

Environmental Protection Plan

Tacora Mine Reactivation

Prepared for:

Government of Newfoundland &
Labrador
Department of Municipal Affairs &
Environment
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Tacora Mine
Wabush, NL

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1.0 Introduction

TACORA Resources Inc. (TACORA) is committed to the mitigation of the environmental impacts of their activities during the reactivation of the Scully Mine. An Environmental Protection Plan (EPP) has been developed for this project to document practices and procedures that will serve to minimize or eliminate potential environmental impacts resulting from the project. This EPP has been written in accordance with the *Environmental Guidelines for Construction and Mineral Exploration Companies* issued by the Department of Natural Resources of Newfoundland and Labrador.

1.1 PURPOSE

Environmental protection is a key consideration during project planning and implementation. The EPP demonstrates a practical understanding of the environmental regulations, practices and procedures required to reduce or eliminate the potential environmental effects of the project. The EPP is a reference document that serves as a tool in achieving the environmental management objectives, and ensuring environmental regulatory compliance, during the planning and implementation of the project. The EPP is also a field document to provide guidance in the undertaking of specific tasks outlined therein.

This document provides descriptions of applicable environmental protection measures against which performance can be assessed and the need for additional corrective measures can be determined. It is to be available to all relevant staff and contractors in order to ensure that each is aware of their responsibilities and of the procedures to be used in the management of this work.

1.2 ROLES AND RESPONSIBILITIES

TACORA Resources Inc. will:

- Provide the approved EPP as well as any subsequent revisions;
- Monitor and inspect the work being carried out; and
- Liaise with stakeholders and relevant government agencies as required.

The Environmental, Health & Safety Manager will:

- Act as TACORA's on-site representative
- Be responsible for environmental protection and report any environmental concerns or cases of non-compliance to the Environmental Coordinator;

- Communicate with the Environmental Coordinator about proposed work activities so that all applicable approvals, authorizations and permits can be obtained;
- Hold an environmental orientation session for contractors and their personnel, and any other personnel to be involved in the Project activities on an as-needed basis;
- Confirm that TACORA workers and contractors/sub-contractors are familiar with the EPP and its procedures and maintain a master file of all EPP orientation efforts and signature sheets;
- Implement the EPP on site and confirm that all workers are aware of the EPP and their responsibilities under the plan;
- Monitor or designate a representative to conduct environmental compliance monitoring;
- In the event of an emergency, contact the appropriate reporting agency as indicated in the EPP immediately, as well as the Environmental Coordinator.

A designated Environmental Coordinator will:

- Distribute the EPP and any revised versions;
- Review revision requests;
- Conduct a review of the EPP on an as-needed basis; and
- Maintain document control.

All contractors, subcontractors, and TACORA employees will:

- Familiarize themselves with the EPP and any revisions;
- Implement the EPP commitments;
- Confirm all personnel and subcontractors comply with the EPP, all requirements of the contract and with all applicable laws and regulations;
- Maintain a training record (record of names and dates when training was administered) and provide on to the Environmental Coordinator upon request;
- Obtain all applicable approvals, authorizations and permits required to conduct the work and provide copies to the EHS Department;
- Implement any conditions outlined in approvals, authorizations and permits;
- Carry out clean-up, reclamation or restorative measures as directed by the Environment Team and/or appropriate government agency; and
- Contribute feedback to the EHS Department any changes/comments they feel would improve the quality of the EPP.

1.3 ENVIRONMENTAL POLICY

It is the policy of TACORA to conduct its affairs in accordance with best practices in environmental management. To accomplish this, TACORA will:

- a) Consider compliance with laws and regulations, permits, and related agreements to be a minimum standard upon which to build.
- b) Build and maintain an environmental management system and related standards, programs, and procedures that fully integrate pollution prevention into business practices.
- c) Inform all employees and contractors of their responsibility to comply with this policy and to be sensitive to the effects of Scully Mine's operation on the environment.
- d) Encourage and empower employees to suggest improvements.
- e) Conduct periodic audits to verify compliance with the environmental management system and to identify areas for continual improvement.
- f) Precede new activities or proposed changes in operating procedures with an environmental assessment to determine the environmental impact. Design such activities to minimize those impacts.
- g) Establish procedures for reporting, responding to and correcting any conditions or incidents that have the potential for adverse environmental impact.
- h) Maintain open communication with the community and any concerned stakeholders about Scully Mine's environmental policy, plans and environmental performance.
- i) Ensure state-of-the-art and innovative reclamation practices are incorporated into the planning and operations for sites and facilities where appropriate.

The primary environmental concerns of TACORA Resources Inc. are human health, and environmental awareness. The company recognizes that construction activities can have a direct effect on the environment, and commits to conduct its construction activities responsibly so as to minimize and eliminate, where possible, these effects on the environment. All employees and contractors shall follow safe and efficient practices to mitigate environmental impacts during all construction activities.

TACORA is committed to the protection of the environment by ensuring:

- employees, including contractors, will be made aware of the company's commitment to environmental policies and will be contractually obliged to respect and to implement them;
- safe handling and disposal of all hazardous material;
- safe and efficient fuel handling and storage; and,
- access to sites, particularly streams, will be done in such a manner as to minimize impacts to the surrounding environment.

1.4 EPP DEVELOPMENT AND IMPLEMENTATION

This EPP focuses on the activities occurring during the reactivation and operation of the Scully Mine. The EPP is structured in such a way that revisions and additions to the document will require minimal effort to allow changes as work progresses.

To effectively manage and implement the EPP, several mechanisms have been identified, which includes adequate communication among field and office personnel, environmental orientation, and regular job hazard analyses and tool box meetings which incorporate environmental issues.

1.4.1 EPP Revisions and Updates

The EPP will be revised as necessary to reflect site-specific environmental protection requirements, and allow updates as work progresses. All EPP holders may initiate revisions by forwarding proposed revisions to the EHS Manager and/or the Environmental Coordinator. The following information will be provided for all revision requests:

- section to be revised;
- nature of the revision;
- rationale for the revision (i.e., environment/worker safety), and
- who submitted the revision request.

