



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
Department of Municipal Affairs and Environment

CERTIFICATE OF APPROVAL

Pursuant to the Environmental Protection Act, SNL 2002 c E-14.2 Section 83

Issue Date: *January 22, 2018*

Approval No. AA18-015646

Expiration: *January 22, 2023*

File No. 732.425

Proponent: **Tacora Resources Inc.**
102 NE Third Street
Suite 120
Grand Rapids, MN 55744

Attention: Michael Twite - Environment & Government Affairs Manager

Re: **Tacora Mine**

Approval is hereby given for the operation of an iron ore mine and mill at Wabush, including: pit dewatering; processing ore to concentrate; and disposal of tailings at Flora Lake.

This Certificate of Approval does not release the proponent from the obligation to obtain appropriate approvals from other concerned provincial, federal and municipal agencies. Nothing in this Certificate of Approval negates any regulatory requirement placed on the proponent. Where there is a conflict between conditions in this Certificate of Approval and a regulation, the condition in the regulation shall take precedence. Approval from the Department of Municipal Affairs and Environment shall be obtained prior to any significant change in the design, construction, installation, or operation of the Tacora Mine, including any future expansion of the Tacora Mine. This Certificate of Approval shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the proponent without obtaining prior approval from the Minister.

This Certificate of Approval is subject to the terms and conditions as contained therein, as may be revised from time to time by the Department. Failure to comply with any of the terms and conditions may render this Certificate of Approval null and void, may require the proponent to cease all activities associated with this Certificate of Approval, may place the proponent and its agent(s) in violation of the *Environmental Protection Act*, and will make the proponent responsible for taking such remedial measures as may be prescribed by the Department. The Department reserves the right to add, delete or modify conditions to correct errors in the Certificate of Approval or to address significant environmental or health concerns.

Darla Pitt
For MINISTER

TERMS AND CONDITIONS FOR APPROVAL No. AA18-015646

January 22, 2018

General

1. This Approval is for the operation of an iron ore mine and mill at Wabush, including: pit dewatering, processing ore to concentrate; and disposal of tailings at Flora Lake.
2. Any inquiries concerning this Approval shall be directed to the St. John's office of the Pollution Prevention Division (telephone: (709) 729-2556; or facsimile: (709) 729-6969).
3. In this Certificate of Approval:
 - **accredited** means the formal recognition of the competence of a laboratory to carry out specific functions;
 - **acutely lethal** means that the effluent at 100% concentration kills more than 50% of the rainbow trout subjected to it during a 96-hour period, when tested in accordance with the ALT;
 - **acid mine drainage** means any flow or drainage of water having a pH of less than 5.5 from areas affected by mining activities;
 - **ALT (acute lethality test)** means a test conducted as per Environment and Climate Change Canada's Environmental Protection Service reference method EPS/1/RM-13 Section 5 or 6;
 - **Department** means the Department of Municipal Affairs and Environment or its successors;
 - **Director** means the Director of the Pollution Prevention Division of the Department;
 - **discharge criteria** means the maximum allowable levels for the parameters listed in Table 3;
 - **DONCE** means Deposit Out of the Normal Course of Events;
 - **EDC** means Effluent Discharge Criteria as outlined in Table 5;
 - **EDMS** means environmental data management system;
 - **GAP** means *Storage and Handling of Gasoline and Associated Products Regulations, 2003*;
 - **grab sample** means a quantity of undiluted sample collected at any given time. In this Approval it refers to waste oil and effluent;
 - **hazardous waste** means a product, substance or organism that is intended for disposal or recycling, including storage prior to disposal or recycling, and that:

- (a) is listed in Schedule III of the *Export and Import of Hazardous Waste Regulations under the Canadian Environmental Protection Act, 1999*;
 - (b) is included in any of Classes 2 to 6, and 8 and 9 of the *Transportation of Dangerous Goods Regulations* under the *Transportation of Dangerous Goods Act, 1992*; or
 - (c) exhibits a hazard classification of a gas, a flammable liquid, an oxidizer, or a substance that is dangerously reactive, toxic, infectious, corrosive or environmentally hazardous;
- **licensed** means has a Certificate of Approval issued by the Minister to conduct an activity;
 - **malfunction** means any sudden, infrequent and not reasonably preventable failure of air pollution control equipment, wastewater treatment equipment, process equipment, or a process to operate in a normal or usual manner. Failures, caused in part by poor maintenance or careless operation, are not malfunctions;
 - **Minister** means the Minister of the Department;
 - **Plan** means the specific plan as identified in the section of this Approval within which it is used. For example, in the *Waste Management Plan* section it refers to the Waste Management Plan;
 - **PM_{2.5}** means particulate matter with a diameter of 2.5 µm or less;
 - **QA/QC** means Quality Assurance/Quality Control;
 - **register(ed)**, in the context of storage tanks, means that information regarding the storage tank system has been submitted to a Service NL office and a registration number has been assigned to the storage tank system.
 - **regulated substance** means a substance subject to discharge limit(s) under the *Environmental Control Water and Sewage Regulations, 2003*;
 - **SO₂** means sulfur dioxide;
 - **SOP** means Standard Operating Procedure;
 - **spill or spillage** means a loss of gasoline or associated product in excess of 70 litres from a storage tank system, pipeline, tank vessel or vehicle, or an uncontrolled release of any volume of a regulated substance onto or into soil or a body of water;
 - **storage tank system** means a tank and all vent, fill and withdrawal piping associated with it installed in a fixed location and includes a temporary arrangement;
 - **Tacora** means Tacora Resources Inc.
 - **TDS** means total dissolved solids;
 - **TIA** means Tailings Impoundment Area;

