



Conservation and Climate

Environmental Stewardship Division
Environmental Approvals Branch
1007 Century Street, Winnipeg, Manitoba R3H 0W4
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CLIENT FILE NO.: 2834.30

February 20, 2020

Jay Cooper
PO Box 1500
Flin Flon, MB R8A 1N9
Jay.cooper@hudbayminerals.com
204-687-2667

Dear Mr. Cooper:

Enclosed is **Environment Act Licence No. 3320**, issued to **Hudbay Minerals Inc.** for the refurbishment and operation of the New Britannia Mill, a 1500 tonnes per day copper, gold and silver milling and processing facility located in the Town of Snow Lake mining district in northern Manitoba with an above ground pipeline system, approximately 6.8 km in length, consisting of three surface pipelines connecting the New Britannia Mill to the existing Stall Concentrator and the existing Anderson Tailings Management Area, and operation of the existing Birch Lake Tailings Disposal Facility and in accordance with the Proposal filed under The Environment Act on March 5, 2019 and additional information submitted on November 27, 2019.

In addition to the enclosed Licence requirements, please be informed that all other applicable federal, provincial and municipal regulations and by-laws must be complied with. A Notice of Alteration must be filed with the Director for approval prior to any alteration to the Development as licensed.

If you have any questions on this matter, please contact Cristal Huculak, Regional Supervisor, at (204) 627-8248 or cristal.huculak@gov.mb.ca.

Pursuant to Section 27 of The Environment Act, this licensing decision may be appealed by any person who is affected by the issuance of this Licence to the Minister of Conservation and Climate within 30 days of the date of the Licence.

Sincerely,
Original signed by
Shannon Kohler
Director
The Environment Act

- c: Cristal Huculak: Environmental Compliance and Enforcement
Siobhan Burland Ross: Environmental Approvals
Public Registries

NOTE: Confirmation of receipt of this Licence No. 3320 (by the Licensee only) is required by the Director of Environmental Approvals. Please acknowledge receipt by signing in the space below and email a copy of this letter to Jennifer Winsor by March 3, 2020.

On behalf of Hudbay Minerals Inc.

Date

LICENCE

CLIENT NO.: 2834.30

Licence No. / Licence n° 3320

Issue Date / Date de délivrance February 20, 2020

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)

Pursuant to Section 11(1) / Conformément au Paragraphe 11(1)

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

HUBBAY MINERALS INC.; the Licencee

for the refurbishment and operation of the New Britannia Mill, a 1500 tonnes per day copper, gold and silver milling and processing facility located in the Town of Snow Lake mining district in northern Manitoba with an above ground pipeline system, approximately 6.8 km in length, consisting of three surface pipelines connecting the New Britannia Mill to the existing Stall Concentrator and the existing Anderson Tailings Management Area, and operation of the existing Birch Lake Tailings Disposal Facility and in accordance with the Proposal filed under The Environment Act on March 5, 2019 and additional information submitted on November 27, 2019 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 Conservation and Climate 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 CaCO₃ 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 Licencee;

"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;

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

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

"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;

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

"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;

"holding tank" means a watertight receptacle, conforming to the requirements of the latest edition of Canadian Standards Association (Association) Standard B66-10, Prefabricated Septic Tanks and Sewage Holding Tanks, and bearing a valid stamp or mark indicating certification by the Association, designed to retain sewage wastewater, wastewater, greywater or wastewater effluent;

"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;

“Metal and Diamond Mining Effluent Regulations (MDMER)” 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 Licencee 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;

"PM_{2.5}" 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;

"sewage" means human body, toilet, liquid, waterborne culinary, sink or laundry waste;

"SDS" means safety data sheet;

"solid waste" means solid waste as defined in Manitoba Regulation 37/2016, or any future amendments thereto, respecting waste disposal grounds, 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;

"WAD" means weak acid dissociable;

"waste disposal ground" means an area of land designated by a person, municipality, provincial government agency, or crown corporation for the disposal of waste and approved for use in accordance with Manitoba Regulation 37/2016, 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.

This Section of the Licence contains requirements intended to provide guidance to the Licencee in implementing practices to ensure that the environment is maintained in such a manner as to sustain a high quality of life, including social and economic development, recreation and leisure for present and future Manitobans.

Retain Copy of Licence

1. The Licencee 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 Licencee 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 Licencee 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 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 Licencee 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 Client File Number associated with this Licence.