Revisions to the EPP must be approved by TACORA prior to distribution by the Environmental Coordinator. Approved revisions will be documented in a revision history log and accompanied by:

- revision instructions;
- list of sections being superseded; and
- an updated Table of Contents indicating the status of each section in the EPP.

When EPP Holders receive a revision, they will:

- Confirm that all the listed pages have been received;
- Read the text of the revision;
- Update their copy of the EPP; and
- Confirm that their personnel are familiar with the revisions.

At the end of each calendar year, a review and update of the EPP will be conducted by the Environmental Coordinator. In the event of a change in work activities, legislation or the terms and conditions of permits and approvals, specific sections of the EPP will be reviewed and updated as necessary by the Environmental Coordinator.

1.4.2 Environmental Orientation

Through new employee orientation and ongoing awareness training throughout the Project, TACORA will confirm that all employees understand

their roles and responsibilities, as well as the potential environmental effects of the overall project and their specific work activities. The orientation may include a presentation on environmental protection procedures to be applied to all work. All necessary precautions will be taken during the work program to reduce the potential for spills. To achieve this, employees will receive orientation in spill response and reporting procedures and the Environmental Emergencies 24-Hour Report Line will be clearly posted in all work areas.

1.4.3 Job Hazard Analysis and Tool Box Meetings

Prior to a work crew undertaking a new task or activity, Tacora will require that all staff and contractors complete a job hazard analysis. The job hazard analysis shall provide an overview of the specific tasks to be conducted in an attempt to identify any potential safety or environmental issues that may be encountered. It is the responsibility of the EHS organization to ensure these job hazard analysis forms are administered to the appropriate personnel as part of the OH&S Program, and to ensure they are received and filed in the appropriate location following completion. The direct Supervisor will undertake the job hazard analysis, with input from employees. This job hazard analysis will be followed by regular EHS tool box meetings.

Toolbox meetings are short meetings that are held with work crews and supervisors at the beginning of each work shift. The topics usually discussed are the work tasks for the shift and the safety and environmental concerns or hazards associated with each task. Such meetings also provide the opportunity to discuss any environmental issues and potential mitigation measures associated with each work task.

2.0 Project Overview

TACORA intends to reactivate and operate the Scully Mine and Mill located in Labrador West, Newfoundland and Labrador. Reactivation was proposed for a minimum of 15 years, reaching an expected annual production rate of 6.1 million metric tonnes at full operation.

An overview of the Scully Mine Reactivation is presented below.

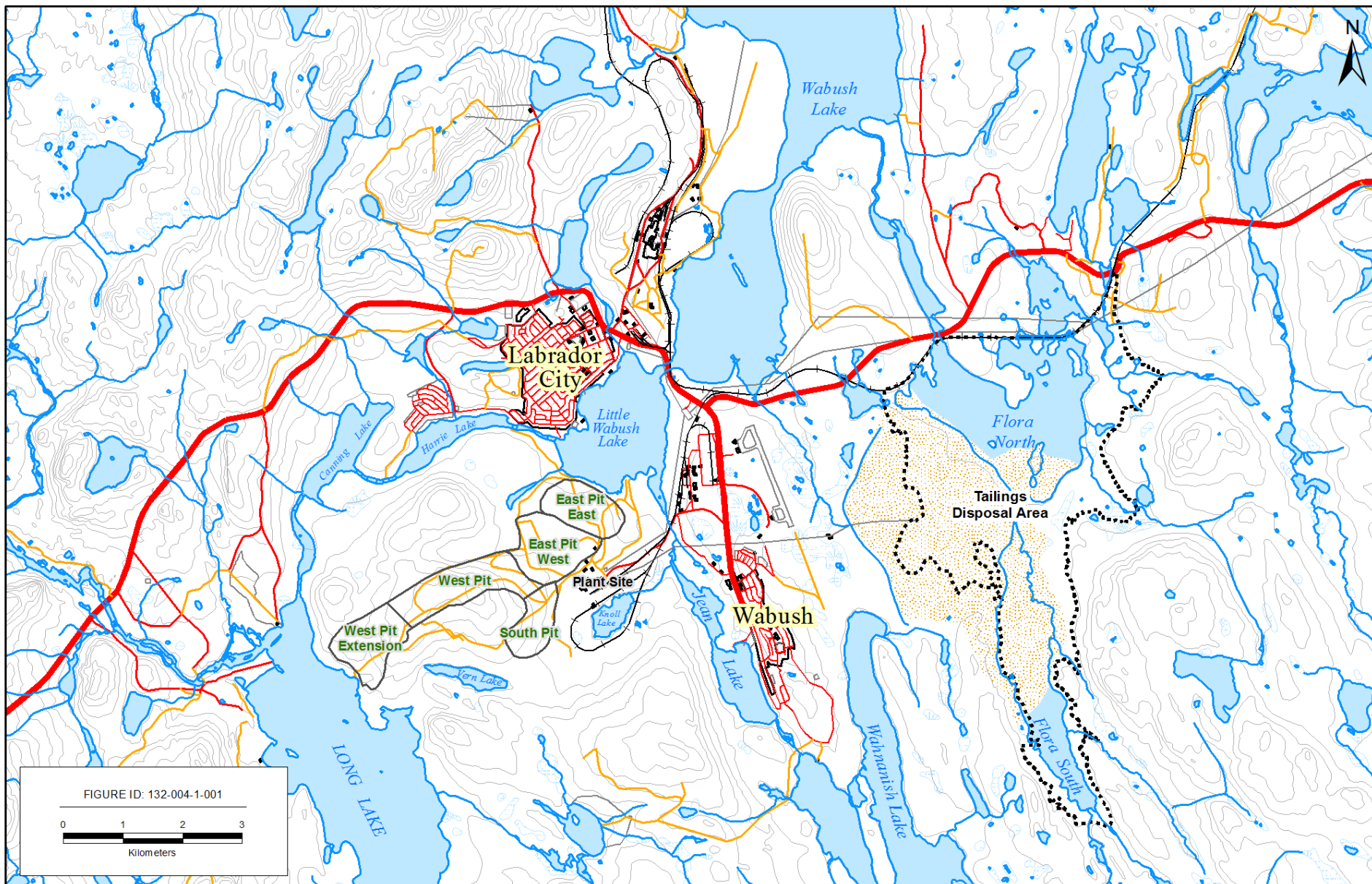
2.1 MINE SITE REACTIVATION

The Scully Mine is located in Wabush, Newfoundland and Labrador. The development of Wabush Mines began in 1957. The mine was initially developed by Pickands Mather & Co. and then operated by Cliffs Natural Resources (Cliffs) from 1965 to 2014. Operations at this mine ceased in February 2014 due to economic factors and financial performance.