- **TIE** means Toxicity Identification Evaluation;
- **TOC** means total organic carbon;
- **TOHs (as chlorine)** means total organic halogens (as chlorine);
- **toxic pass** means a fish mortality rate of no more than 50% during the ALT;
- **TPH** means total petroleum hydrocarbons, as measured by the Atlantic PIRI method;
- **TPM** means total particulate matter with diameters less than 100µm;
- **TSS** means total suspended solids;
- **used lubricating oil** means lubricating oil that as a result of its use, storage or handling, is altered so that it is no longer suitable for its intended purpose but is suitable for refining or other permitted uses;
- **used oil** means a used lubricating oil or waste oil; and
- **waste oil** means an oil that as a result of contamination by any means or by its use, is altered so that it is no longer suitable for its intended purpose.

4. All necessary measures shall be taken to ensure compliance with all applicable acts, regulations, policies and guidelines, including the following, or their successors:

- *Environmental Protection Act;*
- *Water Resources Act;*
- *Air Pollution Control Regulations, 2004;*
- *Environmental Control Water and Sewage Regulations, 2003;*
- *Halocarbon Regulations;*
- *Storage and Handling of Gasoline and Associated Products Regulations, 2003;*
- *Used Oil Control Regulations;*
- *Heating Oil Storage Tank System Regulations, 2003;*
- *Storage of PCB Waste Regulations, 2003;*
- *Ambient Air Monitoring Guidance Document;*
- *Sampling of Water and Wastewater - Industrial Effluent Applications Guidance Document;*
- *Accredited Laboratory Policy;*
- *Precipitation Drainage of Dyke Areas Guidance Document;* and
- *Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Above Ground Storage Tanks.*

This Approval provides terms and conditions to satisfy various requirements of the above listed acts, regulations, policies and guidelines. If it appears that any of the pertinent requirements of these acts, regulations, policies and guidelines are not being met, then a further review of the works shall be conducted, and suitable pollution control measures may be required by the Minister.

5. All reasonable efforts shall be taken to minimize the impact of the operation on the environment. Such efforts include:

- minimizing the area disturbed by the operation,
 - minimizing air or water pollution,
 - finding alternative uses, acceptable to the Director, for waste or rejected materials,
 - removing equipment or structures when they no longer have further use, and
 - considering the requirement for the eventual rehabilitation of disturbed areas when planning the development of any area on the facility property.
6. Tacora shall provide to the Department, within a reasonable time, any information, records, reports or access to data requested or specified by the Department.
7. Tacora shall keep all records or other documents required by this Approval at the Tacora Mine for a period of not less than three (3) years, beginning the day they were made. These records shall be made available for review by officials of the Department or Service NL when requested.
8. Should Tacora wish to deviate in any way from the terms and conditions of this Certificate of Approval, a written request detailing the proposed deviation shall be made to the Minister. Tacora shall comply with the most current terms and conditions until the Minister has authorized otherwise. In the case of meeting a deadline requirement, the request shall be made at least 60 days ahead of the applicable date as specified in this Approval or elsewhere by the Department.

Construction

9. Any work that must be performed in a body of water below the high water mark shall be carried out during a period of low water levels, unless otherwise permitted in writing by the Department.
10. All construction operations shall be carried out in a manner that minimizes damage to land, vegetation, and watercourses, and which prevents pollution of bodies of water in excess of applicable regulatory limits.
11. The use of heavy equipment shall be confined to dry stable areas and shall not be carried out in streams or bodies of water, unless otherwise permitted in writing by the Department.
12. All vehicles and equipment shall be in good repair, and shall be free of leaks of oil or other harmful substances that could impair water quality.
13. During the construction of concrete components, formwork shall be properly constructed to prevent any fresh concrete from entering a body of water. Dumping of concrete or washing of tools and equipment in any body of water is prohibited.
14. Waste hardened concrete shall not be disposed as unsuitable material at the project site. Waste hardened concrete shall be put to beneficial use on site as fill material, or it shall be sent to an approved waste disposal site.
15. All areas affected by this project shall be restored to a state that resembles local natural conditions. Further remedial measures to mitigate environmental impacts on water resources can and will be specified, if necessary in the opinion of this Department.

