Manitoba
Environment and Climate Change
Environmental Approvals Branch
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Winnipeg MB R3Y 0L6
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EABDirector@gov.mb.ca

File No.: 1906.50

August 27, 2024

Joey Champagne
Operations Director
Tantalum Mining Corp. of Canada Ltd.
P. O. Box 2000
Lac du Bonnet MB R0E 1A0
Joey.Champagne@sinominecorp.com

Dear Joey Champagne:

Re: Tantalum Mining Corp. of Canada Ltd. (TANCO) - Environment Act Licence No. 973 R

Please find enclosed the Environment Act Licence in response to your proposal filed under The Environment Act on May 31, 2021, and amended on June 6, 2022, and the proposal filed under The Environment Act on November 9, 2023. You wish to construct and operate the tailings reprocessing facility project at the mine site located on section 15-17-15E in Division No. 19 Unorganized.

All licence requirements and federal, provincial, and municipal regulations and by-laws must be followed. The licensee must get approval from the director per The Environment Act to alter the development.

Anyone affected by this decision may appeal, in writing, to the Minister of Environment and Climate Change at minecc@manitoba.ca by September 26, 2024. The licence is available on the public registry at https://www.gov.mb.ca/sd/eal/registries/index.html.

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If you have any questions regarding this approval, please contact Allan Cyrenne, Acting Regional Supervisor, Environmental Compliance and Enforcement Branch at EnvCEEastern@gov.mb.ca or 204-485-6410.

Sincerely,

Original Signed By
Agnes Wittmann
Director
The Environment Act

Enclosure

c. Allan Cyrenne

THE ENVIRONMENT ACT
LOI SUR L'ENVIRONNEMENT

Manitoba

LICENCE

FILE NO.: 1906.50

Licence No. / Licence n°: 973 R
Issue Date / Date de délivrance : February 7, 1983
Revised : August 27, 2024

In accordance with The Environment Act (C.C.S.M. c. E125)/
Conformément à la Loi sur l'environnement (C.P.L.M. c. E125)

Under Section 11(1) / Conformément au Paragraphe 11(1)

THIS LICENCE IS ISSUED TO: / CETTE LICENCE EST DONNÉE À:

TANTALUM MINING CORPORATION OF CANADA LIMITED (TANCO);
"the licensee"

for the continued operation of the 1000 tonnes per day underground tantalum, cesium and lithium mine and milling facility, 3673.8 metric tonnes per year cesium metal products facility and cesium crystals processing plant, 1500 cubic metre per day industrial wastewater treatment plant, cesium containment cells and supporting surface infrastructure, and for the construction and operation of a 3000 tonnes per day milling facility, concentrate loadout building, ore pad and supporting surface infrastructure for tailings reprocessing (referred to as 'the tailings reprocessing facility project") and continued operation of the existing tailings management areas (commonly referred to as the Tanco Mine and/or Bernic Lake Mine) (Figure1) with discharge to Bernic Lake located on section 15-17-15E in Division No. 19 Unorganized in accordance with notice of alteration filed on September 2, 2011, and the proposal filed under The Environment Act on May 31, 2021, and amended on June 6, 2022, and the proposal filed under The Environment Act on November 9, 2023, and additional information provided on February 16, 2024, and subject to the following specifications, limits, terms, and conditions:

DEFINITIONS

In this licence,

"accredited laboratory" means an analytical facility accredited by the Standards Council of Canada (SCC), or accredited by another accrediting agency recognized by Manitoba Environment and Climate Change to be equivalent to the SCC, or be able to demonstrate, upon request, that it has the quality assurance/quality control (QA/QC) procedures in place equivalent to accreditation based on the international standard ISO/IEC 17025, or otherwise approved by the director;

"affected area" means a geographical area, excluding the property of the development;

"ambient concentration" means the measurement of a substance contained in an air sample (corrected to a temperature of 25°C and to a pressure of 101.3 kilopascals) which has been collected from any point beyond the property line of the development;

"AP" means the maximum acid-generation potential, expressed as tonnes of $CaCO_3$ per 1000 tonnes of a material tested, determined in accordance with a static Acid-Base Accounting method satisfactory to the director;

"approved" means approved by the director or assigned environment officer in writing;

"CCME" means the Canadian Council of Ministers of the Environment;

"Closure Plan" means a plan indicating the actions to be taken for the closure of the development;

"composite sample" means as defined in the federal Metal and Diamond Mining Effluent Regulations (MDMER);

"contaminant" means a contaminant as defined in The Dangerous Goods Handling and Transportation Act;

"contaminated soil" means soil which contains contaminant concentrations in excess of the applicable remediation criteria cited in the CCME's “Canadian Environmental Quality Guidelines” report ISBN 896-997-34-1, update 5.0, 2006, or any future amendment thereof;

"contractor" means any party entered into a contract with the licensee;

"dangerous good" means a product, substance or organism as defined in The Dangerous Goods Handling and Transportation Act, or any amendments thereto;

"day" or "daily" means any 24-hour period;

"director" means an employee so designated pursuant to The Environment Act;

"Director of Mines" means the director of the branch responsible for administration of The Mines and Minerals Act or any amendments thereto;

"EEM" means Environmental Effects Monitoring as defined in the federal Metal and Diamond Mining Effluent Regulations (MDMER);

"effluent" means mine water released from the development into the environment;

"environmental approvals branch" means the Environmental Approvals Branch of Manitoba Environment and Climate Change, or any future branch responsible for issuing licences under The Environment Act;

"Environment Officer" means an employee so designated pursuant to The Environment Act;

"Environmental Management System (EMS)" means the part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy;

"final discharge point" means the outfall discharge location as shown in Figure 1 labeled as "west discharge" of this licence and as defined under the federal Metal and Diamond Mining Effluent Regulations (MDMER);

"fugitive emissions" means particulate matter escaping from sources within the Development into the atmosphere other than through any of the emission stacks or vents;

"grab sample" means a grab sample as defined in the federal Metal and Diamond Mining Effluent Regulations (MDMER);