TACORA Resources Inc. (TACORA) purchased the mine and certain other assets via the CCAA process on July 18, 2017. The Scully Mine Reactivation (the Project) was required to be registered for Environmental Assessment (EA) under Part X of the Environmental Protection Act. This Environmental Assessment Registration has been prepared in relation to the proposed Project by TACORA with assistance from Sikumiut Environmental Management Ltd. (SEM), and has been subsequently released by the provincial government.

TACORA is a conventional open pit mining operation located in the southwest corner of Labrador approximately three kilometres from the Town of Wabush as shown in Figure 2.1. The mine pits are located west of the Town of Wabush and south of the Town of Labrador City and are accessed via the plant access road off Hwy 530. The tailings management area (Flora Lake) is situated east of the Town of Wabush. The ore deposit covers an area of approximately 23 square kilometres (km²).

The Scully Mine consists of open pit mines, a concentrator and support processing facilities, waste rock and tailings management facilities and a spur railway line that connects to the QNS&L Railway.



TACORA Environmental Protection Plan

Tacora Mine Site Overview

FIGURE NO:

Figure 2.1

PREPARED BY:



COORDINATE SYSTEM:

UTM Zone 19

DATE:

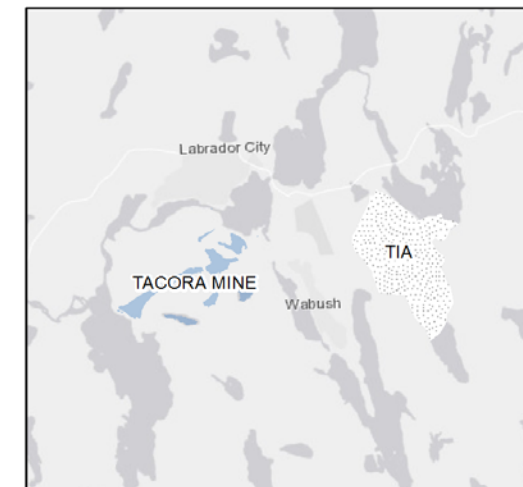
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TACORA plans to reactivate the mine in a safe, methodical and environmentally responsible manner that follows the steps specified in the Reactivation Planⁱ submitted to the Provincial Department of Natural Resources (NR) in September 2017. The major components of the mine reactivation include:

- Open Pit Dewatering; establish dewatering rates based on current pit water quality information and existing pumping systems that ensure there is no adverse impact on receiving water bodies.
- Site Infrastructure Reactivation
- Concentrator Equipment Repair and Improvement
- Open Pit Mine Preparation
- Commence Mining and Beneficiation

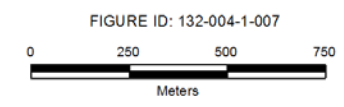
Once reactivated, the Scully Mine will have annual production capacity reaching 6.1 million metric tonnes of iron concentrate. The concentrate will be shipped on the QNS&L Railway to SFP Pointe-Noire facilities in Quebec and then shipped throughout Europe and Asia. A revised mineral reserve estimate has been completed and projects mineral reserves that support mining operations for 22 years, although current tailings storage in the Tailings Management Area supports operations for an additional 16 years.

Figures 2.2 and 2.3 depict existing sites conditions for the mine site and Tailings Management Area, respectively.