16. Prior written permission is required from the Department for all work that takes place in a body of water, including but not limited to bridges, culverts, fording, stream modifications, infilling and dredging.

Waste Management

17. All waste generated at the facility is subject to compliance with the ***Environmental Protection Act***. All non-industrial waste shall be stored in a manner acceptable to the Department and, on at least a weekly basis, be disposed of:

- at an authorized waste disposal site, with the permission of the owner/operator of the site; or
- by some other means acceptable to the Department.

If required, industrial waste shall be disposed of by a licensed operator.

18. Tacora shall ensure that all volatile chemical and solvent wastes, if they cannot be reused, are placed in suitable covered containers for disposal in a manner acceptable to the Department. Disposal of liquid wastes at waste disposal sites in the province is not permitted.

19. Disposal of hazardous waste in a municipal or regional waste disposal site in this Province is prohibited. Transporters of hazardous waste shall have an approval issued by the Minister. Those generating hazardous waste shall have a waste generator's number issued by the Director and shall also complete the required information outlined in the Waste Manifest Form.

Waste Management Plan

20. Tacora shall submit a Waste Management Plan for their Tacora Mine. With the goal of minimizing adverse effects on the environment, the Plan shall: be comprehensive, including all operations within the Tacora Mine; identify the types of waste materials (i.e. boiler ash, sewage, empty chemical packaging, etc.); provide general direction in dealing with the handling, storage, transport, treatment and disposal of waste materials; and incorporate the basic waste management principles of reduce, reuse, recycle, recover and residual disposal. An outline of the Plan shall be submitted to the Director for review by **May 22, 2018**. The outline shall include a schedule of dates for preparation and implementation for each section of the Plan. The completed Plan shall then be submitted to the Director for review by **September 22, 2018**. Every year the Plan shall be reviewed and revised as necessary, accounting for expanding or alteration of activities. All proposed revisions shall be submitted to the Director for review. The Department will acknowledge receipt of the Plan and/or revisions, and shall provide any review comments within a reasonable time frame.

Acid Generating Waste Rock

21. Only non-acid generating waste rock shall be reused on the surface. If waste rock is identified as potentially acid generating or metal leaching, an appropriate waste rock management program shall be developed to handle, store, and appropriately dispose of the material.

22. This identification shall be in accordance with MEND Report 1.20.1, *Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials*.

Open Burning

23. Materials listed in Table 1 shall not be burned in open fires.

Table 1 - Material Not Approved for Open Burning	
tires	manure
plastics	rubber
treated lumber	tar paper
asphalt and asphalt products	railway ties
drywall	paint and paint products
demolition waste	fuel and lubricant containers
hazardous waste	used oil
biomedical waste	animal cadavers
domestic waste	hazardous substances
trash, garbage, or other waste from commercial, industrial or municipal operations	materials disposed of as part of the removal or decontamination of equipment, buildings or other structures

24. The Department shall be notified prior to the burning of any materials not listed in Table 1.

Noise

25. Efforts shall be made to minimize and control noise resulting from the Tacora Mine's operational activities. All vehicles operating within the facility shall have exhaust and muffling devices in good working order.

Dust Suppression

26. Tacora shall control dusting resulting from construction and operational activities at the site. Use of dust suppressants other than water or calcium chloride shall require approval of the Director. Tacora are encouraged to use best management practices when applying calcium chloride or any other approved dust suppressant.
27. Tacora shall continue with the progressive rehabilitation work in the Rehabilitation and Closure Plan (as amended) that has been approved by the Department of Natural Resources.

