

**ENVIRONMENTAL PROTECTION PLAN
FOR THE
DUCK POND COPPER-ZINC PROJECT**

Prepared for:

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1 INTRODUCTION

1.1 Purpose of the EPP

Environmental protection planning is an important component of overall project planning and implementation for mining projects. Environmental Protection Plans (EPPs) are commonly required as part of a project approval by governments following the environmental assessment stage of the project planning, and before construction and/or development occurs. EPPs provide a practical way in which proponents can demonstrate understanding of environmental regulations, and document practices and procedures required to minimize or eliminate potential environmental impacts resulting from the project.

Aur Resources Inc. (Aur) has committed to the development and implementation of a comprehensive EPP. This will help ensure a high level of environmental protection throughout its work areas and activities associated with the continued exploration and mine development at Duck Pond. An EPP is a working document for use in the field for both project personnel and the Site Manager, as well as at the corporate level for ensuring commitments made in policy statements are implemented and monitored. EPPs provide a quick reference for project personnel and regulators to monitor compliance and to make suggestions for improvements.

EPPs typically undergo many revisions for complex and dynamic activities such as mine/mill operations and exploration activities and, as such, this EPP is structured to allow for updates and revisions as work continues.

This EPP provides the protection procedures for the routine activities associated with mine/mill operational activities. The EPP forms an integral part of the overall environmental management planning approach by Aur. Other aspects of environmental management planning include compliance monitoring, reporting, environmental effects monitoring, employee orientation, and liaison with governments, communities and interest groups.

The purpose of the EPP is to:

- ensure that commitments to minimize environmental impacts will be met;
- document environmental concerns and appropriate protection measures;
- provide concise and clear instructions to project personnel regarding procedures for protecting the environment and minimizing environmental impact;
- provide a reference document for personnel when planning and/or conducting specific activities;
- provide a training aid during implementation efforts;
- communicate changes in the program through the revision process; and
- provide a reference to applicable legislative requirements.

1.2 Organization of the EPP

This EPP provides instructions to ensure project personnel understand and implement environmental protection procedures for both routine activities and unplanned events associated with mine/mill operations at the Duck Pond Copper-Zinc Project.

The style and format of the EPP is intended to enhance its use by project personnel in the field. It is also to provide an important support document between the overall Environmental Management Plan and the various permits, approvals and authorizations issued for specific project components and activities.

The EPP comprises the following sections:

The *Preface* provides the distribution records of the EPP.

Section 1 introduces the EPP. This section also provides the reader with Aur's Environmental Policy, a Project Description as well as a site map indicating which environmental procedures are most suitable in the various regions of the mine/mill complex.

Section 2 describes the environmental concerns and general environmental protection procedures.

Section 3 provides response instructions to project personnel for unplanned events.

Section 4 describes environmental compliance monitoring responsibilities and procedures.

Section 5 provides an outline of abandonment/rehabilitation plans.

Section 6 contains a list of key project, regulatory and community contacts for the environmental team to enhance the implementation of the EPP.

Section 7 provides a list of potential permits, approvals and authorizations that may be necessary for various activities during mine/mill operations

Section 8 is a listing of references cited throughout the EPP. These references should be consulted for more detailed discussions than those provided in the text.

1.3 Environmental Orientation

Aur is committed to an active environmental orientation and ongoing environmental awareness program throughout its mine/mill operations. Where possible, all workers will receive a brief environmental orientation from the Site Manager or environmental support staff prior to initiating work at the Duck Pond site.

An Environmental Orientation Program will be developed on a continuing basis during the design and construction phase. The orientation will be for specific contractors and specific employees as appropriate. There will not be any orientation for visitors. The orientation session will be specific to the work to be performed by contractors but will be complete for some permanent employees and will include the following contingency plans, in addition to those detailed in Section 3:

- Procedure in case of an Environmental Emergency (general communication line)
- Procedure in case of fire on surface
- Procedure in case of a spill from the tailings and process water lines
- Procedure in case of a mill reactive product spill
- Procedure in case of a spill from a truck concentrate on site

1.4 Aur Policy

It is the policy of Aur to prudently manage its environmental obligations in all aspects of its work and to achieve full compliance in areas where work is conducted as well as related off-site areas (i.e., downstream and downwind). Effective management in this respect is considered an integral part of the company's daily operations. To ensure protection of the environment, work at all times will be subject to inspection by Aur and relevant municipal, provincial and federal government agencies. All applicable regulations will be followed during all phases of the project. Specific matters related to environmental protection shall be dealt with between the Contractor and Aur.