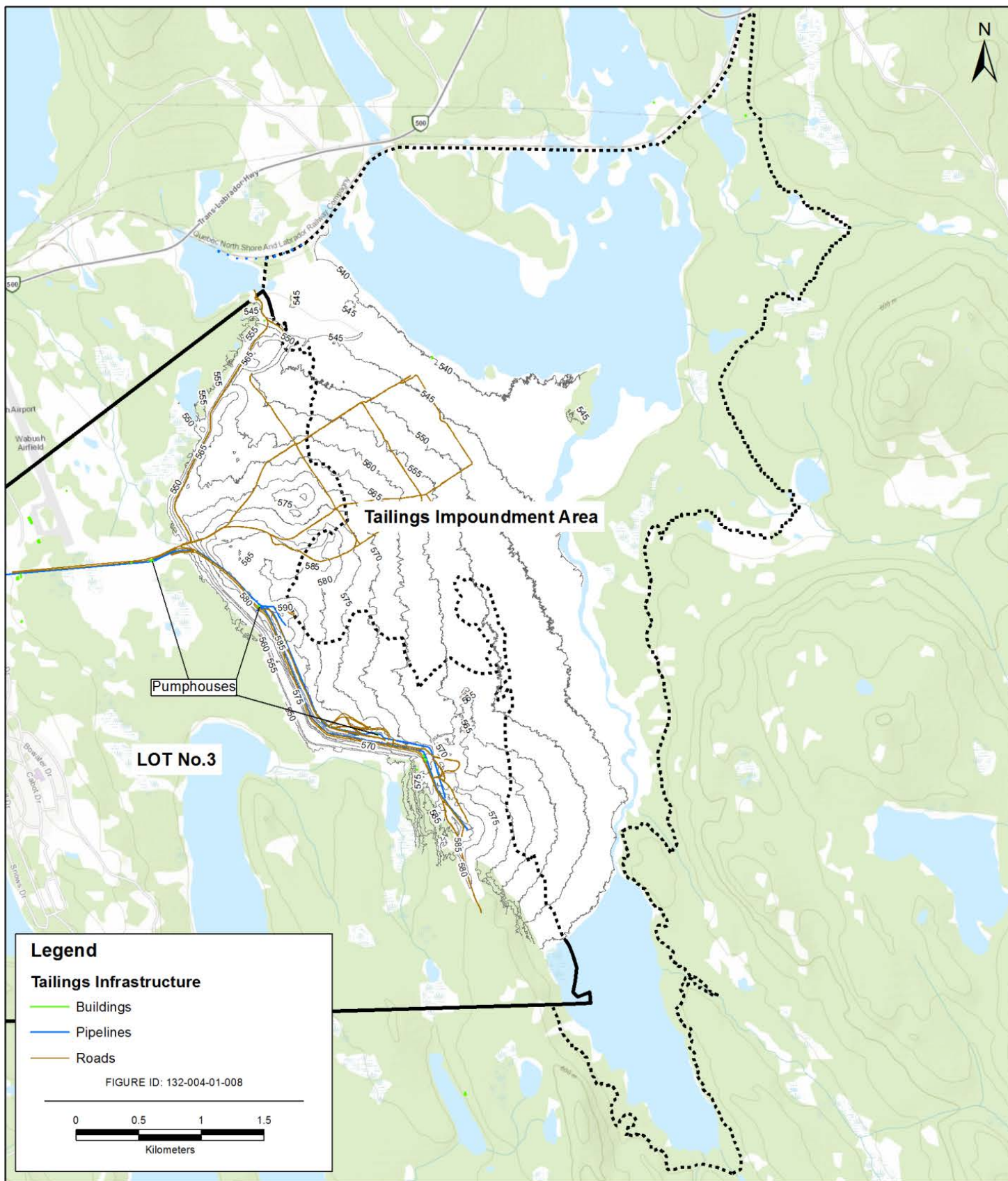


Legend

- Infrastructure
- Railway
- Road
- Water
- Settling Basin



TACORA Environmental Protection Plan	
Tacora Mine Site Plan	
	Figure 2.2
	UTM Zone 19
	13/01/2018



3.0 Regulatory Requirements

3.1 PERMITS, APPROVALS AND AUTHORIZATIONS

3.1.1 Applicable Federal and Provincial Regulations

Criteria are established in the following Newfoundland and Labrador and Federal legislation:

- *Water Resources Act*
 - *Environmental Control Water and Sewer Regulations, 2003* (ECWSR)
 - *Water Use Charges Regulations, NLR 60/16*
- *Environmental Protection Act*
 - *Air Pollution Control Regulations, 2004;*
 - *Halocarbon Regulations;*
 - *Storage and Handling of Gasoline & Associated Products Regulations;*
 - *Used Oil Control Regulations;*
 - *Heating Oil Storage Tank System Regulations;*
 - *Storage of PCB Waste Regulations*
 - *Waste Management Regulations*
- *Occupational Health and Safety Act*
 - *Occupational Health and Safety Regulations, 2012*
- *Mining Act*
 - *Mining Regulations*
 - Draft Mining Act Guidelines (2010)
- *Federal Fisheries Act*
 - *Metal Mining Effluent Regulations* (MMER)
 - *Federal Transportation of Dangerous Goods Act*

3.1.2 Required Regulatory Authorizations

The Project requires several regulatory authorizations for reactivation and ongoing operations. Table 3.1 lists these approvals, applicable dates and issuing authority.

Table 3.1. Scully Mine Permits

Issuing Department	Title	Date Issued	Expiry Date	Comment
Federal				
Environment and Climate Change Canada (ECCC)	Amendment To The Metal Mining Effluent Regulations Designating Flora Lake and Three Streams as a Tailings Impoundment Area (TIA)	Feb 5, 2009	N/A	Complete - ECCC has been notified of the change in mine ownership as per requirements under the MMER
Fisheries and Oceans Canada (DFO)	Fisheries Act Authorization (FAA) for the Vern-Hay Project	Amended 15 January 2018	N/A	FAA transferred to TACORA. Monitoring continues as before
Natural Resources Canada	License to Store, Manufacture or Handle Explosives	TBD	TBD	Blasting Contractor to obtain necessary approvals
Provincial				
Department of Natural Resources	Development Plan	23 January 2018	Update required every 5 years	Approval received 23 January 2018
	Reclamation and Closure Plan	23 January 2018	Update required every 5 years	Plan submitted June 9, 2017; Financial Assurance approved July 2017; Approval received 23 January 2018
	Mill License	February 2018	TBD	A "Shall Issue" license; application submitted 19 February 2018

3.2 ENVIRONMENTAL COMPLIANCE MONITORING

Compliance monitoring is required to ensure that applicable regulatory requirements are met. Compliance monitoring also ensures that commitments made during the environmental assessment process have been respected. Compliance monitoring requirements will entail the following monitoring activities:

- Air quality monitoring;
- Water quality monitoring including groundwater and surface water;
- Waste and raw materials monitoring including fuel and chemical; and
- Incidents and complaints monitoring.

Additional regulatory compliance monitoring may be stipulated in the conditions of permits and approvals.

4.0 Procedures

This section provides an overview of general environmental protection procedures required for activities associated with the reactivation of the Scully Mine.

4.1 FUEL AND OTHER HAZARDOUS MATERIALS

Typical hazardous materials that may be used on-site include, but are not necessarily limited to:

- Petroleum, oil and lubricants;
- Process chemicals; and,
- Explosives for site work.

4.1.1 Environmental Concerns

The uncontrolled release of petroleum products and other hazardous substances can lead to adverse effects on terrestrial and aquatic habitat and species, soil, groundwater quality, and human health and safety.

4.1.2 Environmental Protection Procedures

TACORA will implement a Hazardous Materials Management and Emergency Response Plan (a.k.a “Contingency Plan”) that is required by the facility’s Operating Certificate of Approval. This contingency plan outlines the details of the storage facilities, provides an inventory of the amounts and types of hazardous materials on-site, and outlines detailed steps for environmental protection and emergency response. The general procedures listed below will be followed to prevent and mitigate environmental incidents related to the storage, handling and transfer of fuel and other hazardous materials.