"groundwater" means water below the ground surface in a zone of saturation;

"hazardous waste" means a product, substance or organism as defined in The Dangerous Goods Handling and Transportation Act, or any amendments thereto;

"industrial wastewater" means wastewater derived from an industry which manufactures, handles or processes a product and does not include wastewater from commercial and residential buildings;

"industrial wastewater treatment plant" means the component of this development which contains all treatment processes for treatment of industrial wastewater exclusive of the wastewater collection systems;

"MDMER" means the Metal and Diamond Mining Effluent Regulations (SOR/2002-222), or any future amendments thereto, promulgated under the federal Fisheries Act;

"Metal and Diamond Mining Effluent Regulations" means the Metal and Diamond Mining Effluent Regulations (SOR/2002-222), or any future amendments thereto, promulgated under the federal Fisheries Act;

"mine" means any of the surface and sub-surface workings, overburden, waste rock and ore stockpiles, all ancillary buildings, wastewater treatment facilities, impoundment or control facilities, tailings management areas and such other on-site infrastructure as may be located on the mine site and associated with the development;

"mine site" means the entire operational, disturbed or impacted surface area of land and water located within the boundaries of those surface rights acquired and held by the licensee for the construction and operation of the development;

"mine water" means water pumped to the surface from underground mine workings or from an open pit, or contaminated runoff or leachate from ore or waste rock stockpiles exposed to precipitation, or polluted mine site runoff, or any combination thereof, but excluding sewage;

"mothballed" means placed into a state of non use, or temporarily closed, while at the same time maintained in a state of readiness for potential re-use or re-opening;

"noise nuisance" means an unwanted sound, in an affected area, which is annoying, troublesome, or disagreeable to a person:

(a) residing in an affected area;
(b) working in an affected area; or

(c) present at a location in an affected area which is normally open to members of the public;

if the unwanted sound

(d) is the subject of at least 5 written complaints, received by the director in a form satisfactory to the director and within a 90-day period, from 5 different persons falling within clauses (a), (b) or (c), who do not live in the same household; or

(e) is the subject of at least one written complaint, received by the director in a form satisfactory to the director, from a person falling within clauses (a), (b) or (c) and the director is of the opinion that if the unwanted sound had occurred in a more densely populated area there would have been at least 5 written complaints received within a 90-day period, from 5 different persons who do not live in the same household;

"non acid-generating" means having a NPR greater than 4, until or unless an appropriate alternate NPR cut-off value is determined, to the satisfaction of the Director, through detailed characterizations, evaluations and interpretations, or through kinetic testing, carried out on representative test material by qualified individuals;

"NP" means the maximum neutralizing potential, expressed as tonnes of CaCO3 per 1,000 tonnes of material tested, determined in accordance with a static Acid-Base Accounting method satisfactory to the director;

"NPR" means the neutralizing potential ratio as determined from the ratio of NP/AP;

"odour nuisance" means a continuous or repeated odour, smell or aroma, in an affected area, which is offensive, obnoxious, troublesome, annoying, unpleasant or disagreeable to a person:

(a) residing in an affected area;

(b) working in an affected area; or

(c) present at a location in an affected area which is normally open to members of the public;

if the odour, smell or aroma

(d) is the subject of at least 5 written complaints, received by the Director in a form satisfactory to the director and within a 90-day period, from 5 different persons falling within clauses (a), (b) or (c), who do not live in the same household; or

(e) is the subject of at least one written complaint, received by the director in a form satisfactory to the director, from a person falling within clauses (a), (b) or (c) and the director is of the opinion that if the odour, smell or aroma had occurred in a more densely populated area there would have been at least 5 written complaints received within a 90-day period, from 5 different persons who do not live in the same household;

"opacity" means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background;

"ore" means mineralized rock containing sufficient mineral value for the purposes of this development;

"PAG" means potentially-acid generating;

"particulate matter" means any finely divided liquid or solid matter other than water droplets;

"particulate residue" means that part or portion of an atmospheric emission which is deposited onto a surface;

"PM10" means particulate matter that is 10 micrometres (µm) or less in diameter;

"PM2.5" means particulate matter that is 2.5 micrometres (µm) or less in diameter;

"point source" means any point of emission from a development where pollutants are emitted to the atmosphere by means of a stack;

"pollutant" means a pollutant as defined in The Environment Act;

"potentially acid-generating" means having the potential or uncertain ability to generate acid as indicated by a NPR of 4 or less, until or unless an appropriate alternate NPR cut-off value is determined, to the satisfaction of the director, through detailed characterizations, evaluations and interpretations, or through kinetic testing, carried out on representative test material by qualified individuals;

"QA/QC" means quality assurance/quality control;

"record drawings" means engineering drawings complete with all dimensions which indicate all features of the development as it has actually been built;

"restoration" means the re-establishment of the site of the development with characteristics as close as possible to pre-development conditions;

"SDS" means safety data sheets;

"sewage" means household and commercial wastewater that contains human waste;

"solid waste" means solid waste as defined in Waste Management Facilities Regulation, or any future amendments thereto, respecting waste management facilities, excluding waste rock;

"stack" means a duct, pipe, chimney, vent, opening or other structure through which pollutants are emitted to the atmosphere;

"Standard Methods for the Examination of Water and Wastewater" means the most recent edition of Standard Methods for the Examination of Water and Wastewater published jointly by the American Public Health Association, the American Waterworks Association and the Water Environment Federation;

"surface runoff" means any overland flow of liquid off the developed area;

"tailings" means those granular solids which are discarded as waste material in the process of concentrating commercial minerals present in milled ore;

"visible emissions" means any air-borne particulate matter which obscures visibility;

"waste management facility" means a landfill, a composting facility, a transfer station, a material recovery facility or a remote seasonal waste facility approved for use in accordance with Waste Management Facilities Regulation, or any future amendments thereto, or a Licence pursuant to The Environment Act;

"waste rock" means rock containing insufficient mineral value to the development, excepting such rock which is inadvertently present in mined ore;

"wastewater" means the spent or used water of a community or industry which contains dissolved and suspended matter;

"wastewater collection system" means the sewer and pumping system used for the collection and conveyance of domestic, commercial and industrial wastewater; and

"WHMIS" means Workplace Hazardous Materials Information System.