1.5 Project Description

The Duck Pond Copper-Zinc Project is planned to be a 1,500 tonne per day copper-zinc milling complex located 30-km southeast of Buchans at Tally Pond. Resources are currently estimated in the range of 4.6 M tonnes of which, 4.08 M tonnes are classified as mining reserves that will support a mining operation with a minimum 8-year mine life. Exploration is ongoing to identify additional reserves that could augment the mine life.

The required infrastructure for the Project includes a mine/concentrator complex, which will receive, store and process ore from both the underground deposit and the open-pit Boundary Deposit. Access roads are required to, and throughout the Project Site, including a haul road between the mine/ concentrator complex and the Boundary Deposit. Existing resource roads will be used where practical. Tailings will be disposed of at two locations. Approximately 45% of the tailings will be pumped from the complex to a 1.5-km² tailings containment area, which will provide tailings storage for the life of the project. Approximately 55% will be re-routed to the paste backfill plant for underground operations. Water from the tailings containment area will be reclaimed and pumped back to the concentrator to be reused in the process. All effluent from the site including precipitation incident to the tailings containment area, storm water run-off from the mine/concentrator complex, mine water, and process water from the milling process will be pumped to the Tailings Management Area. All explosives will be stored at a dedicated explosives storage facility. During the initial phases of the project, a construction camp for up to 160 people, including construction workers, engineering staff and visitors will be located adjacent to the mine/ mill complex.

Concentrate from the Mill will be hauled by truck to a marine facility for shipment to a smelter. The marine storage and transfer facility will handle the concentrate under contract to Aur Resources. Aur Resources will not be the operators of either the marine storage/transfer facility or the means that are used for road and marine transport.

1.5.1 Paste Backfill Preparation Plant

As was the case for the Thundermin feasibility study, the paste backfill preparation plant has been designed to produce an average of 361 m³/d of paste fill.

The design paste density is 78% solids, obtained by thickening and filtration of the plant tailings on a disc filter. Type 10 Portland cement will be added at an average rate of 3.7 % by weight. This average was calculated based on the tonnage to be mined using the different mining methods and the resulting variations in required compressive strength. If slag were to become economically available to the project, its strength characteristics would make it the binder of choice.

The paste backfill plant will have a capacity of 50 t/h based on the maximum tailings production rate expected from the plant under low feed grade conditions. The mass balance for average feed grades from the Duck Pond deposit shows that 61% of the zinc rougher tailings and rejected lead concentrate will be sufficient to meet the mine backfill needs. The zinc cleaner-scavenger tailings will bypass the tailings thickener and report to the final tailings pump box in order to decrease the slimes load in the backfill preparation system. This will allow both a better filtration rate and compressive strength build-up for a fixed binder content.

A storage capacity of 330 t of thickened tailings, between the concentrator and the paste fill plant, will provide a modest surge to enable the backfill preparation process to operate smoothly with short-term interruptions.

Flotation tailings will be thickened, stored in a stock tank and pumped to a disc filter for moisture reduction before binder is added. The unit area requirement for the high-capacity tailings thickener was set at 0.19 m²/t/d in accordance with test data.

The design throughput rate for the disc filter is 490 kg/h/m², for target moisture of 18-20%, based on experience at other operations with tailings material of similar size distribution and no clay content. No filtration test work was conducted using tailings material.

1.5.2 Turf Point Marine Loading Facility

Turf Point Loading Facility was built in the 1960's to ship gypsum. Western Logging Ltd., the current owner operator, purchased and later in 1997 refurbished the facility.

It has recently been used to load 500,000 tons of magnetite for the Hibernia project, to ship aggregates for to the Eastern seaboard markets and gypsum to ports in Ontario.

Turf Point loading rates vary from 1000 to 3500 tons per hour depending upon the product being shipped. Its conveyor system loads ships mainly to the Handy classification (40,000-ton vessels).

The wharf is 230 m (755 feet) long on five concrete caissons with a minimum depth of 12 m (40 feet) MLT on the west side and 11.58 m (38 feet) MLT on the east side at the 1st caisson and 14.3 m (47 feet) at the 5th.

Concentrate will be transported by road to Turf Point. The route will be via forest access roads along Red Indian Lake to the Burgeo Highway (Route 480), then 24 km along the TCH to the exit to St. George's.