- a) The *Workplace Hazardous Materials Information System (WHMIS) Regulations* under the *Occupational Health and Safety Act* will apply to all handling and storage of hazardous materials. All relevant current Material Safety Data Sheets (MSDS) will be readily available for the site.
- b) All necessary precautions will be taken to prevent the spillage, misplacement or loss of fuels and other hazardous materials. In the event of a reportable spill on-land or a spill, regardless of size, in the freshwater environment, the Environmental Emergencies 24-Hour Report Line will be contacted. 1-800-563-9089. A spill is defined as reportable, depending on the class and quantity of dangerous goods involved, which varies between applicable Regulations.

- c) A copy of the TACORA Contingency Plan will be readily available and is the detailed plan used for spill prevention and response at this facility.
- d) All fuel storage systems will be registered and comply with the *Storage and Handling of Gasoline and Associated Products Regulations*.
- e) Only personnel who are properly trained in handling petroleum products and other hazardous materials will do so.

4.2 BLASTING AND DRILLING

4.2.1 Environmental Concerns

Blasting and drilling can lead to the disturbance and destruction of vegetation and historical resources, and cause noise disturbances to wildlife and humans. Blasting in or near water can affect fish but may also affect a variety of other aquatic organisms and their habitat.

4.2.2 Environmental Protection Procedures

- a) All blasting work will be conducted in compliance with the appropriate permits and/or approvals and authorizations. All blasters will have a Blasters Safety Certificate and all blasting will be conducted in adherence to TACORA's safe work procedures and OHS legislation.
- b) The appropriate approvals for all magazines for explosives will be obtained.
- c) Handling, transport, storage and use explosives and all other hazardous materials will be in compliance with all applicable laws, regulations, orders of the Newfoundland and Department of Government Service (NLDGS) and NLDNR, and the TDG.
- d) The use of explosives will be restricted to authorized personnel who have been trained in their use.
- e) Where necessary, effluent from blasted areas will be monitored and sampled as per current operating Certificate of Approvals (C of A's). Effluent will be treated, if required, prior discharge.
- f) All personnel must have been trained in the use of explosives and comply with safe blasting procedures established by TACORA.
- g) Blasting activities will be coordinated and scheduled to minimize the number of blasts required. In order to minimize the seismic effect, blasting patterns and procedures will be used to reduce the shock wave and noise.
- h) Explosives and auxiliary materials will be stored as stipulated in relevant legislation and in compliance with their operations permit.

4.3 OPEN PIT DEWATERING

4.3.1 Environmental Concerns

The potential concern associated with site dewatering and drainage is the potential for siltation, direct fish mortality and/or habitat destruction for freshwater species.

4.3.2 Environmental Protection Procedures

- a) Monitoring of site dewatering activities will be conducted as per provincial requirements following effluent quality standards.
- b) If silt is entering any waterbody, filtration or other suitable measures, such as silt fences and dykes will be provided to remove silt from, and reduce the turbidity of, water pumped from work areas before discharging.
- c) If monitoring indicates regulated water quality standards may be exceeded, TACORA will develop additional protocols.

4.4 SOLID WASTE DISPOSAL

4.4.1 Environmental Concerns

Waste (i.e. domestic and industrial), if not properly controlled and disposed of, could potentially cause human safety and health concerns. It could also attract wildlife leading to the potential for human-wildlife conflicts

4.4.2 Environmental Protection Procedures

A comprehensive Waste Management Plan (WMP) will be developed for the Project under separate cover. That document is required by the facility's Operating Certificate of Approval and will include the specific details regarding solid waste management for this site. The general procedures listed below will be followed to properly manage solid waste.

- a) All solid waste (including hazardous waste) will be handled according to the provincial *Environmental Protection Act* and the facility's WMP.
- b) Prior to disposal, all solid waste materials shall be considered for reuse, resale, or recycling.
- c) Waste accumulated on site prior to disposal will be confined, so that it does not pose an environmental or health hazard.
- d) Burning of waste is not permitted without appropriate permits.

4.5 WASTEWATER AND SEWAGE DISPOSAL

4.5.1 Environmental Concerns

The release of process wastewater or untreated sewage is a potential concern to human health, water quality, and freshwater and marine ecosystems.

4.5.2 Environmental Protection Procedures

- a) The plant is equipped with separate storm and sanitary sewer collection systems.
- b) All sewage generated by the project is collected in the onsite sewage infrastructure system and transported via underground piping to the onsite sewage treatment plant. This plant consists of a 90,920 L/day extended aeration plant. Treated water is then discharged into Jean River.
- c) The WWTP is subject to Schedule A of the Newfoundland and Labrador Environmental control water and sewage Regulations governing discharging into a body of water.

4.6 DUST CONTROL

4.6.1 Environmental Concerns

The environmental concerns associated with dust include potential human health effects and potential effects on aquatic ecosystems and vegetation. Potential sources of dust are primarily from unpaved roads and process equipment, but fugitive dust from the tailings impoundment area, storage areas and blasting activities are also possible sources to be managed.

4.6.2 Environmental Protection Procedures

- a) Dust from operating activities (vehicle traffic) will be controlled using water as a dust suppressant.
- b) Waste oil will not be used for dust control, but other agents such as calcium chloride may be used with the approval of the appropriate regulatory agencies.
- c) Adherence to speed limits to minimize traffic-related dust.
- d) There is a progressive rehabilitation program in effect as part of the facility's Rehabilitation and Closure Plan. This program requires periodic

fertilization and grass seeding on the Tailings Impoundment Area. In addition to being a means to minimize potential fugitive dust emissions, the vegetation program is a means to minimize potential water quality degradation related to surface runoff.

- e) Particulate emissions from the concentrate material handling and drying systems are controlled by installed dust collection systems. These systems have periodic inspection and maintenance programs to ensure that potential process related dust emissions are minimized.