GENERAL TERMS AND CONDITIONS

Note: Notwithstanding this Environment Act Licence, this development is also subject to the federal Metal and Diamond Mining Effluent Regulations. If any specification, limit, term, or condition prescribed in this licence or in any subsequent revision thereto, results in a contradiction of one or more requirements of the federal Metal and Diamond Mining Effluent Regulations, then the most stringent limit, term, or condition shall apply.

Retain Copy of Licence

1. The licensee shall at all times maintain a copy of this licence at the development or at the premises from which the development's operations are managed.

Future Sampling

2. In addition to any of the limits, terms and conditions specified in this licence, the licensee shall, upon the request of the director:
   a) sample, monitor, analyze and/or investigate specific areas of concern regarding any segment, component or aspect of pollutant storage, containment, treatment, handling, disposal or emission systems, for such pollutants or ambient quality, aquatic toxicity, leachate characteristics and discharge or emission rates, for such duration and at such frequencies as may be specified;
   b) determine the environmental impact associated with the release of any pollutant(s) from the development;
   c) conduct specific investigations in response to the data gathered during environmental monitoring programs; or
   d) provide the director, within such time as may be specified, with such reports, drawings, specifications, analytical data, descriptions of sampling and analytical procedures being used, bioassay data, flow rate measurements and such other information as may from time to time be requested.

3. The licensee shall, unless otherwise specified in this licence:
   a) carry out all preservations and analyses on liquid samples in accordance with the methods prescribed in the most current edition of Standard Methods for the Examination of Water and Wastewater or in accordance with equivalent preservation and analytical methodologies approved by the director;
   b) carry out all sampling of, and preservation and analyses on, soil, compost, and air samples in accordance with methodologies approved by the director;
   c) have all analytical determinations undertaken by an accredited laboratory; and
   d) report the results to the director, in writing and in an electronic format acceptable to the director, within 60 days of the samples being taken.

Reporting Format

4. The licensee shall submit all information required to be provided to the director or environment officer under this licence, in written and electronic format, in such form (including number of copies) and of such content as may be required by the director or environment officer, and each submission shall be clearly labeled with the licence number and file number associated with this licence.

Equipment Breakdown or Release of Pollutant

5. The licensee shall, in the case of physical or mechanical equipment breakdown or process upset where such breakdown or process upset results or may result in the release of a pollutant in an amount or concentration, or at a level or rate of release, that causes or may cause a significant adverse effect, immediately report the event by calling the 24-hour environmental accident reporting line at 204-944-4888 (toll-free 1-855-944-4888).
   The report shall indicate the nature of the event, the time and estimated duration of the event and the reason for the event.

6. The licensee shall, following the reporting of an event pursuant to clause 5,
   a) identify the repairs required to the mechanical equipment;
   b) undertake all repairs to minimize unauthorized discharges of a pollutant;
   c) complete the repairs in accordance with any written instructions of the director; and
   d) submit a report to the director about the causes of breakdown and measures taken, within one week of the repairs being done.

Safety and Security

7. The licensee shall continually maintain an up-to-date inventory of any process and cleaning chemicals used and/or stored on-site that would be captured by any applicable federal/provincial WHMIS regulations and protocols and make this information and applicable SDS sheets available to an environment officer upon request.

8. The licensee shall prepare, within 90 days of the date of issuance of this licence and maintain an emergency response contingency plan in accordance with the Canadian Centre for Occupational Health and Safety “Emergency Response Planning Guide” or other emergency planning guidelines acceptable to the director.

9. The licensee shall implement and continually maintain in current status, an Environmental Management System (EMS) for the development which is acceptable to the director.

Fire Reporting

10. The licensee shall, in the event of a fire which continues in excess of thirty (30) minutes or requires fire suppression assistance from personnel outside of the facility (example: fire department):
    a) call the fire department; and
    b) report the fire by calling the Environmental Emergency Report Line (204-944-4888 or toll free 1-855-944-4888), identifying the type of materials involved and the location of the fire.

On-Site Wastewater

11. The licensee shall comply with the provisions of the Onsite Wastewater Management Systems Regulation or any future amendment thereto.

Environmental Coordinator

12. The licensee shall designate an employee, within 60 days of the date of issuance of this licence, as the licensee's Environmental Coordinator, whose job description will include assisting the licensee in complying with the limits, terms and conditions in this licence and assisting Senior Management of the licensee to manage environmental issues at the development. The name of the Environmental Coordinator shall be submitted in writing to the director within 14 days of appointment and any subsequent appointment.

Future Studies

13. The licensee shall actively participate in any future watershed-based management study, plan or nutrient reduction program, approved by the director.

Compliance

14. The licensee shall adhere to the commitments made in the proposal and in additional information submitted during the environmental assessment review and approved pursuant to this licence during construction and operation of the development.

15. The licensee shall submit a notice of alteration and obtain director's approval for proposed changes to the development as licensed prior to implementing any changes.

Certification

16. The licensee shall obtain and maintain classification of the industrial wastewater treatment plant pursuant to the Water and Wastewater Facility Operators Regulation or any future amendment thereof and maintain compliance with all requirements of the regulation including, but not limited to, the preparation and maintenance of a Table of Organization, Emergency Response Plan and Standard Operating Procedures.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

Respecting Construction - General

17. The licensee shall notify the designated environment officer not less than two weeks prior to beginning any construction at the development. The notification shall include the intended starting date of construction and the name of the contractor(s) responsible for the construction.

18. The licensee shall obtain all necessary federal, provincial and/or municipal licences, authorizations, permits and/or approvals for construction of relevant components of the development prior to commencement of construction.

19. The licensee shall restrict construction and operational activities to only such lands to which the licensee possesses the mineral rights, surface rights or complete ownership, or which the licensee has leased from another owner, wherein the leasing agreement clearly identifies the party which accepts full responsibility for any environmental liabilities incurred by the activities of the licensee.