1.5.3 Construction Activities

Activities related to the construction of the Duck Pond Copper-Zinc Project include:

- site development, including
 - clearing vegetation and grubbing topsoil and overburden using heavy equipment,
 - disposal and/or storage of soil and related debris,
 - vehicle movement, including heavy equipment,
 - grading activities on roads,
 - drilling and blasting, limited to areas at the mill complex for the foundation preparation,
 - transportation of workers to and from site,
 - trenching for small-diameter water lines,
 - transportation, storage and handling of fuel and other hazardous materials,
 - concrete production, placement, and
 - building erection/placement;
- water crossings;
- temporary construction camp;
- water supply;
- sewage treatment;
- surface water management;
- waste rock and overburden management; and

- activities at Turf Point (Western Logging marine facility).

1.5.4 Operation Activities

Activities related to operating the Duck Pond Copper-Zinc Project include:

- drilling and blasting;
- transportation and vehicle operation;
- waste handling, storage and disposal;
- water supply;
- sewage disposal;
- fuel and other hazardous materials transportation, handling and storage;
- water management; and
- concentrate transfer to Turf Point (Western Logging marine facility).

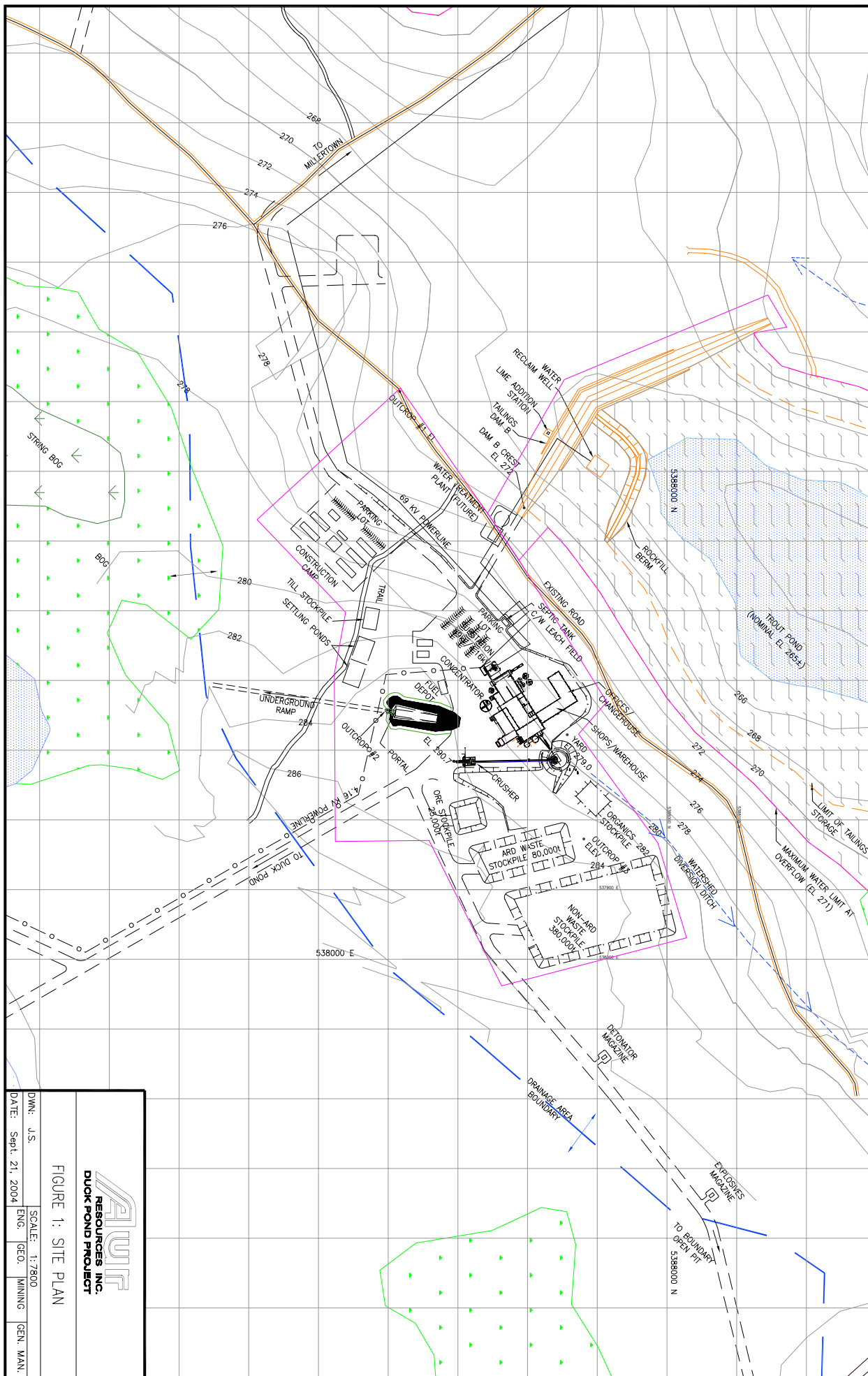


		FIGURE 1: SITE PLAN	
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2 GENERAL ENVIRONMENTAL PROTECTION PROCEDURES

- 2.1 Surveying
- 2.2 Buffer Zones
- 2.3 Erosion Prevention
- 2.4 Water Supply
- 2.5 Site Drainage
- 2.6 Clearing Vegetation
- 2.7 Grubbing and Disposal of Related Debris
- 2.8 Quarrying and Aggregate Removal
- 2.9 Concrete Production/Placement
- 2.10 Construction Camp
- 2.11 Trenching
- 2.12 Dewatering – Work Areas
- 2.13 Excavation, Embankment and Grading
- 2.14 Blasting on Land
- 2.15 Blasting in Close Proximity to Water
- 2.16 Drilling – Exploration, Geotechnical, or Water Well
- 2.17 Watercourse (Stream) Crossings
- 2.18 Storage, Handling and Transfer of Fuel and Other Hazardous Materials
- 2.19 Solid Waste Disposal
- 2.20 Sewage Disposal
- 2.21 Mine Water/Waste Water Treatment
- 2.22 Dust Control
- 2.23 Noise Control
- 2.24 Equipment Use and Maintenance
- 2.25 Pumps and Generators
- 2.26 Vehicle Traffic, including ATV and Snowmobile Traffic
- 2.27 Tailings Dam Inspections

Section 2 provides general environmental protection procedures for anticipated activities routinely associated with mine/mill construction and operation. Where applicable, the "Environmental Guidelines for Construction and Mineral Exploration Companies" prepared by the Newfoundland and Labrador Department of Environment and Conservation (DOEC) and the Newfoundland and Labrador Department of Natural Resources (DNR-Mines) will apply. As needed, any additional protection procedures can be added to address future activities.

Reference Material (Distributed to all EPP Holders)