Spill Prevention & Containment

28. Areas in which chemicals are used or stored shall have spill containment systems constructed with impermeable floors, walls, dykes or curbs as applicable and be configured, maintained, inspected and repaired as follows:
- they shall not discharge to the environment;
 - they shall have an effective secondary containment capacity of at least 110% of the chemical storage tank capacity, in the case of a single storage container;
 - if there is more than one storage container, the spill containment system shall be able to retain no less than 110% of the capacity of the largest container or 100 % of the capacity of the largest container plus 10% of the aggregate capacity of all additional containers, whichever is greater;
 - they shall be kept clear of material that may compromise the containment capacity;
 - they may include a floor drain system provided that the floor drains, and the place or device to which they drain, are configured in such a manner that the required effective secondary containment capacity is maintained;
 - every year they shall be visually inspected for their liquid containing integrity, and repairs shall be made when required; and
 - once every ten years, spill containment systems shall be inspected, by a means other than visual inspection, for their liquid containing integrity, and repairs shall be made when required.
29. All on site storage of petroleum shall comply with the ***Storage and Handling of Gasoline and Associated Products Regulations, 2003***, or its successor. Storage tank systems shall be registered with Service NL. All aboveground storage tanks shall be clearly and visibly labelled with their GAP registration numbers.
30. Where applicable, all tanks and fuel delivery systems shall be inspected to appropriate American Petroleum Institute or Underwriters' Laboratories of Canada standards, or any other standards acceptable to this Department. The required frequency of inspections may be changed at the discretion of the Director.
31. An inventory of all petroleum and chemical storage tanks shall be submitted to the Director for review by ***July 22, 2018***. This inventory shall include the following:
- site plan showing tank location,
 - registration number (where applicable),
 - identification number,
 - material stored,
 - capacity,
 - annual throughput,
 - tank material,
 - tank type,
 - tank diameter,
 - tank height,
 - tank colour,
 - roof type,
 - year of manufacture,
 - date of installation,
 - date of last inspection,
 - failure history,
 - maintenance history,

- dyke capacity, and
- date of next planned inspection.

Every two (2) years, an update of any changes to the inventory shall be submitted to the Director.

32. Refuelling and maintenance of vehicles and equipment shall, whenever possible, be undertaken on a prepared impermeable surface with an oil containment or collection system. When this is not possible, due care shall be taken to prevent spillage on the ground and to the surrounding environment, particularly streams and other water bodies. The Contingency Plan for fuel storage shall detail the specific response actions in the event of a spill from refuelling or maintenance activities.

Contingency Plan

33. A Contingency Plan for the operation of Tacora Mine shall be submitted to the Director for review by ***July 22, 2018***. The Plan shall clearly describe the actions to be taken in the event of a spill of a toxic or hazardous material. It shall include, as a minimum: notification and alerting procedures; duties and responsibilities of the “on-scene commander” and other involved staff; spill control and clean-up procedures; restoration of the spill site; information on disposal of contaminants; and resource inventory. Copies of the Plan shall be placed in convenient areas throughout the facility so that employees can easily refer to it when needed. Tacora shall ensure that all employees are aware of the Plan and understand the procedures and the reporting protocol to be followed in the event of an emergency. An annual response exercise is recommended for response personnel. Every year, as a minimum, the Plan shall be reviewed and revised as necessary. Any proposed significant revisions shall be submitted to the Director for review. Changes which are not considered significant include minor variations in equipment or personnel characteristics which do not effect implementation of the Plan.

34. Every time Tacora implements the Contingency Plan, information shall be recorded for future reference. This will assist in reviewing and updating the Plan. The record is to consist of all incidents with environmental implications, and include such details as:

- date;
- time of day;
- type of incident (i.e. liquid spill, gas leak, granular chemical spill, equipment malfunction, etc.);
- actions taken;
- problems encountered; and
- other relevant information that would aid in later review of the Plan performance.

Each incident report shall be submitted to the Director as per the ***Reporting*** section.

Rehabilitation & Closure Plan

35. Tacora shall satisfy all the rehabilitation and closure planning and financial assurance requirements of the Mining Act for the Tacora Mine.

36. The Rehabilitation and Closure Plan (***June 2017 or as amended***) shall be reviewed annually by Tacora and revised as necessary. All revisions to the Plan as approved by the Department of Natural Resources shall be submitted to the Director.

Used Oil

37. Used oil shall be retained in an approved tank or closed container. If it is not blended with Bunker C and combusted then it must be disposed of by a company licensed for handling and disposal of used oil products.

Fuel & Consumption

38. Prior to delivery, Tacora shall obtain a Bunker C certificate-of-analysis per shipment for the constituents listed in Table 2.
39. Prior to blending a batch of used oil with Bunker C, Tacora shall obtain a used oil certificate-of-analysis per batch for the constituents listed in Table 2.

Table 2 – Fuel Assay Parameters	
A.P.I. Gravity @ 60 °F	
Density (kg/m ³ @ 15°C)	
Flash Point	
Pour Point	
Sulfur % by weight	
BTU's per US Gallon	
Ash % by weight	
Sediment % by weight	
Water % by volume	
Polychlorinated Biphenyls (PCBs)	
Total Organic Halogens (as chlorine)	
Complete metal scan	

40. Only used oil from the Tacora Mine shall be blended with Bunker C for combustion. Furthermore, the used oil batch's certificate-of-analysis shall indicate that there are no exceedences of the parameters as indicated in Table 3, otherwise, the used oil is deemed unsuitable for combustion it shall be disposed by a licenced used oil collector.