20. The licensee shall, with respect to on-site earthen construction works, construct and maintain silt fences in the drainage routes transporting surface runoff off the property of the development until vegetation has been re-established on the disturbed areas.

21. The licensee shall dispose of non-reusable construction debris from the development at a waste management facility operating under the authority of a permit issued pursuant to Waste Management Facilities Regulation, or any future amendment thereof, or a licence issued pursuant to The Environment Act.

22. The licensee shall comply with the requirements of The Heritage Resources Act and suspend construction and immediately notify the Historic Resources Branch if heritage resources are encountered during the construction of the development.

23. The licensee shall, during construction at the development, operate, maintain and store all materials and equipment in a manner that prevents any deleterious substances (fuel, oil, grease, hydraulic fluids, coolant, paint, uncured concrete and concrete wash water, etc.) from entering watercourses, and have an emergency spill kit for in-water use available on-site during construction.

24. The licensee shall, during construction and maintenance of the development, prevent the introduction and spread of foreign aquatic and terrestrial biota by cleaning equipment prior to its delivery to the site of the development in accordance with the requirements of the Aquatic Invasive Species Regulation, or any future amendment thereof.

25. The licensee shall not remove, destroy or disturb species unless otherwise authorized pursuant to the Threatened, Endangered and Extirpated Species Regulation, or any future amendment thereof, and pursuant to the federal Species at Risk Act.

26. The licensee shall not undertake construction or maintenance activities in connection with the development in fish bearing waters or potentially fish bearing waters between April 15 and June 30 of any year or during periods of high stream flow, unless otherwise authorized.

Respecting the Operation of the Development

27. The licensee shall notify the designated environment officer when construction of the tailings reprocessing facility project is complete. The notification shall include the date of commencement of operation of the facility.

28. The licensee shall not direct pollutants into any surface drainage route leading off the property of the development or into the local groundwater.

29. The licensee shall not cause or permit an odour nuisance to be created as a result of the construction, operation or alteration of the development, and shall take such steps as the director may require to eliminate or mitigate an odour nuisance.

30. The licensee shall not cause or permit a noise nuisance to be created as a result of the construction, operation or alteration of the development, and shall take such steps as the director may specify to eliminate a noise nuisance.

31. The licensee shall:
    a) submit a copy of the Containment Cell Management Strategy and the Risk Management Plan; and
    b) submit quarterly reports with results of the plan to the director.

Respecting External Ore Processing

32. The licensee shall, prior to acceptance of external ore at the development for processing:
    a) test and evaluate ore consistent with the process described in the August 1, 2023 notice of alteration and November 22, 2023 amendment document, or submit proposed alterations to the testing process and implement as approved by the director; and
    b) meet criteria for processing such that effluent quality will not be adversely affected.

33. The licensee shall provide notification to the Environmental Approvals Branch indicating the source and quantity of external ore to be processed at the site and material testing results prior to processing the ore in accordance with clause 32 of this licence.

Respecting Traffic

34. The licensee shall prepare and submit for approval by Manitoba Transportation and Infrastructure, prior to operation of the tailings reprocessing facility project, a Traffic Impact Study. Approval of the Traffic Impact Study shall include the implementation of any mitigation measures and any additional arrangements deemed necessary by Manitoba Transportation and Infrastructure and as agreed to by the licensee.

Respecting Waste Rock

35. The licensee shall treat all waste rock at the development as potentially acid-generating rock unless and until it is proven to be non-acid generating through analytical testing.

36. The licensee shall not, other than on the designated waste rock pads, temporarily store waste rock at the development site.

37. The licensee shall:
    a) not use, nor release to any person, any contaminated soil, or potentially acid-generating rock/materials, as a construction material; and
    b) undertake such remedial work as may be specified by the director should any of the construction materials used by the licensee in the course of constructing or altering this development be determined to be contaminated soil or acid generating rock/material.

Respecting Chemical Storage and Spill Containment

38. The licensee shall install and maintain spill recovery equipment at the development at all times.

39. The licensee shall comply with all the applicable requirements of:
    a) The Storage and Handling of Petroleum Products and Allied Products Regulation;
    b) The Dangerous Goods Handling and Transportation Act, and regulations issued thereunder, respecting the handling, transport, storage and disposal of any dangerous goods brought onto or generated at the Development; and
    c) the Office of the Fire Commissioner – Province of Manitoba.

40. The licensee shall provide containment for all vessels containing chemicals in each area of the development where the chemicals are stored, loaded, transferred, used or otherwise handled, in compliance with the current Fire Code Regulation, or any future amendment thereof, such that any product leakage or spillage and any contaminated liquid generated is contained within the development and contamination of groundwater and surface water is prevented.

Respecting Air Pollution Control Equipment

41. The licensee shall direct all air streams, which contain a pollutant(s) of concern to the director, to a pollution control device which has been designed for and demonstrated to be capable of reducing, altering, eliminating or otherwise treating the pollutant(s).

42. The licensee shall prepare, prior to commissioning for operation, and maintain the following manuals which shall be kept at the development and available for review upon request by an environment officer:
    a) a standard operating procedural manual and a maintenance schedule for each air emission pollution control device based on the manufacturer's specifications and recommendations;
    b) an updated standard operating procedural manual and a maintenance procedure for each air emission pollution control device within 120 days of the addition, elimination or change regarding any air emission control device; and
    c) a copy of the manufacturer operational and maintenance manual.

43. The licensee shall not operate any process directing an emission to an air pollution control device at the development unless:
    a) the operating and maintenance measures and status of the device are in full compliance with the procedures and timetables as per clause 42;

b) all emissions from the process are directed to the fully operational air pollution control device;
c) all discharges of treated emissions from the air pollution control devices are immediately directed to a stack; and
d) the emissions do not contain concentrations of pollutants which:
    i) are in violation of any other applicable legal instrument including an Act, Regulation or by-law; or
    ii) otherwise create a significant negative environmental or health impact in the affected area.

