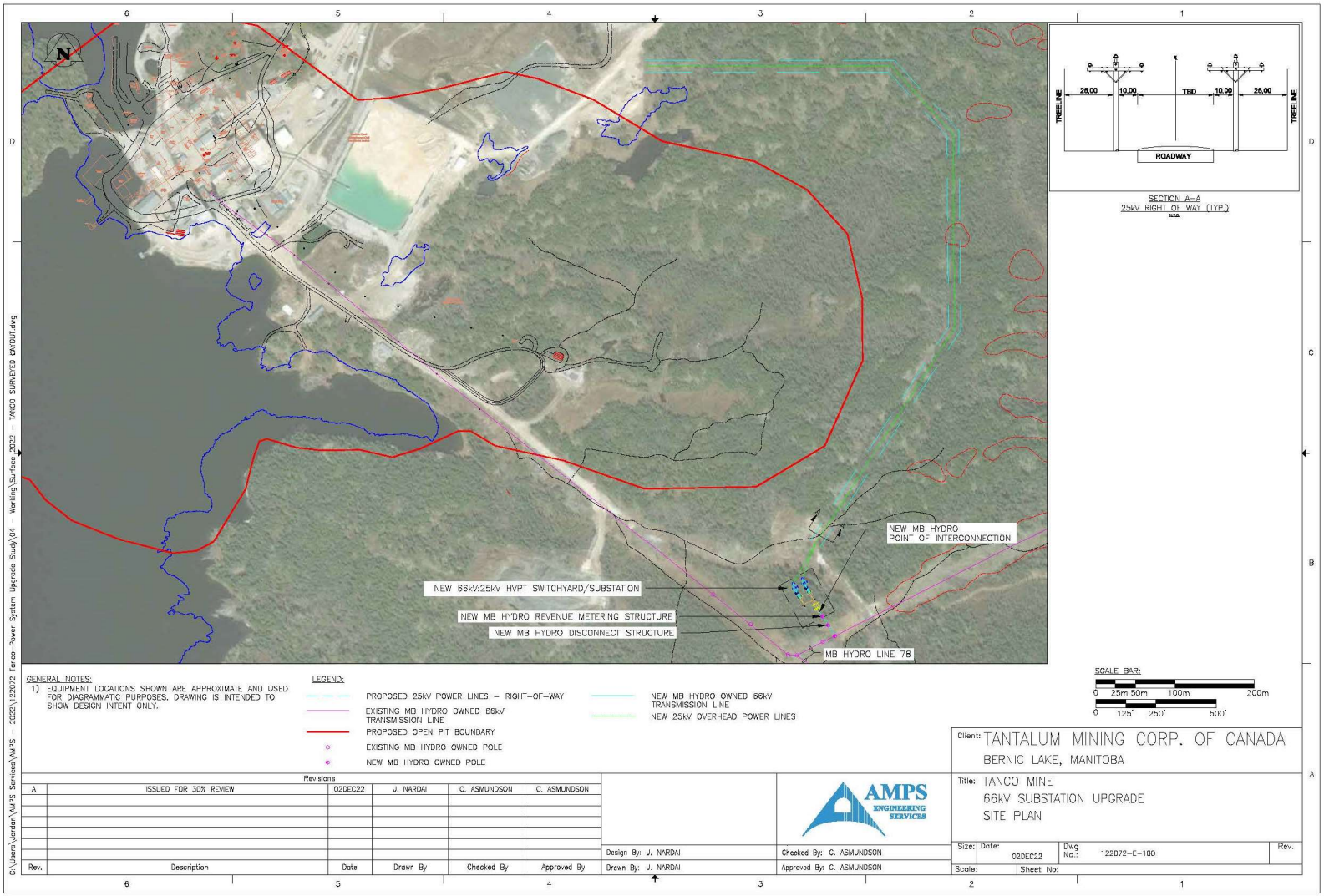

Figure 1 TANCO Mine site plan (AMPS 2023).

2.3 Environmental Assessment

2.3.1 Physical Environment

Topography

The proposed alteration will be entirely contained within the current surface leases of the Mine. The location of the new substation will require a 75 m by 105 m to cleared of vegetation and graded to allow for the installation of the gravel base and concrete pad to support the infrastructure. A 30 m by 1000 m corridor will also need cleared to allow for the installation of the overhead lines leading back to the facility and the road leading to Manitoba Hydro 66kV Line will also need to be reinstated to allow for access during construction and continued maintenance of the equipment. Since, the areas required for the proposed alteration are small and within the current surface leases of the mine, it is anticipated that there will be a minor change in environmental effects from current conditions with respect to site topography associated the proposed alteration (Table 2). Therefore, the level of significance associated with the project with respect to topography is deemed to be no higher than Level I. Accordingly, the summary evaluation for this potential impact is deemed to be not significant.