Table 3 – Combustible Used Oil

CONTAMINANT	CONCENTRATION (mg/kg)
Polychlorinated Biphenyls (PCBs)	5
Total Organic Halogens (as chlorine)	1000
Cadmium	2
Chromium	10
Lead	100
Ash	9,000
Sulphur	5,000

41. The maximum volume of used oil (restricted to on-site sources) added to the Bunker C bulk storage tanks shall be less than 10% of the Bunker C combusted during the previous year. This percentage shall not be increased until Tacora has requested, in writing, an increase and written permission from the Director has been given. Additional conditions may be required for such an increase.
42. Tacora shall maintain and submit to the Director on a monthly basis the following:
 - supplier, date, volume and of Bunker C shipment;
 - daily volume of Bunker C, diesel fuel and used oil combusted;
 - percentage of used oil substituted for Bunker C;
 - volume of used oil deemed unsuitable for combustion;
 - certificate-of-analysis for each shipment of Bunker C, and batch of used oil to be combusted; and
 - name of the laboratory where the assays were performed.When necessary, best estimates may be used. These shall be submitted as per the *Reporting* section.
43. In the event that problems develop with respect to used oil analysis or combustion, the Director may give Tacora written notice prohibiting further combustion of used oil. Tacora shall be capable of ceasing the combustion of used oil upon notification of the Director.
44. When required by Service NL, Tacora shall notify them that the used oil suitable for combustion is being mixed with Bunker C. The written notification shall include the tank identification number(s), tank location, and the anticipated maximum percentage used oil content. A copy of the notification shall be provided to the Director.
45. Tacora is permitted to accept and burn alternative fuel only with the written approval of the Department.

Effluent Monitoring & Discharge

46. Tacora shall perform an Effluent Monitoring Program as per Table 4. Refer to Table 5 for the Effluent Discharge Criteria (EDC). The applicable limits for the effluent discharge are listed in Table 5. Analytical results shall be submitted as per the **Reporting** section.

Table 4: Effluent Monitoring Program			
EDMS Location Code	Location	Parameters	Frequency
00306	Tailings Line Emergency Dump Basin #1 (Settling Basin)	pH and TSS	Weekly (at least 24 hours apart)
		ALT and TPH	Monthly (at least 15 days apart)
		EDC (except ALT)	Weekly (at least 24 hours apart)
00307	East Pit 2 Dewatering (Sylvio Settling Basin)	pH and TSS	Weekly (at least 24 hours apart)
		ALT and TPH	Monthly (at least 15 days apart)
		EDC (except ALT)	Weekly (at least 24 hours apart)
00308	West Pit Dewatering (Settling Basin)	pH and TSS	Weekly (at least 24 hours apart)
		ALT and TPH	Monthly (at least 15 days apart)
		EDC (except ALT)	Weekly (at least 24 hours apart)
00309	Knoll Lake Discharge (Settling Basin)	pH and TSS	Weekly (at least 24 hours apart)
		ALT and TPH	Monthly (at least 15 days apart)
		EDC(except ALT)	Weekly (at least 24 hours apart)
00310	Flora Lake Discharge	pH and TSS	Weekly (at least 24 hours apart)
		ALT and TPH	Monthly (at least 15 days apart)
		EDC(except ALT)	Weekly (at least 24 hours apart)

47. Refer to Table 5 for the Effluent Discharge Criteria (EDC).

Table 5: Effluent Discharge Criteria			
Parameter	Maximum Authorized Monthly Mean Concentration	Maximum Authorized Concentration in a Composite Sample	Maximum Authorized Concentration in a Grab Sample
Arsenic	0.50 mg/L	0.75 mg/L	1.00 mg/L
Copper	0.30 mg/L	0.45 mg/L	0.60 mg/L
Lead	0.20 mg/L	0.30 mg/L	0.40 mg/L
Nickel	0.50 mg/L	0.75 mg/L	1.00 mg/L
Zinc	0.50 mg/L	0.75 mg/L	1.00 mg/L
Total Suspended Solids	15.00 mg/L	22.50 mg/L	30.00 mg/L
Radium 226	0.37 Bq/L	0.74 Bq/L	1.11 Bq/L
Acute Lethality	Toxic Pass		
pH	5.5 to 9 pH units		

48. Tacora may reduce the frequency of testing for a parameter that is set out in the EDC with the exception of pH, TSS, ALT and Radium 226 to not less than once in each calendar quarter if that parameter's monthly mean concentration in the effluent is