44. The licensee shall maintain a log of the most recent 24 month period to record any downtime of an air pollution control device due to either the breakdown or maintenance of that air pollution control device. The log shall be kept at the development and shall be available upon request for inspection by an environment officer. The log shall record, at minimum, the following information:
    a) identification of the air pollution control device and the process(es) it serves;
    b) time/date of log entry;
    c) nature of event;
    d) time and duration of event;
    e) action taken;
    f) the accumulated downtime of this air pollution control device for the events for each calendar year; and
    g) approval of the Environmental Coordinator.

45. The Licensee shall handle, store and dispose of all pollutants collected by the air pollution control equipment in a manner suitable to their characterization as type of waste or dangerous good.

Respecting Air Emissions - Limits

46. The licensee shall, upon the start of operation of the tailings reprocessing facility project in accordance with clause 27, not emit particulate matter from the development such that:
    a) particulate matter:
        i) exceeds 0.23 grams per dry standard cubic metre calculated at 25 degrees Celsius and 760 millimetres of mercury, corrected to 12 percent carbon dioxide for processes involving combustion, from any point source of the development;
        ii) exhibits a visible plume with an opacity of greater than 5 percent at any point beyond the property line of the development; or
        iii) results in the deposition of visible particulate residue at any time beyond the property line of the development; or
    b) opacity from any point source of the development equals or exceeds:
        i) 20 percent as the average of any 24 consecutive opacity observations taken at 15 second intervals;
        ii) 20 percent for more than 16 individual opacity observations within any 1 hour period; or
        iii) 40 percent for any individual opacity observation.

Respecting Air Emissions – Sampling and Analysis

47. The licensee shall, upon written request from the director, perform stack sampling and analysis in accordance with Schedule A of this licence.

Respecting Solid Wastes

48. The licensee shall not undertake any on-site burning of solid waste.

49. The licensee shall dispose of all solid waste generated at the development, which is not recycled, only to a waste management facility operating under the authority of a permit issued pursuant to the Waste Management Facilities Regulation or any future amendment thereof, or a licence issued pursuant to The Environment Act.

Respecting Dangerous Goods or Hazardous Waste

50. The licensee shall not release dangerous goods or hazardous wastes into the wastewater collection system.

51. The licensee shall collect, transport and store used oil or hydraulic fluids removed from on-site machinery in secure, properly labeled, non-leaking containers and shall regularly send them to a recycling or disposal facility approved to accept hazardous wastes.

Respecting Groundwater Monitoring

52. The licensee shall:
    a) continue the implementation of the existing groundwater monitoring program for the cesium metal products facility containment cells no. 1 and no. 2 at the mine site;
    b) install additional groundwater monitoring wells as may be requested by the director; and
    c) submit an annual report on or before December 31 of each year with comprehensive chemical analysis to the director.

Respecting the Industrial Wastewater Treatment Facility

53. The licensee shall carry out the operation of the industrial wastewater treatment facility with individuals properly certified to do so pursuant to the Water and Wastewater Facility Operators Regulation or any future amendment thereof. In the event that the development is reclassified pursuant to the Regulation, the licensee shall provide a development plan to the director to have certified operator(s) upgrade their certification.

54. The licensee shall dispose of waste solids from the industrial wastewater treatment facility within the tailings management area, or at an approved waste management facility or as approved by the director.

55. The licensee shall discharge all treated industrial wastewater effluent into the tailings management area.

Respecting the Tailings Management Area

56. The licensee shall:
    a) design containment structures for the tailings management area in accordance with the most current Canadian Dam Association Dam Safety Guidelines;
    b) inspect and maintain the condition of all the embankments used to contain any waste solids and mine water within the tailings management area to the satisfaction of the director; and
    c) investigate and correct any condition of deteriorated structural integrity or excessive seepage losses associated with the embankments in such a manner and within such a time frame as is satisfactory to the director.

57. The licensee shall not discharge, or cause or allow the release of, any effluent from the tailings management area into the environment:
    a) other than through the final discharge point as identified in accordance with the MDMER;
    b) if the effluent is acutely lethal, as defined in the MDMER;
    c) when such a discharge would cause or contribute to flooding in or along the effluent drainage route; or
    d) if the quality of effluent is in non-compliance with the water quality criteria set out in Schedule 4 of the MDMER or any amendment thereto, specifically:

Item	Deleterious Substance	Maximum Authorized Monthly Mean Concentration	Maximum Authorized Concentration in a Composite Sample	Maximum Authorized Concentration in a Grab Sample
1	Arsenic	0.30 mg/L	0.45 mg/L	0.60 mg/L
2	Copper	0.30 mg/L	0.45 mg/L	0.60 mg/L
3	Cyanide	0.50 mg/L	0.75 mg/L	1.00 mg/L
4	Lead	0.10 mg/L	0.15 mg/L	0.20 mg/L
5	Nickel	0.50 mg/L	0.75 mg/L	1.00 mg/L
6	Zinc	0.50 mg/L	0.75 mg/L	1.00 mg/L
7	Suspended Solids	15.00 mg/L	22.50 mg/L	30.00 mg/L
8	Radium 226	0.37 Bq/L	0.74 Bq/L	1.11 Bq/L
9	Un-ionized ammonia	0.50 mg/L expressed as nitrogen (N)	Not applicable	1.00 mg/L expressed as nitrogen (N)

58. The licensee shall, upon the start of operation of the tailings reprocessing facility project in accordance with clause 27, not discharge or cause or allow the release of any effluent from the tailings management area into the environment if the effluent quality is resulting in, or is likely to directly or cumulatively result in, a downstream degradation of the water quality immediately beyond a maximum 10% mixing zone (by volume) within Bernic Lake, relative to the Manitoba Water Quality Standards, Objectives and Guidelines Regulation under The Water Protection Act and/or nutrient control strategies and regulations developed by the Manitoba Environment and Climate Change.