Soils

The risk of soil contamination during the construction of the new substation will be similar to other construction projects at the site. The risk of soil contamination during the operation and maintenance of the new substation is negligible. Existing Spill Response Protocols and Best Management Practices for Materials Handling at the facility are sufficient mitigation measures for dealing with the potential environmental effects (Table 2). Therefore, a Level I level of significance (not significant) is assigned to the potential environmental effects on soil associated with the proposed alterations.

Geology

Construction activities will be limited to areas within current surface leases and slab-on-grade construction design will limit excavation required. It is anticipated no alteration to bedrock will be required during the construction of the new electrical substation which could affect bedrock in the area. Therefore, a Level I significance is assigned to the potential environmental effects on bedrock and is deemed not significant (Table 2).

Table 2 Summary of potential effects associated with the proposed electrical substation alteration at the TANCO Bernic Lake Mine.

Classification of Potential Effect	Alteration Phase	Potential Effect	Magnitude of Effect	Direction of Effect	Duration of Effect	Frequency of Effect	Scope of Effect	Mitigation Measures	Residual Effects	Reversibility	Significance
Physical											
Topography	Construction	Modification in topography	Minor within current surface leases	Negative	Long Term	One-time	Project Site	New electrical substation to be constructed within the Mine's surface leases and only requires clearing and grading a small area for the infrastructure.	Negligible	Reversible	Not significant
Soils	Construction	Soil contamination	Negligible	Negative	Long Term	Rare	Project Site	Clean up any hydrocarbon or chemical spills immediately during construction of the new electrical substation.	Negligible	Reversible	Not significant
	Operation	Soil contamination	Negligible	Negative	Long Term	Rare	Project Site	Use current best practices in material handling and appropriate containment measures.	Negligible	Reversible	Not significant
Geology	Construction	Bedrock excavation	Negligible	Negative	Long Term	None	Project Site	New electrical substation requires minimal excavation because of slab-on-grade design.	Negligible	Reversible	Not significant
Emissions											
Air Quality	Construction	Dust	Minor within current surface leases	Negative	Short Term	Intermittent	Project Site	Use current Best Management Practices for Control of Fugitive Dust/ Minimize disturbed areas and use dust suppression if required.	Negligible	Reversible	Not significant
	Construction	Noise	Minor within current surface leases	Negative	Short Term	Intermittent	Project Site	Construction activities short-term and noise will be generally limited to project area/Remote location limits socio-cultural effects.	Negligible	Reversible	Not significant
	Operation	Dust	Negligible	Negative	Long Term	None	Project Site	No dust emitted through the operation of the electrical substation.	Negligible	Reversible	Not significant
	Operation	Noise	Negligible	Negative	Long Term	Continuous	Project Site	Noise levels will be less that those emitted from current substation as a result of new technology used.	Negligible	Reversible	Not significant
	Operation	GHG Emissions	Negligible	Negative	Long Term	None	Global	No GHG emitted from the operation of the electrical substation.	Negligible	Reversible	Not significant
Water Resources											
Groundwater	Construction	Groundwater Drawdown/Quality	Minor within current surface leases	Negative	Short Term	None	Project Site	Limited excavation and slab-on-grade design will limit effects. Spill Response Protocols will be used to limit exposure to groundwater.	Negligible	Reversible	Not significant
	Operation	Groundwater Quality	Negligible	Negative	Long Term	None	Project Site	Spill Response Protocols will be used to limit exposure to groundwater.	Negligible	Reversible	Not significant
Surface Water	Construction	Surface Runoff	Minor within current surface leases	Negative	Short Term	Intermittent	Project Site	Control surface water runoff during construction phase	Negligible	Reversible	Not significant
	Operation	Surface Runoff	Negligible	Negative	Long Term	None	Project Site	Surface water will not come in contact with mining operations and will not affect surface water quality. Project area will be allowed to drain along natural flow paths.	Negligible	Reversible	Not significant
	Operation	Surface water usage	Negligible	Negative	Long Term	None	Project Site	No water required during the construction of the electrical substation.	Negligible	Reversible	Not significant
	Operation	Surface water quality	Negligible	Negative	Long Term	None	Project Site	No water required during the operation of the electrical substation.	Negligible	Reversible	Not significant