4.7 VEHICULAR TRAFFIC AND ROAD MAINTENANCE

4.7.1 Environmental Concerns

Vehicular traffic and associated road maintenance can potentially result in fugitive dust, emissions and noise. Proper drainage on and around the roads is required to ensure sediment and runoff is not introduced to nearby water bodies, causing negative effects on fish and fish habitat.

4.7.2 Environmental Protection Procedures

- a) All site vehicles and equipment will be properly maintained to meet emission standards.
- b) Appropriate speed limits and road signage will be established and enforced to minimize environmental disturbance and accidents.
- c) Heavy equipment (e.g., dump trucks and front-end loaders) will only be used in work areas.
- d) Site roads will be graded regularly and monitored for proper drainage and signs of erosion. Appropriate action will be taken to repair roads, when necessary.
- e) Roads shall be adequately ditched to allow for good drainage. Ditches shall drain into sedimentation ponds or, when not possible, into vegetated or forested areas, and never directly into a watercourse.
- f) Culvert locations shall be marked, using a stake or post, to ensure they are visible during snow removal operations. This marker can also help locate the culverts in cases where they become covered with debris.
- g) Dust control mechanisms will be required on the roads, which will include applying water or a calcium chloride solution.

4.8 STREAM CROSSINGS

4.8.1 Environmental Concerns

The potential environmental concerns associated with stream crossings and culvert installations include potential impacts to fish, such as direct mortality, disturbances and loss of fish habitat.

4.8.2 Environmental Protection Procedures

No work below the high water mark of any surface water feature will be conducted without the prior notification and assessment by the Environmental Coordinator. Stream crossings will be constructed in compliance with the required Permit for Culvert Installation from NLDMAE, Water Resources Management Division and any approvals required from NLDMAE and DFO.

The following measures will be implemented to minimize the potential impacts of stream crossings, if stream crossings are required:

- a) Avoid the entry of deleterious substances including, but not limited to, materials such as sediment and fuel to watercourses and waterbodies during watercourse crossing work.
- b) A minimum buffer of undisturbed natural vegetation must be left between the access road and the bank of any watercourse that it parallels. The buffer width will be determined through the formula:
$$\text{Buffer width (m)} = 20 \text{ m} + 1.5 \times \text{slope (\%)} \text{ (Gosse et al. 1998)}$$
- c) In those locations within fish habitat, where culverts are required, application will be made to NLDMAE and DFO. The following measures will also be implemented.
- d) When fording any watercourse, the Environmental Guidelines for Fording from NLDMAE, Water Resources Division 1992 will be applied.

4.9 WASTE ROCK PILES

4.9.1 Environmental Concerns

Surface runoff may contain suspended matter resulting from precipitation on waste rock piles, and may have an effect on the quality of nearby water bodies. Surface runoff may also cause erosion issues nearby.

4.9.2 Environmental Protection Procedures

- a) Waste rock piles will be positioned further than 60 m from the high-water line of a watercourse or if not possible, no less than 30 m.

- b) The waste rock benches will have a slope gradient away from the dumping face to prevent rainwater from running over the edge of the pile, so as to limit erosion of the dump face.
- c) Waste rock piles shall be located near the pits to limit haul distances.
- d) Waste rock shall be piled separately from other materials, such as overburden.
- e) Waste rock piles shall be progressively rehabilitated as they become inactive.
- f) The design parameters for the waste rock piles (face angle, bench height, berm width and overall slope) will follow conditions of mining approvals.

4.10 LAYDOWN/STORAGE AREAS

4.10.1 Environmental Concerns

Laydown areas will be required for storing and maintaining equipment and supplies during construction and operations activities associated with the Project. Potential environmental concerns for laydown areas include erosion and run-off of sediment into nearby water bodies.

4.10.2 Environmental Protection Procedures

- a) Existing laydown and storage areas will be used, where feasible.
- b) External storage areas will be placed on level terrain and kept free of ponding or run-off.
- c) Drainage from areas of exposed soil will be controlled by grade or ditching and directing run-off away from water bodies.
- d) Laydown and storage areas no longer required for construction and operations activities will be rehabilitated.

4.11 CLEARING AND GRUBBING

4.11.1 Environmental Concerns

Potential concerns during vegetation clearing include stockpiling vegetation in or near watercourses, roadways or open pits/shafts, uncontrolled burning, or potential scheduling of clearing in bird-nesting areas during nesting periods. The principal concern associated with grubbing and disposal of related debris are the potential for erosion and its associated effects on the water quality of nearby watercourses. The potential for disturbance of terrestrial animal habitat or of historic resources due to ground disturbance are also environmental concerns related to grubbing.

4.11.2 Environmental Protection Procedures

All clearing and grubbing near watercourses shall adhere to relevant regulatory requirements. Other specific measures to be undertaken to minimize potential effects on aquatic and terrestrial habitat are as follows:

- a) Clearing activities will comply with the requirements of all applicable permits. In order to limit erosion, grubbing of the organic vegetation mat and/or the upper soil horizons shall be minimized, especially on steep slopes and along access roads
- b) In the event that usable or merchantable timber is removed during vegetation clearing, TACORA will notify the NLDNR, Forest Resources.
- c) Disposing of cleared un-merchantable timber, slash and cuttings by burning will comply with the Forest Fire Regulations, 1996 (amended 2002) under the Forestry Act, Environmental Code of Practice for Open Burning and the Permit to Burn (from NLDNR). At no time will a fire be left unattended.
- d) Clearing and grubbing materials will not be permitted to enter any watercourse, and will be piled above spring flood levels and retained for final rehabilitation efforts.
- e) Chain saws or other hand-held equipment will be used in clearing vegetation except where alternative methods or equipment is approved by TACORA, such as mechanical harvesters.
- f) As much as possible, a minimum 15 m buffer zone of undisturbed vegetation will be maintained between the development area and all other waterbodies (Section 4.18). In the case that a tree on the bank of a watercourse must be cut down, the root structure will be preserved in order to maintain bank stability and decrease the possibility of erosion.
- g) Trees will be cut close to the ground (< 15 cm in height) to prevent uprooting of stumps, and further destruction of the soil. The Environmental Protection Guidelines for Ecologically Based Forest Resource Management - Newfoundland and Labrador Department of Forest Resources and Agrifoods (NLDFRA 1998) will be adhered to.
- h) Any surplus organic material shall be stored or stockpiled for site rehabilitation and re-vegetation purposes elsewhere in the project area. Topsoil and peat shall be stockpiled separately from the overburden separated by a buffer zone at a minimum distance of 20m from any waterbodies, watercourses or ecologically sensitive areas. The location of the stockpiles shall be located in clearly designated, pre-defined areas.
- i) Disposal of all non-woody debris is subject to the requirements of the Waste Management Regulations, under the Environmental Protection Act. All associated permits and approvals will be obtained prior to these activities, and the requirements will be adhered to in those permits and approvals.
- j) Grubbing activities shall be avoided in areas of high slopes near watercourses where possible. A buffer zone of 10 to 15m shall be