Equipment Breakdown

5. The Licencee 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 Licencee 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.

Future Studies

7. The Licencee shall actively participate in any future watershed and/or aquifer based management study, plan and/or nutrient reduction program, approved by the Director.

Approvals and Permits

8. The Licencee 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.

Safety and Security

9. The Licencee 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.
10. The Licencee shall prepare 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.
11. The Licencee shall implement and continually maintain in current status, an Environmental Management System (EMS) for the Development which is acceptable to the Director.
12. The Licencee shall install and maintain fencing and lockable gates at the Development to control access. The locking gates shall be locked at all times except to allow access to the Development.

Environmental Coordinator

13. The Licencee shall designate an employee, within 60 days of the date of issuance of this Licence, as the Licencee's Environmental Coordinator, whose job description will include assisting the Licencee in complying with the limits, terms and conditions in this Licence and assisting Senior Management of the Licencee 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.

On-Site Wastewater

14. The Licencee shall comply with the provisions of Manitoba Regulation 83/2003 respecting Onsite Wastewater Management Systems Regulation and its amendment or any future amendment thereto.

Compliance

15. The Licencee 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.
16. The Licencee shall submit a Notice of Alteration and obtain Director's approval for proposed changes to the Development as licensed prior to implementing any changes.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

Respecting Construction

17. The Licencee shall notify the designated Environment Officer not less than two weeks prior to beginning of construction activities at the Development. The notification shall include the intended starting date of construction and the name of the contractor responsible for the construction.
18. The Licencee shall restrict construction and operational activities to only such lands to which the Licencee possesses the mineral rights, surface rights or complete ownership, or which the Licencee 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 Licencee.
19. The Licencee shall dispose of non-reusable construction debris and solid waste from the Development at a waste disposal ground operating under the authority of a permit issued pursuant to Manitoba Regulation 37/2016 respecting Waste Management, or any future amendment thereof, or a Licence issued pursuant to The Environment Act.
20. The Licencee shall, during construction of 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.
21. The Licencee shall not locate any petroleum storage tank within 100 metres of the shoreline of any waterway or water body.
22. The Licencee 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.
23. The Licencee 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 Manitoba Regulation 173/2015 respecting Aquatic Invasive Species, or any future amendment thereof.

24. The Licencee shall not remove, destroy or disturb species pursuant to Manitoba Regulation 25/98, respecting Threatened, Endangered and Extirpated Species, or any future amendment thereof, and pursuant to the federal Species at Risk Act.
25. The Licencee shall undertake dust control measures during construction. Water required for dust control during construction shall be obtained from a source other than wastewater treatment facilities.
26. The Licencee shall not undertake construction or maintenance activities in connection with the Development in fish bearing waters or potentially fish bearing waters between April 1 and June 15 of any year, or during periods of high stream flow.
27. The Licencee shall not, during construction, clear, compact, grade or fill any wetlands or native upland habitat, which are not required for the right-of-way of the Development.

Respecting Solid Wastes

28. The Licencee shall not undertake any on-site burning of solid waste.
29. The Licencee shall minimize the generation of domestic solid waste and maximize, wherever possible, the collection and recycling of recyclable wastes generated through the operation of the Development.

Respecting Dangerous Goods or Hazardous Waste

30. The Licencee shall not receive at the Development any hazardous waste from any generator off site of the Development.
31. The Licencee shall not release dangerous goods or hazardous wastes into the wastewater collection system.
32. The Licencee 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 General Operation

33. The Licencee shall implement a high standard of equipment maintenance and good housekeeping and operational practices with respect to the Development, at all times.

34. The Licencee shall reclaim and recycle as much spent water and process water as practicable to supply the process water demands of the milling and processing facility.
35. The Licencee shall not direct pollutants into any surface drainage route leading off the property of the Development or into the local groundwater.
36. The Licencee shall implement appropriate measures to reduce noise levels from operations, equipment and vehicles at the Development, at all times.

Respecting Waste Rock

37. The Licencee 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.
38. The Licencee shall not, other than on the ore pad, temporarily store waste rock at the development site.
39. The Licencee 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 Licencee in the course of constructing or altering this Development be determined to be contaminated soil or acid generating rock/material.

Respecting Traffic

40. The Licencee shall prepare and submit for approval by Manitoba Infrastructure, prior to operation of the Development, a Traffic Impact Study prepared by a qualified engineer to determine what impact the traffic generated by the Development will have on the traffic operations at this location, and what, if any, on highway improvements will be required.