Table 2 (cont'd) **Summary of potential environmental effects associated with the proposed electrical substation alteration at the TANCO Bernic Lake Mine.**

Classification of Potential Effect	Alteration Phase	Potential Effect	Magnitude of Effect	Direction of Effect	Duration of Effect	Frequency of Effect	Scope of Effect	Mitigation Measures	Residual Effects	Reversibility	Significance
Ecological											
Flora and Fauna	Construction/ Operation	Habitat disturbance	Minor within current surface leases	Negative	Long Term	Continuous	Project Site	Project requires clearing of a small area within the boundary of the Mine's surface lease that may cause some habitat fragmentation but the area is close proximity current mining operations.	Negligible	Not applicable	Not significant
	Construction/ Operation	Noise	Negligible	Negative	Long Term	Intermittent or continuous	Project Site	Construction will be short-term and increased noise levels will be generally limited to within project boundaries. Operational noise levels much less than other equipment currently operated at the Mine.	Negligible	Not applicable	Not significant
	Transportation	Habitat disturbance	Negligible	Negative	Short to long term	Rare	Project Site/Local Highways	Small increase in traffic along transportation routes during the construction phase to bring in equipment and workers.	Negligible to Major	Reversible depending on incident	Not significant
Sociological											
Employment	Construction	Increased Employment	Minor	Positive	Short Term	Continuous	Project Site	Recruit from the local workforce for construction, if possible	Minor	Not applicable	Significant
	Operation	Increased Employment	Negligible	Positive	Long Term	None	Project Site	No additional staff required for the operation phase of the electrical substation.	Negligible	Not applicable	Not significant
Health and Safety	Construction/ Operation	Safety of workers	Negligible to Major	Negative	Short to long term	Rare	Project Site	All work conducted in accordance to Manitoba's *Workplace Safety and Health Act*/ All workers receive appropriate training/ Workers must wear appropriate PPE at all times and follow all TANCO Health and Safety guidelines associated with proposed alteration during construction and operation.	Negligible to Major	Reversible depending on incident	Not significant
	Transportation	Safety of workers and community	Negligible to Major	Negative	Short term	Rare	Project Site/Local Highways	Small increase in traffic along transportation routes during the construction phase to bring in equipment and workers.	Negligible to Major	Reversible depending on incident	Not significant

2.3.2 Emissions

Air Quality

Short-term intermittent increases in hydrocarbon, dust and noise emissions may be observed during construction of the new electrical substation; however, these emissions will be limited to the project area. TANCO will employ Best Management Practices for Control of Fugitive Dust, minimize the size of disturbed areas and use dust suppression, if necessary, during construction as mitigation measures. Noise emissions will increase for the short-term during construction due to the use of heavy equipment and power tools but given the remote location of the facility, it is not anticipated to have any socio-cultural effects and any ecological effects would be short in duration.

No increases in hydrocarbon or dust emissions are anticipated during the operational phase of the project. Noise levels will be less than those of the current substation due to improved technology of the equipment used in the new substation. Noise levels will be significantly less than other equipment currently used at the Mine.

Construction is short-term and mitigation measures should control dust emissions during this period. Increased noise during construction will also be short-term and generally limited to within projects boundaries. Once the circuit becomes operational, dust emissions will be eliminated and noise levels will be less than those in other areas of the Mine and within the Mine's boundaries. Therefore, it is deemed that the proposed alteration is insignificant with respect to air quality and assigned Level I significance (Table 2).

2.3.3 Water Resources

Groundwater

Any spills during construction will be contained immediately by the Environmental Department and reported to the proper authorities as required. No effects are anticipated in groundwater quality during the operational phase of the project. Existing Spill Response Protocols and Best Management Practices for Materials Handling at the facility are sufficient mitigation measures for dealing with the potential environmental effects related to groundwater contamination.

As there is no change in the risk to groundwater sources above current levels during construction or operation of the new electrical substation, a significance Level I is assigned with respect to potential environmental effects to groundwater and has been deemed not significant (Table 2).