MONITORING AND REPORTING

Respecting Air Quality Monitoring

59. The licensee shall submit, upon the written request and for the approval of the director, a program for:
    a) the sampling, analysis and reporting of levels of pollutants, as determined by the director, at a selected location(s) beyond the property boundaries of the development; and
    b) the location, installation and operation of a meteorological monitoring station.

60. The licensee shall:
    a) implement the program approved pursuant to clause 59 of this licence within a timeframe stipulated by the director; and
    b) submit a report within 60 days of the receipt of the analytical results of the sampling program pursuant to clause 59 of this licence for the approval of the director containing at minimum:
        a. the raw data collected;
        b. a discussion of the sampling and analytical portions of the program including any anomalies of sampling and analysis; and
        c. a discussion of the significance of the data gathered with specific attention to:
            i. the significance for potential acute and chronic impacts to health or environment from exposure to concentrations of the compounds detected;
            ii. the need for risk assessment of the impact of emissions;
            iii. the need for the establishment of ambient air monitoring stations;
            iv. results and conclusions of the QA/QC program; and
            v. other issues as may be determined by the director.

Respecting Tailings Management Area Wastewater Effluent Sampling

61. The licensee shall, upon the start of operation of the tailings reprocessing facility project in accordance with clause 27:
    a) collect sufficient undiluted composite or grab samples, as necessary, of effluent being released at the final discharge point of the development once per week and at least 24 hours apart, as specified in the MDMER, and have the samples analyzed for pH and each parameter and characteristic as set out in Appendix A including such additional parameters, characteristics and information as may otherwise be requested by the director; and
    b) collect sufficient undiluted and representative samples of effluent released from the final discharge point of the development once per month but not less than 15 days apart and have each sample subjected to acute lethality tests as per MDMER requirements;
    c) unless otherwise requested by the director, collect, on a quarterly basis, composite or grab samples of the final effluent and have these samples analyzed for the parameters listed in Appendix B; and
    d) following twelve consecutive samples in accordance with a, b and c, reduce sampling in accordance with exemption criteria and reduced monitoring criteria as outlined the MDMER and as approved by the director.

62. The licensee shall, prior to operation of the tailings reprocessing facility project:
    a) collect sufficient undiluted composite or grab samples, as necessary, of effluent being released at the final discharge point of the development on a quarterly basis, for all parameters as outlined in Appendix A and Appendix B, except for total suspended solids (TSS), total phosphorus and pH, which must continue to be monitoring on a weekly basis, and total mercury and total methylmercury in accordance with the MDMER; and
    b) continue to monitor on a reduced schedule, unless effluent quality does not meet reduced monitoring requirements, at which time the licensee must return to regular monitoring frequency as prescribed in the MDMER.

Respecting Downstream Water Sampling

63. The licensee shall:
    a) beginning in 2025:
        a. collect water samples, a minimum of one-month apart, from the Bird River, downstream of Bernic Creek four times per year or as approved by the director; and
        b. analyze the water samples for the parameters listed in Appendix B of this licence; and
    b) upon the start of operation of the tailings reprocessing facility project in accordance with clause 27, analyze water samples for total mercury and total methylmercury in accordance with the MDMER.

Respecting Annual Reporting

64. The licensee shall during each year maintain the following records:
    a) the total volume (expressed as cubic metres) of wastewater effluent directed to the tailings management area;
    b) the total flow rate (cubic metres per day) of effluent discharged from the final discharge point;
    c) the original copies of laboratory analytical results of the sampled wastewater effluent from the tailings management area, comparing analytical results to detection limits outlined in Appendix B;
    d) the original copies of the laboratory analytical results of downstream water samples, comparing analytical results to detection limits outlined in Appendix B and to provincial and federal water quality objectives and guidelines, including an assessment of the mixing zone relative to the sample location;
    e) the monthly average and peak milling production rates (expressed as tonnes/day) for each mill at the development;
    f) the total volume (expressed as cubic metres) of process water recycled within the tailings reprocessing facility;
    g) the total volume of ore (expressed as tonnes/day) mined at the development;
    h) the total volume of external ore (expressed as tonnes/day) processed at the development and the testing methods used for external ore assessment;
    i) the total volumes of waste rock (expressed as tonnes) stored on site at the development;
    j) the total annual production rate of each product produced in the cesium products facility and cesium crystals processing plant (expressed as metric tonnes);
    k) equipment maintenance and repairs; and
    l) other reporting as requested by the director.

65. The licensee shall submit an annual report including a discussion and trend analysis of analytical values and measurements to the environment officer by March 15 of the following year including all records required by clause 64 of this licence.

Environmental Effects Monitoring

66. The licensee shall:
    a) carry out the environmental effects monitoring program, as required by the MDMER, in consultation with Manitoba Environment and Climate Change, and incorporate such additional monitoring requirements as may be requested in writing by the director; and
    b) submit to the director a copy of each environmental effects monitoring report, submitted by the licensee to Environment Canada in accordance with the MDMER, at the same time as each such report is submitted to the federal authorization officer.

Respecting Closure

67. The licensee shall:
    a) provide the director with:
        i) written notice six months in advance of any imminent permanent closure of this development; or
        ii) an immediate notice of any sudden decision to temporarily close this development whereby the development would be placed in a mothballed state for re-opening in the foreseeable future;
    b) comply with the Mine Closure, or any future amendment thereto, issued under The Mines and Minerals Act, respecting closure plans for mining developments; and
    c) upon permanent or temporary closure of this development, implement the environmentally related aspects of the Closure Plan approved pursuant to the Mine Closure Regulation, or any future amendment thereto, to the satisfaction of the Director of Mines.

Record Drawings

68. The licensee shall:
    a) prepare "record drawings" for the development and shall label the drawings "Record Drawings"; and
    b) provide to the director, within two years from the date of this Environment Act Licence, an electronic copy of the "record drawings".