Respecting Chemical Storage and Spill Containment

41. The Licencee shall comply with all the applicable requirements of:
 - a) Manitoba Regulation 188/2001, or any future amendment thereof, respecting the Storage and Handling of Petroleum Products and Allied Products;
 - 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.
42. The Licencee 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 National Fire Code of Canada (2010), 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.

43. The Licencee shall install and maintain spill recovery equipment at the Development at all times.

Respecting Wastewater

44. The Licencee shall operate the Development in such a manner that:

- a) all sewage is directed toward the onsite holding tanks; and
- b) all wastewater from the onsite holding tanks is removed regularly by a Licenced hauler to a wastewater treatment facility operated under the authority of a Licence issued under The Environment Act.

45. The Licencee shall not release any process wastewater from the Development to the environment.

Respecting Air Emissions Limits

46. The Licencee shall 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.

47. The Licencee shall limit fugitive emissions from any source within the mine site such that:

- a) distinct plume forming fugitive emissions do not exceed an opacity of 5%; and
- b) non plume forming fugitive emissions are not visible at any time; when measured or viewed in the atmosphere at any point beyond the mine site in an area zoned commercial or residential.

48. The Licencee 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.
49. The Licencee 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 or mitigate a noise nuisance.

Respecting Air Pollution Control Equipment

50. The Licencee shall direct all air streams that 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).
51. The Licencee shall prepare, within 90 days prior to the start of 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's operational and maintenance manual.
52. The Licencee 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 51;
 - 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:
 - a. are in violation of any other applicable legal instrument including an Act, Regulation or by-law; or
 - b. otherwise create a significant negative environmental or health impact in the affected area.
53. The Licencee 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 by the Environmental Coordinator.

54. The Licencee 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 Emission Sampling and Analysis

55. The Licencee, upon written request from the Director, shall provide 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.

56. The Licencee, upon a written request from the Director, shall submit a detailed plan 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.

57. The Licencee 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.

58. The Licencee shall arrange the scheduling of the sampling plan, approved pursuant to Clause 56 of this Licence, such that a representative of Manitoba Conservation and Climate is available to monitor and audit the implementation of the sampling program.

59. The Licencee shall complete the sampling of emissions according to the approved plan submitted pursuant to Clause 56 of this Licence, within a timeframe to be determined by the Director.

60. The Licencee shall submit a report, for the approval of the Director, of the completed sampling and analysis plan approved pursuant to Clause 56 of this Licence, within 60 days of the receipt of the analytical results of that sampling plan. The report shall contain 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:
 - a. the significance for potential acute and chronic impacts to health or environment from exposure to concentrations of the compounds detected;
 - b. the need for risk assessment of the impact of emissions;
 - c. the need for the establishment of ambient air monitoring stations;
 - d. the need for dispersion modeling of emissions;
 - e. results and conclusions of the QA/QC program; and
 - f. other issues as may be determined by the Director.

Respecting Birch Lake Tailings Disposal Facility

- 61. The Licencee shall not release any effluent into the environment from the Birch Lake Tailings Disposal Facility except through final discharge points identified in accordance with the Metal and Diamond Mining Effluent Regulations.
- 62. The Licencee shall manage the rate and duration of release of effluent from the Birch Lake Tailings Disposal Facility in such a manner that any release of effluent via the emergency spillway near the Birch Lake Outlet Embankment occurs only under the conditions of a precipitation event exceeding the design 100 year precipitation even of 83.82 millimetres (3.3 inches) of rainfall over a 24-hour period.
- 63. The Licencee shall ensure that:
 - a) the condition of all the embankments used to contain any waste solids and mine water within the Birch Lake Tailings Disposal Facility are inspected and maintained to the satisfaction of the Director; and
 - b) any condition of deteriorated structural integrity or excessive seepage losses associated with the embankments are investigated and corrected in such a manner and within such a time frame as is satisfactory to the Director.
- 64. The Licencee shall not discharge any effluent from the final discharge points if:
 - a) the concentration of any of the following pollutants in the undiluted effluent is in excess of the corresponding maximum allowable concentration shown for those categories listed under Columns I, II, and III of the following table:

<u>Column I</u>	<u>Column II</u>	<u>Column III</u>
Maximum monthly arithmetic mean concentration	Maximum concentration in a composite sample	Maximum concentration in a grab sample