- less than 10 percent of the maximum authorized monthly mean concentration for the 12 consecutive months immediately preceding the most recent test. Tacora shall notify the Director in writing, at least 30 days in advance of a reduction in the frequency of testing.
49. Tacora may reduce the frequency of testing for Radium 226 to not less than once in each calendar quarter if that substance's concentration in the effluent is less than 0.037Bq/L in 10 consecutive tests. Tacora shall notify the Director in writing, at least 30 days in advance of a reduction in the frequency of testing.
50. Tacora shall increase the frequency of testing to the originally prescribed frequency for a parameter that is set out in the EDC with the exception of pH, TSS and ALT, if the parameter's monthly mean concentration is equal to or greater than 10 percent of the maximum authorized monthly mean concentration.
51. Tacora may reduce the frequency of conducting ALT's to once in each calendar quarter if the effluent is determined not to be acutely lethal over a period of 12 consecutive months. Tacora shall notify the Director in writing, at least 30 days in advance of a reduction in the frequency of testing.
52. If a sample is determined to be acutely lethal, an aliquot of the failing sample shall be analyzed for the parameters outlined in Table 6 without delay.
53. If a sample is determined to be acutely lethal, Tacora shall collect a grab sample from the final discharge point of the failing site and conduct an ALT in accordance with Section 6 of the Reference Method. Samples shall be collected twice per month, not less than 7 days apart, and an ALT shall be conducted on each sample, until it is determined that the effluent is not acutely lethal for three consecutive tests. Following the third consecutive non-acutely lethal test, Tacora shall conduct ALT's as per the original prescribed frequency outlined in Table 4.
54. If effluent is determined to be acutely lethal for three consecutive ALTs, Tacora shall implement a Toxicity Identification Evaluation (TIE) to identify the toxin, and from this develop measures to prevent or reduce the toxin. The report, written as a result of these identification activities, shall be submitted to the Director for review, ***within 60 days*** of the third consecutive failed ALT result. After review of the report, the Director may place additional requirements upon the proponent for treatment of effluent prior to discharge.
55. All oil water separators shall be checked routinely to ensure they are working properly. A log of these checks shall be maintained by Tacora.
56. Reports submitted under Section 31 of MMER as a result of a deposit out of the normal course of events (DONCE) shall be provided to the Department.

Water Chemistry Analysis

57. Four times per calendar year and not less than thirty (30) days apart, Tacora shall perform Water Quality Analysis as per **Table 6**. Refer to **Table 6** for the locations and required parameters. Analytical results shall be submitted as per the **Reporting** section.

Table 6: Water Chemistry Analysis Program

EDMS Location Codes	Location	Parameters
00306	Tailings Line Emergency Dump Basin #1 (Settling Basin)	General Parameters: temperature, dissolved oxygen (DO), nitrate + nitrite, nitrate, nitrite, pH, TSS, colour, sodium, potassium, calcium, sulphide, magnesium, ammonia, alkalinity, sulphate, chloride, turbidity, reactive silica, orthophosphate, phosphorous, DOC, conductance, TDS (calculated), phenolics, carbonate (CaCO_3), hardness (CaCO_3), bicarbonate (CaCO_3)
00307	East Pit 2 Dewatering (Sylvio Settling Basin)	
00308	West Pit Dewatering (Settling Basin)	
00309	Knoll Lake Discharge (Settling Basin)	
00310	Flora Lake Discharge	
00313	West Pit Deep Well	
00314	Tailings Line	
00315	Jean River	
00316	Walsh River	
00317	Virot Lake	
00318	Long Lake	
00319	Wabush Narrows	
00322	Flora Outlet Arm	

Environmental Effects Monitoring

58. Study designs and subsequent reports for Environmental Effects Monitoring (EEM, under MMER) shall be developed by Tacora and a copy of the study designs and reports shall be submitted to the Department for information.

Ambient Air

59. Tacora shall operate an ambient air monitoring program as per the conditions in this Approval and its amendments. Approval shall be obtained from the Director prior to purchase or installation of any monitoring equipment.
60. Parameters to be monitored are outlined in Table 7.

Table 7 – Ambient Air Monitoring Program

Site	Parameter
Station #1- Provincial Building	SO ₂ ,
Station #1 - Provincial Building	PM _{2.5}
Station #1 - Provincial Building	TPM
Station #2 – Smallwood School	PM _{2.5}
Station #2 – Smallwood School	TPM

61. Ambient air monitoring shall be done in accordance with the *Ambient Air Monitoring Guidance Document (GD-PPD-065)*, or its successors.
62. Information regarding calibrations, site visits and maintenance for all continuous ambient air monitors shall be recorded into the DR DAS electronic logbook.
63. The ambient air quality standards specified in Schedule A of the *Air Pollution Control Regulations, 2004*, shall apply to all points outside of Tacora's two administrative boundaries. The administrative boundaries are defined as the areas encompassed by the coordinates contained in Appendix B. All coordinates are referenced to NAD 83, UTM zone 19.