maintained between grubbed areas and watercourses or wetlands other than those designated for habitat compensation activities. Grubbing limits adjacent to watercourses will be flagged in the field prior to undertaking grubbing/stripping activities (see Gosse et al 1998 – Guidelines for Protection of Freshwater Fish Habitat in Newfoundland and Labrador).

- k) Grubbing activities shall be avoided during snow clearing.
- l) Discovery of historic resources will be handled according to the procedures outlined in Section 5.4.

4.12 BUFFER ZONES

4.12.1 Environmental Concerns

Buffer zones are boundaries of undisturbed vegetation maintained along water bodies. Without adequate buffer zone vegetation, streams, ponds and lakes can potentially become laden with silt from run-off. Vegetation also provides cover for fish.

4.12.2 Environmental Protection Procedures

As much as possible, a minimum buffer zone of 15 m of undisturbed natural vegetation is to be maintained between work areas and water bodies. Where possible, additional, buffer widths will be maintained according to the guidelines shown in Table 4-1.

Table 4.1. Recommended Minimum Buffer Zone Requirements for Activities near Watercourses

Activity	Recommended Buffer Width
Development around watercourses in developed area	15 m depending upon site specific considerations
Resource roads or highways running adjacent to water bodies	$20\text{ m} + 1.5 \times \text{slope } (\%)$
Piling of wood and Slash Grubbing	30 m
Source: Gosse et al. 1998.	

4.13 EROSION PREVENTION

4.13.1 Environmental Concerns

Eroded material could potentially cause siltation in water bodies and, subsequently, potentially decrease suitable habitat for aquatic and terrestrial animals.

4.13.2 Environmental Protection Procedures

- a) All work relating to the construction and operations activities for the Project will be conducted according to the conditions set out in the permits and/or approvals and authorizations from the NLDMAE.
- b) Primary means for controlling erosion is avoiding activity that contributes to erosion.
- c) Drainage ditches will be stabilized if required (e.g., lining with vegetation or rock, terracing, interceptor swales, installation of rock check dams) to reduce soil erosion. Any such measures will be properly maintained following installation.
- d) All areas of exposed erodible soil will be stabilized by back-blading, grading and/or compacting to meet engineered slope requirements.
- e) If an inspection reveals that silt is entering any waterbody, further mitigative measures will be implemented, such as temporary drainage ditches, siltation control (settling) ponds, ditch blocks/check dams or sediment dam traps, to intercept run-off. The necessary or appropriate measures will be determined in the field.
- f) All work and laydown and storage areas will be monitored for erosion and appropriate repair action taken as necessary.
- g) Existing or new siltation control structures used in this work will be monitored for excessive accumulation of sediment. Accumulated sediment will be removed from control structures to gain full effectiveness of the systems. Effluent from control structures will be released to flow overland for appropriate filtration prior to entering any waterbody.
- h) Excess water will be removed from siltation control systems prior to excavation of sediment.
- i) The tailings impoundment area also has an ongoing program of progressive rehabilitation that requires regular vegetation seeding and fertilization to promote growth across the area. This reduces the potential impact of surface water runoff and associated solids deposition in the water from that area.

5.0 Contingency Plans

This section is a summary of various contingency plans and actions to address accidental or unplanned events. In the case of an accidental event, the immediate Site Representative will be informed, and the Site Representative will notify the appropriate emergency services through the appropriate chain of command. Emergency response generally includes:

- Accurately defining the problem;
- Determining if an evacuation is necessary, and in what direction;
- Ensuring hospitals and clinics have been notified, and supplying them with relevant medical information;
- Ensuring all workers and public are controlled at a safe distance from the emergency;
- Ensuring responders through their respective chain of command know plans prior to acting; and,
- Reporting

5.1 FUEL AND OTHER HAZARDOUS MATERIALS

The purpose of the Contingency Plan is to provide a means to prevent, and if that is unsuccessful to respond to any spill event of petroleum products or other hazardous materials. This plan provides the protocols for responding to spills (or potential spills) that minimize health and safety hazards, environmental damage and clean-up costs as well as defining responsibilities of response personnel. ALL spills no matter the size are to be cleaned up immediately and be reported to the Environmental Coordinator.

Any individual who discovers a leak or spill must take all steps to immediately stop the leak or spill and prevent further release of any contaminant into the environment, so long as it is safe to do so. Spill location, type of contaminant, volume and terrain condition at the spill site will be determined and reported immediately to the Environmental Coordinator and then EHS Manager.

Appropriate numbers of TACORA employees per work shift located on site will be trained in spill clean-up procedures and equipment use. These employees will act in consultation with the Environmental Coordinator and regulating authorities. The following general criteria apply to spill response scenarios:

- a) Minimize danger to persons;
- b) Protect water supplies;
- c) Minimize pollution of watercourses;
- d) Minimize area affected by spill; and
- e) Minimize the degree of disturbance to the environment

All spills in freshwater environments and spills of 70 litres or more on land must also be reported to the Canadian Coast Guard at (709) 772-2083 or 1-800-563-9089. The Contingency Plan includes the specific reporting details for this scenario.