REVIEW AND REVOCATION

A. Environment Act Licence No. 973 is hereby rescinded.

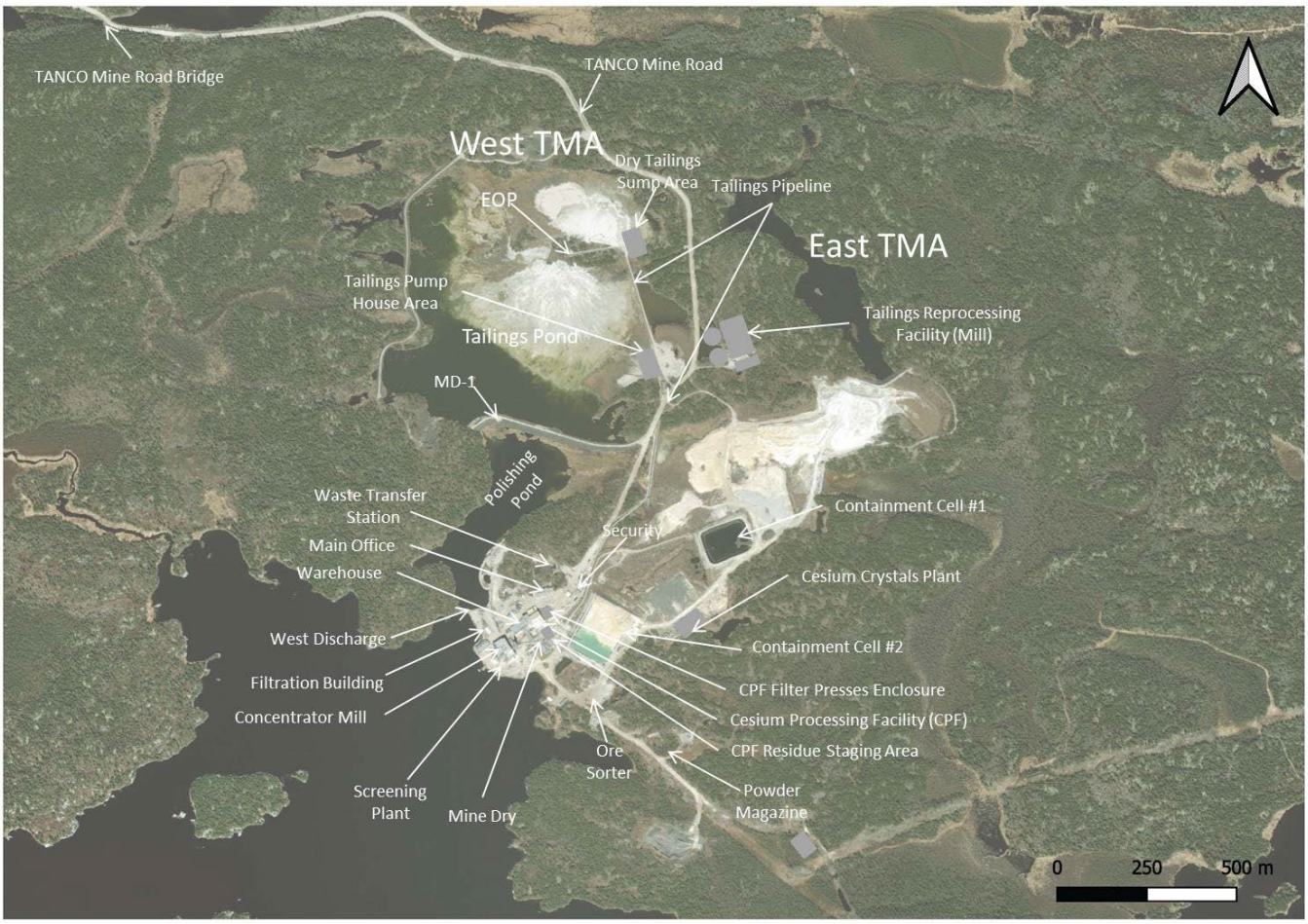
B. If, in the opinion of the director, the licensee has exceeded or is exceeding or has or is failing to meet the specifications, limits, terms, or conditions set out in this licence, the director may, temporarily or permanently, revoke this licence.

C. If, in the opinion of the director, new evidence warrants a change in the specifications, limits, terms or conditions set out in this licence, the director may require the filing of a new proposal pursuant to Section 11 of The Environment Act or request that the licensee file a notice of alteration.

Original Signed By
Agnes Wittmann
Director
The Environment Act

FIGURE 1 TO ENVIRONMENT ACT LICENCE NO. 973 R

Tanco Mine Site Map



Tantalum Mining Corp. of Canada Ltd.
Sinomine Resource Group Co., Ltd.

Tantalum Mining Corporation of Canada
Bernic Lake Mine

SCHEDULE "A" TO ENVIRONMENT ACT LICENCE NO. 973 R

Air Emission Sampling and Analysis Pursuant to Clause 47

1. The licensee shall, upon written request by the director, provide and maintain a stack or stacks including all necessary sampling facilities for the sampling of air emissions at the development. The stack or stacks shall be provided:
   a) at a location(s) and within a time frame satisfactory to the director; and
   b) to the specifications and in accordance with the most recent version of Manitoba Conservation and Climate Guideline, Guideline for Stack Sampling Facilities, unless otherwise approved by the director.

2. The licensee, upon a written request from the director, shall submit a detailed plan for any area of the development which is acceptable to and approved by the director, for the sampling and analysis of potential air pollutants, released as stationary point and fugitive emissions, including any compounds determined by the director. The plan shall identify the rationale for the sampling, the ways and means by which the sampling program will be implemented including any special measures or methods which would be necessitated by influencing factors such as unfavourable weather conditions, the need for large or additional sample volumes, the need for multiple sampling runs, the methods used for the sampling and the analysis for each compound, the detection level to be attained, a comprehensive QA/QC program, and other items as may be identified by the director.

3. The licensee shall perform all stack sampling in accordance with the most recent version of Manitoba Conservation and Climate Report No. 96-07, Interim Stack Sampling Performance Protocol, unless otherwise approved by the director.

4. The licensee shall arrange the scheduling of the sampling program submitted pursuant to clause 2 of this schedule such that a representative of Manitoba Environment and Climate Change could be available to monitor and audit the implementation of the sampling program.