Annual Air Emissions Reporting

64. Tacora shall submit an annual Air Emission Report to the Director by **February 28** of the subsequent year. This report shall include:
 - the estimated annual emissions of the following flue gas constituents: SO₂, NO_x, CO₂, CO, TPM , and PM_{2.5}; and
 - the actual calculations including factors, formulae and/or assumptions used.

Pollution Control Equipment

65. All pollution control equipment shall be maintained and operated in a manner that ensures optimum performance.
66. The Director reserves the right to require the installation of additional pollution control equipment by Tacora within a reasonable time frame, as necessary to bring Tacora into compliance with the *Air Pollution Control Regulations, 2004*.

Stack Emissions Testing & Dispersion Modelling

67. Stack emissions testing shall be done in accordance with the *Stack Emission Testing Guidance Document (GD-PPD-016.1)*. Dispersion Modeling shall be done in accordance with the *Plume Dispersion Modeling Guidance Document (GD-PPD-019.2)*. Determination of frequency of stack emissions testing and dispersion modeling shall be done in accordance with the *Compliance Determination*

Guidance Document (GD-PPD-009.4).

68. Tacora shall be required to complete stack emissions testing once every four years if it has been shown, via a registered dispersion model, that the operation is in compliance with section 3(2) and Schedule A of the ***Air Pollution Control Regulations, 2004***. If it has been shown, via a registered dispersion model, that the operation is not in compliance with section 3(2) and Schedule A of the ***Air Pollution Control Regulations, 2004***, then the facility shall complete stack emissions testing every two years.
69. Plume dispersion modelling results shall be submitted to the Department within 120 days of acceptance of the stack emissions testing results by the Department.

Analysis & QA/QC

70. Unless otherwise stated herein, all solids and liquids analysis performed pursuant to this Approval shall be done by either a contracted commercial laboratory or an in-house laboratory. Contracted commercial laboratories shall have a recognized form of accreditation. In-house laboratories have the option of either obtaining accreditation or submitting to an annual inspection by a representative of the Department, for which Tacora shall be billed for each laboratory inspection in accordance with Schedule 1 of the ***Accredited Laboratory Policy (PD:PP2001-01.02)***. Recommendations of the Director stemming from the annual inspections shall be addressed within 6 months, otherwise further analytical results shall not be accepted by the Director.
71. If Tacora wishes to perform in-house laboratory testing and submit to an annual inspection by the Department then a recognized form of proficiency testing recognition shall be obtained for compliance parameters for which this recognition exists. The compliance parameters are listed in the ***Effluent and Monitoring*** section. If using a commercial laboratory, Tacora shall contact that commercial laboratory to determine and to implement the sampling and transportation QA/QC requirements for those activities.
72. The exact location of each sampling point shall remain consistent over the life of the monitoring programs, unless otherwise approved by the Director. Using a GPS or similar device, the northing and easting of each sampling location shall be recorded and submitted by ***July 22, 2018*** to the Director.
73. Tacora shall bear all expenses incurred in carrying out the environmental monitoring and analysis required under conditions of this Approval.

Monitoring Alteration

74. The Director has the authority to alter monitoring programs or require additional testing at any time when:
 - pollutants might be released to the surrounding environment without being detected;
 - an adverse environmental effect may occur; or

- it is no longer necessary to maintain the current frequency of sampling and/or the monitoring of parameters.
75. Tacora may, at any time, request that monitoring programs or requirements of this Approval be altered by:
- requesting the change in writing to the Director; and
 - providing sufficient justification, as determined by the Director.

The requirements of this Approval shall remain in effect until altered, in writing, by the Director.

Reporting

76. Monthly reports containing the environmental compliance monitoring and sampling information required in this Approval shall be received by the Director in digital format within 30 calendar days of the reporting month. All related laboratory reports shall be submitted with the monthly report in XML format and Adobe Portable Document Format (PDF). Digital report submissions shall be uploaded through the EDMS web portal. The Pollution Prevention Division shall provide details of the portal web address and submission requirements.
77. Each monthly report shall include a summary of all environmental monitoring components and shall include an explanation for the omission of any requisite data. The monthly summary reports shall be in Microsoft Word or Adobe PDF and shall be uploaded through the EDMS web portal with the data submissions.
78. All incidents of:
- *Contingency Plan* implementation; or
 - non-conformance of any condition within this Approval; or
 - spillage or leakage of a regulated substance; or
 - discharge criteria being, or suspected of being, exceeded; or
 - verbal or written complaints of an environmental nature received from the public by Tacora and related to the Tacora Mine, including complaints submitted anonymously;

shall be immediately reported, within one working day, to the Department.

A written report including a detailed description of the incident, summary of contributing factors, and an Action Plan to prevent future incidents of a similar nature, shall be submitted to the Department. The Action Plan shall include a description of actions already taken and future actions to be implemented, and shall be submitted within thirty days of the date of the initial incident.