5.2 WILDLIFE ENCOUNTERS

Wildlife encounters pose a potential risk for stress or injury to both the wildlife and site personnel. As a protection measure, hunting, trapping or fishing by Project personnel is not permitted on site while under the direct or indirect employment of TACORA Resources Inc. In an effort to minimize the potential for wildlife encounters, the following procedures should be followed;

- a) Site and working areas shall be kept clean of food scraps and garbage;
- b) The on-site landfill shall be regularly maintained, compacted, and covered in order to deter wildlife scavenging,

In the case of any staff encountering wildlife on site, the following steps shall be followed;

- a) Leave the animal alone; proceed with his/her work provided it does not interfere with their personal safety, or the animal in question.
- b) If the animal presents a risk to human safety, contact site Security for appropriate assistance.

5.3 DISCOVERY OF HISTORIC RESOURCES

There is a possibility that undiscovered archaeological sites exist within the project footprint. The Historic Resources Act (SNL1990) states that all archaeological sites and artifacts are the property of the Crown. It is important to TACORA that these rules are followed, and therefore the following protection procedures will apply in relation to historic resources:

- a) Work crews will be briefed on the recognition of historic resources and their responsibility to report any unusual findings.
- b) Work boundaries may be moved to protect historic resources.
- c) In the instance of discovery of historic resources, the Environmental Coordinator and EHS Manager are to be contacted first; who will then notify the Provincial Archaeologist at the Provincial Archaeology Office at (709) 729-2462, fax (709) 729-0870. Reporting information will include:
 - Nature of activity;

- Nature of material discovered;
 - Precise location of the find; and,
 - Name of the person finding the material.
- d) The discovery area will be cordoned off for the duration of the Project, or until the finding is determined to be not significant by the Province as appropriate. Under no circumstances will work be carried out at the location of the discovery, nor will anyone remove material unless authorized to carry out Archaeological Activity under a written permit.
- e) In the event of the discovery of suspected human remains or a burial site, the procedures outlined below will apply:
- Work in the immediate area will be suspended, the EHS Manager and General Manager will be notified immediately.
 - If remains are found during operations by heavy equipment, the equipment will not be moved by the employee/contractor, as physical evidence may be destroyed.
 - The site, including heavy equipment, if necessary, will be secured by the employee or contractor with flagging tape or some other appropriate means. The suspected remains will be covered with a tarp.
 - TACORA will contact the local Royal Canadian Mounted Police (RCMP) detachment.
 - If the RCMP determines that the remains are associated with a historic burial, TACORA will contact the PAO to obtain guidance on further actions.

5.4 FOREST FIRES

The prevention and containment of forest fires requires appropriate equipment and training. TACORA will ensure that the Project site during the reactivation of the Scully Mine will be properly outfitted, and that employees will be aware of actions to take in the event of a forest fire. The following protection procedures will be implemented to prevent forest fires and to minimize their effects:

- a) Flammable wastes will be disposed of properly on a regular basis.
- b) Worksites will be well equipped with proper equipment in case of emergency fires, these will meet the requirements of the *Forest Fire Regulations CNLR 11/96*.
- c) TACORA will ensure that workers are aware of the location and the proper usage of equipment in case of an emergency.
- d) Smoking will only be permitted in designated areas.
- e) No open fires will be allowed at either on the main site or at other work sites during the forest fire season, unless there is an emergency.
- f) Fires shall be reported immediately to the fire department in Wabush and Lab City. The following information shall be provided:

- Name of reporter and phone number;
- Time of detection of the fire;
- Size of the fire; and,
- Location of the fire.

6.0 Contact List

Below is a sample list of emergency contact numbers. These numbers will be updated to include key Project personnel, and other important emergency contacts, and displayed in a visible, central location.

EMERGENCY NUMBERS

Wabush

Emergency	911
Hospital	(709) 944-2632
Police	(709) 944-7602
Fire (Wabush)	(709) 282-3211
Fire (Lab City)	(709) 944-7778

Plant

First Aid	TBD
Security	TBD
Safety	TBD
Environment	TBD

Poison Info Center	(709) 722-1110
Health and Community Services Crisis Line (24 hour helpline)	(888)-737-4668

Newfoundland & Labrador

RCMP (Province wide)	(800) 709-7267
Wildlife Division (Wabush)	(709) 282-6881 (709) 282-2052
Municipal Affairs & Environment	(709) 772-2083

Federal

Canadian Transport Emergency Centre (CANUTEC)	(613) 996-6666
Coast Guard Spill Line (any spills > 70 L)	(800) 563-9089

7.0 References

Reactivation Plan, Rev 1; September 8, 2017 Tacora Resources Inc.

Gosse, M.M., A.S. Power, D.E. Hyslop and S.L. Pierce. 1998. Guidelines for Protection of Freshwater Fish Habitat in Newfoundland and Labrador. Fisheries and Oceans, St. John's, NL. 105 pp.

CCME (1994). Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products. Retrieved from: http://publications.gc.ca/collections/collection_2014/ec/En108-4-21-1994-eng.pdf.

Used Oil Control Regulations. Newfoundland and Labrador. Retrieved from: <http://www.assembly.nl.ca/legislation/sr/regulations/rc020082.htm>.

Transportation of Dangerous Goods Act - Part 8. Retrieved from: <https://www.tc.gc.ca/eng/tdg/clear-part8-379.htm>.

Storage and Handling of Gasoline & Associated Products Regulations. Newfoundland and Labrador. Retrieved from: <http://www.assembly.nl.ca/legislation/sr/regulations/rc030058.htm>.

Fisheries Act, RSC 1985. Retrieved from: <http://laws-lois.justice.gc.ca/eng/acts/f-14/>,

Storage and Handling of Gasoline and Associated Products Regulations. Newfoundland and Labrador. Retrieved from: <http://www.assembly.nl.ca/legislation/sr/regulations/rc030058.htm>.