Surface Water

Surface water coming in contact with construction activities will be controlled as necessary. Existing Spill Response Protocols and Best Management Practices for Materials Handling at the facility are sufficient mitigation measures for dealing with the potential environmental effects related to surface water contamination during construction. Following the completion of construction phase, no effect is

anticipated in surface water quality due to the operation of the electrical substation. No potential environmental effects are anticipated with respect to surface water runoff at the site as the topography in the area will remain relatively unchanged and site runoff should continue to follow current drainage paths.

Because potential environmental affects to surface water quality and runoff are expected to be negligible with respect to the proposed amended alteration, a Level I significance has been assigned and the potential effects have been deemed not significant (Table 2).

2.3.4 Ecological

Environmental effects with regard to flora and fauna due to habitat disturbance and fragmentation are expected to be minor as the construction and operation of the proposed alteration will occur within the boundaries of the Mine's surface leases and the area to be cleared for the project will be small. The increase in noise anticipated during construction will be short-term and mostly limited to the project area. Noise in this area of the proposed alteration will be minor and less than the noise emitted by other equipment used in mining activities.

Because the effect on habitat is expected to minor and noise levels will be lower than pre-alteration levels, it is deemed that the amended alterations are insignificant with respect to ecological environmental effects and assigned Level I significance (Table 2).

3. Conclusions

A detailed review of physical alterations to the Electrical Substation alteration has indicated that the proposed amendments have been deemed as not significant when compared to existing conditions at the Facility.

Effects associated with the physical environment, emissions, water resources and ecological and sociological (health and safety) aspects remain virtually unchanged as the proposed electrical substation is contained within the Mine's surface leases and measures currently used at the facility are sufficient to mitigate any long-term adverse effects. No anticipated increases in environmental effects are expected with regard to water usage or surface water quality in the receiving environment due to the alteration.

The proposed alteration at the TANCO Bernic Lake Mine is expected to be insignificant as most potential negative environmental and human health effects resulting from the alteration can be mitigated through TANCO's environmental and health and safety policies currently in place at the Mine.

4. References

AMPS Services Inc. 2023. Tantalum Mining Corporation of Canada Ltd. TANCO Mine 66kV Switchyard Upgrade Project Summary and supporting doucments.

Appendix A

Project Summary (AMPS Services Inc. 2023)

AMPS
Services Inc.
Industrial-Mining-Utility-Municipal

Phone (204) 560-6152
Cell (204) 612-9936
E-mail conrad.asmundson@ampsservices.ca

AMPS Services Inc.
Automation, Maintenance, Project & Site Services
1333 Dugald Road
Winnipeg, Manitoba
R2J 0H3

January 12, 2023

Tantalum Mining Corporation of Canada Ltd.
TANCO Mine
66kV Switchyard Upgrade
Project Summary

To whom it may concern,

Due to the condition of the existing 66kV substation, the forecasted site development, and the required electrical capacity, it was recommended that a new substation be constructed that would not be impacted by the future site projects.

The 66kV switchyard/substation upgrade will be completed in two phases, as outlined below.

Phase 1 (4th Quarter 2023) – (1) 10MVA Transformer:

This phase will encompass the switchyard construction of a new 10MVA transformer, 3 voltage regulators, and 2 switchgears. All equipment will be padmounted. This phase will include all overhead high voltage work from the line side of a new customer owned overhead disconnect switch to the 2 overhead lines that will be constructed to distribute the power around the mine site.

The location of the new 66kV substation is near the south-east corner of TANCO Mine's site along the existing Manitoba Hydro 66kV transmission line corridor (MBH Line 78) on a previously undeveloped portion of land. Required civil and earthworks are the brush clearing and grading for the substation/switchyard and the brush clearing and road building for the overhead power lines.

Phase 2 (1st Quarter 2025) – (1) 15MVA transformer addition:

This phase is limited to the addition of the second padmount transformer. Due to MB Hydro's required upgrades, lead time issues, and the forecasted capacity requirements, the addition of the second transformer will not be installed until 2025. Phase 1 construction will include most of the work that is required for the second transformer and this phase will be narrowed to just the interconnection of the transformer.

AMPS
Services Inc.
Industrial-Mining-Utility-Municipal

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AMPS Services Inc.
Automation, Maintenance, Project & Site Services
1333 Dugald Road
Winnipeg, Manitoba
R2J 0H3

Should you have any questions, please contact Conrad Asmundson at (204) 612-9936.

Sincerely,

Conrad Asmundson, P.Eng
President & Head E/I&C Engineer