79. Any spillage or leakage of gasoline or associated product shall be reported

immediately through the Canadian Coast Guard at 1-(709)-772-2083.

Liaison Committee

80. The Department recognizes the benefits, and at times the necessity, of accurate, unbiased communication between the public and industrial operations which have an impact on the properties and residents in the area. The Department encourages the formation and regular meeting of a Liaison Committee comprised of representatives of Tacora, the Department and independent members of the general population of Labrador City and Wabush. Regular meetings of the Liaison Committee will provide a clear conduit of communication between concerned citizens and Tacora. The Director reserves the right to require the formation of a Liaison Committee should it be deemed necessary.

Expiration

81. This Certificate of Approval expires ***January 22, 2023***.
82. Should the proponent wish to continue to operate the Tacora Mine beyond this expiry date, a written request shall be submitted to the Director for the renewal of this Approval. Such request shall be made prior to ***July 22, 2022***.

APPENDIX A

Rehabilitation & Closure Plan Guideline

This appendix is intended to provide guidance for the development of a Rehabilitation and Closure Plan Guidelines and to identify areas that are of particular concern or interest. The points presented are not set and are open to interpretation and discussion.

The Plan is intended to present the scope of activities that Tacora shall undertake at the time of final closure and/or abandonment of the Tacora Mine properties. Where it is useful and practical to do so the company is encouraged to begin undertaking some of the activities outlined in the Plan prior to final closure and abandonment. The objectives of the restoration work to be undertaken can be summarized as follows:

- to ensure that abandoned mine facilities do not endanger public health or safety;
- to prevent progressive degradation and to enhance the natural recovery of areas affected by mining activities;
- to ensure that mine facilities, wastes and tailings are abandoned so that the requirement for long term maintenance and monitoring is minimized;
- to mitigate, and if possible prevent, the continued loadings of contaminants and wastes to the environment. The primary objective shall be to prevent the release of contaminants into the environment. Where prevention is not practical due to technical or economic limitations then activities intended to mitigate the consequence of such a release of contaminants shall become the objective of restoration work;
- to mitigate, and if possible prevent, the formation of acid mine drainage. The primary objective shall be to prevent the formation of acid mine drainage. Where prevention is not practical due to technical or economic limitations, then activities intended to mitigate the consequences of the formation of acid mine drainage shall become the objective of restoration work; and
- to return affected areas to a state compatible with the original undisturbed condition, giving due consideration to practical factors including economics, aesthetics, future productivity and future users.

In particular the following areas should be addressed in the Plan:

Mill and Service Buildings

- The mill processing equipment shall be washed and cleaned of all ore residues. This activity shall remove all concentrate and chemical bearing residues from the milling circuit with the washed residues being treated through the effluent treatment plant and ultimately discharged into the tailings impoundment area.
- The equipment and internal fittings contained in both the mill and service buildings shall be dismantled, removed and sold for their salvage value. Items with no salvage value shall be disposed of according to section 30 of the Environmental Protection Act.
- All buildings are to be dismantled and removed from the site. All concrete walls, footings, foundations or floor slabs of the mill and service buildings should be

demolished to ground level. All openings or indentations below ground level are to be backfilled to ground level. Fill material shall be non-contaminated soil or concrete from demolition. All other outbuildings and pipe racks in the immediate vicinity of the mill and service buildings, and elsewhere on the property should be removed using the same philosophy.

- All buried pipelines and electrical cables may be left in place in the ground. Where these pipes or cables come to surface they should be cut off below ground level and buried with local fill. If oil filled power cables are to be left in place in the ground they shall be purged. Pipelines are to be purged of all residual materials and capped before backfilling. Tacora shall provide the Department with drawings showing the location of all buried pipes and cables which are to remain after the mine's closure.

Fuel Storage Facilities

- All of the fuel storage facilities, including fuel handling equipment and pipelines, at the mine site shall be emptied and removed from the site according to the ***Storage and Handling of Gasoline and Associated Products Regulations, 2003***.

Tailings

- The tailings impoundment areas should be left in a condition, acceptable to this Department, to prevent the generation of acid mine drainage and dust. Runoff from impoundment areas is to be directed to an outflow where drainage from the area can be monitored.

Till Borrow Areas/Quarries

- The till borrow areas/quarries used by Tacora should be graded to ensure natural runoff patterns and then revegetated to mitigate future erosion. Till borrow areas/quarries shall be closed out in accordance with the permits already issued by this Department and the Department of Natural Resources.

APPENDIX B

Administrative Boundary Graphic



Note: The graphic is provided as an approximate illustration of the administrative boundary and is not intended for compliance determination.

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