5. The licensee shall complete the sampling of emissions according to the approved plan submitted pursuant to clause 2 of this schedule, within a timeframe to be determined by the director.

6. The licensee shall submit a report, for the approval of the director, of the completed sampling and analysis plan approved pursuant to clause 2 of this schedule, within 90 days of the receipt of the analytical results of that sampling plan. The report shall contain at minimum:
   a) the raw data collected;
   b) calculation of emission rates for all parameters;
   c) a discussion of the sampling and analytical portions of the program including any anomalies of sampling and analysis; and
   d) a discussion of the significance of the data gathered with specific attention to:
      i) the significance for potential acute and chronic impacts to health or environment from exposure to concentrations of the compounds detected;
      ii) the need for risk assessment of the impact of emissions;
      iii) the need for the establishment of ambient air monitoring stations;
      iv) the need for dispersion modeling of emissions;
      v) results and conclusions of the QA/QC program; and
      vi) other issues as may be determined by the director.

APPENDIX A TO ENVIRONMENT ACT LICENCE NO. 973 R

Sampling Variables Pursuant to Clauses 61 and 62
These parameters are subject to change by the director

Arsenic
Copper
Lead
Nickel
Zinc
Total Suspended Solids
Un-Ionized Ammonia
pH
Total Ammonia (as Nitrogen)
Total Phosphorus
Temperature

*all concentrations are total values

APPENDIX B TO ENVIRONMENT ACT LICENCE NO. 973 R

Sampling variables pursuant to Clauses 61 and 62
These parameters are subject to change by the director

Parameter	Detection Limit	Units
pH	0.1	pH units
Conductivity	1	µS/cm
Total Carbon	0.5	mg/L
Total Inorganic Carbon	0.5	mg/L
Dissolved Organic Carbon	0.5	mg/L
Nitrate (as N)	0.005	mg/L
Nitrite (as N)	0.001	mg/L
Ammonia-Total (as N)	0.005	mg/L
Kjeldahl Nitrogen-Total	0.05	mg/L
Nitrogen (N)-Total	0.05	mg/L
Phosphorus (P)-Total and Dissolved	0.001	mg/L
Phosphorus (P)-Inorganic	0.001	mg/L
Phosphorus (P)-Reactive	0.001	mg/L
Bicarbonate (HCO3)	1	mg/L
Alkalinity, Total (as CaCO3)	1	mg/L
Carbonate (CO3)	1	mg/L
Hydroxide (OH)	1	mg/L
Chloride (Cl)	0.1	mg/L
Sulfate (SO4)	0.3	mg/L
Total Suspended Solids	1	mg/L
Total Dissolved Solids	3	mg/L
Turbidity	0.1	NTU
Hardness (as CaCPO3) - total and dissolved	0.5	mg/L
Aluminum (Al)-Total	0.003	mg/L
Aluminum (Al)-Dissolved	0.001	mg/L
Antimony (Sb)-Total and Dissolved	0.0001	mg/L
Arsenic (As)-Total and Dissolved	0.0001	mg/L
Barium (Ba)-Total and Dissolved	0.0001	mg/L
Beryllium (Be)-Total and Dissolved	0.00002	mg/L
Bismuth (Bi)-Total and Dissolved	0.00005	mg/L
Boron (B)-Total and Dissolved	0.01	mg/L
Cadmium (Cd)-Total and Dissolved	0.000005	mg/L
Calcium (Ca)-Total	0.01	mg/L

Parameter	Detection Limit	Units
Calcium (Ca)-Dissolved	0.05	mg/L
Cesium (Cs)-Total and Dissolved	0.00001	mg/L
Chromium (Cr)-Total and Dissolved	0.0005	mg/L
Cobalt (Co)-Total and Dissolved	0.0001	mg/L
Copper (Cu)-Total	0.0005	mg/L
Copper (Cu)-Dissolved	0.0002	mg/L
Iron (Fe)-Total and Dissolved	0.01	mg/L
Lead (Pb)-Total and Dissolved	0.00005	mg/L
Lithium (Li)-Total and Dissolved	0.0002	mg/L
Magnesium (Mg)-Total and Dissolved	0.005	mg/L
Manganese (Mn)-Total and Dissolved	0.0001	mg/L
Molybdenum (Mo)-Total and Dissolved	0.00005	mg/L
Nickel (Ni)-Total and Dissolved	0.0005	mg/L
Potassium (K)-Total and Dissolved	0.05	mg/L
Rubidium (Rb)-Total and Dissolved	0.0002	mg/L
Selenium (Se)-Total and Dissolved	0.00005	mg/L
Silicon (Si)-Total	0.1	mg/L
Silicon (Si)-Dissolved	0.05	mg/L
Silver (Ag)-Total and Dissolved	0.00001	mg/L
Sodium (Na)-Total and Dissolved	0.05	mg/L
Strontium (Sr)-Total and Dissolved	0.0002	mg/L
Tellurium (Te)-Total and Dissolved	0.0002	mg/L
Thallium (Tl)-Total and Dissolved	0.00001	mg/L
Thorium (Th)-Total and Dissolved	0.0001	mg/L
Tin (Sn)-Total and Dissolved	0.0001	mg/L
Titanium (Ti)-Total and Dissolved	0.0003	mg/L
Tungsten (W)-Total and Dissolved	0.0001	mg/L

Parameter	Detection Limit	Units
Uranium (U)-Total and Dissolved	0.00001	mg/L
Vanadium (V)-Total and Dissolved	0.0005	mg/L
Zinc (Zn)-Total	0.003	mg/L
Zinc (Zn)-Dissolved	0.001	mg/L
Zirconium (Zr)-Total and Dissolved	0.0002	mg/L
Mercury (Hg)-Total	0.000005	mg/L
Methyl-mercury (MeHg)-Total	0.00000005	mg/L
Fluoride	0.02	mg/L

*It is noted that detection limits may vary due to laboratory capabilities and sample interference. Best achievable detection limits must be attained at all times.