Pollutants

Total arsenic	0.5 mg/L	0.75 mg/L	1.0 mg/L
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Total copper	0.3 mg/L	0.45 mg/L	0.6 mg/L
Total lead	0.2 mg/L	0.30 mg/L	0.4 mg/L
Total nickel	0.5 mg/L	0.75 mg/L	1.0 mg/L
Total zinc	0.5 mg/L	0.75 mg/L	1.0 mg/L
Total suspended solids	25.0 mg/L	37.5 mg/L	50.0 mg/L
Total cyanide (as CN)	1.0 mg/L	1.5 mg/L	2.0 mg/L
WAD cyanide (as CN)	0.1 mg/L	0.15 mg/L	0.2 mg/L

or,

- b) the pH of the undiluted effluent is less than 6.0 pH units or greater than 9.5 pH units.

65. The Licencee shall not discharge any effluent from the final discharge points if the quality of the undiluted effluent is such that it is acutely lethal to fish, as determined by means of a 96-hour static acute lethality test which results in mortality to more than 50 percent of the test fish exposed to 100 percent effluent, with the test carried out in accordance with the protocol outlined in Environment Canada's "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout, Report No. EPS 1/RM/13 July 1990, or any future amendment thereto.

MONITORING AND REPORTING

Respecting Ambient Air Quality Monitoring

66. The Licencee 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.

67. The Licencee shall:

- a) implement the program approved pursuant to Clause 66 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 66 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 Water Quality Monitoring

68. The Licencee shall:

- a) prepare a plan for effluent quality monitoring at the Development prior to discharge to the Anderson Tailings Management Area;
- b) submit the effluent quality monitoring plan to the Director for approval;
- c) implement the approved effluent quality monitoring plan as approved by the Director; and
- d) propose amendments to the approved effluent quality monitoring plan to the Director as necessary for approval.

Environmental Effects Monitoring

69. The Licencee shall:

- a) carry out the environmental effects monitoring program, as required by the federal Metal and Diamond Mining Effluent Regulations, in consultation with the Water Science and Watershed Management Branch of Manitoba Agriculture and Resource Development, 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 Licencee to Environment Canada in accordance with the federal Metal and Diamond Mining Effluent Regulations, at the same time as each such report is submitted to the federal authorization officer.

Annual Reporting

70. The Licencee shall submit an annual report to the Director which summarizes the following:

- a) the total volume (expressed as cubic metres) of wastewater effluent pumped to the Anderson Tailings Management Area;
- b) the monthly average and peak milling production rates (expressed as tonnes/day) at the Development;
- c) site operational activities directly related to this Licence.

Respecting Closure

71. The Licencee shall:

- a) provide the Director with:
 - i. written notice six months in advance of any imminent permanent closure of this Development; or

- ii. provide the Director with 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 Manitoba Regulation 67/99, or any future amendment thereto, issued under The Mines and Minerals Act, respecting closure plans for mining developments, particularly in regards to addressing environmental issues including, but not necessarily limited to:
 - i. the decommissioning of the underground workings and surface infrastructure associated with the Development;
 - ii. the decommissioning of access roads and stream crossings used to access the mine site;
 - iii. the containment, control or treatment of pollutants originating from the mine site of the Development;
 - iv. the rehabilitation of the mine site area disturbed by the Development;
 - v. the restoration or replacement of fish habitats disturbed, adversely affected or lost as a result of the Development; and
 - vi. the strategy, scope, frequency and duration of post-closure environmental monitoring activities at the mine site; where applicable; and
- c) in the course of progressive rehabilitation, as well as upon permanent or temporary closure of this Development, implement the environmentally related aspects of the Closure Plan approved pursuant to Manitoba Regulation 67/99, or any future amendment thereto, to the satisfaction of the Director of Mines.

Record Drawings

72. The Licencee shall:

- a) prepare "record drawings" for the development and shall label the drawings "Record Drawings"; and
- b) provide to the Director, within six months from the completion of construction of the development, two electronic copies of the "record drawings".

REVIEW AND REVOCATION

- A. This Environment Act Licence replaces Environment Act Licence No. 1878 S3 RR which is hereby rescinded.
- B. If, in the opinion of the Director, the Licencee 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 of this Licence, the Director may require the filing of a new proposal pursuant to Section 11 of The Environment Act.

Original signed by

Shannon Kohler
Director
The Environment Act