DOEC. Water Resources Management Division. Chapter 3A. Environmental Guidelines for Stream Crossings by All-Terrain Vehicles.

DNR-Mines. Environmental Guidelines for Construction and Mineral Exploration Companies.

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, NF. X + 105 pp., 2 appendices.

2.1 Surveying

Surveying activities may include:

- land definition
- vegetation removal;
- traversing;
- transmission line; and
- establishing targets, permanent bench marks and transponder stations.

Environmental Concerns

Surveying activities may disturb wildlife species, vegetation and historic resources.

Environmental Protection Procedures

Vegetation Removal

- a) Width of survey lines will be limited to that which is necessary for line of sight and unobstructed passage.
- b) Whenever possible, cutting lines to the boundary between treed and open areas will be avoided.
- c) Trees and shrubs will be cut flush with the ground wherever possible.
- d) Cutting of survey lines will be kept to a minimum. Where possible, alternate areas not requiring cut lines will be used.
- e) All trees not exactly on transit lines shall be left standing.
- f) When surveying construction layouts, areas that will be cleared require a modified adherence to the above, except trees, shrubs and areas to be saved or left natural as noted on the plans or marked in the field.
- g) No attempt to harass or disturb wildlife will be made by any person.
- h) Vehicles will yield the right-of-way to wildlife.
- i) There will be no cutting in areas designated as sensitive without notification and approval of the Site Manager.
- j) Archaeological sites and features such as tent rings and caches (boulder piles) will not be disturbed during survey work. Any historic resource discoveries will be reported to the Culture and Heritage Division (see Section 3.3).

Traversing

- a) All-terrain vehicles (ATVs) will not be allowed off the right-of-way except as approved by the Site Manager. The use of ATVs will be restricted to designated trails, thus minimizing ground disturbance. ATV use will comply with the Motorized Snow Mobile and All-Terrain Vehicle Regulations, 1996 under the *Motorized Snow Mobile and All-Terrain Vehicle Act* and the Environmental Guidelines for Stream Crossings by All-Terrain Vehicles issued by the Department of Environment and Conservation.
- b) No attempt to harass or disturb wildlife will be made by any person.
- c) No motorized vehicles will enter the areas designated as sensitive without notification and approval of the Site Manager.
- d) The extent of activities in sensitive areas such as wetlands will be minimized wherever possible.
- e) Walking in sensitive areas will be restricted to established walking paths, if available.

Establishing Targets, Permanent Benchmarks and Transponder Locations

- a) In normal ground conditions a 15mm x 400mm long rebar is driven approximately 350mm into the surface with an 8-lb sledgehammer. When bedrock or a large boulder is encountered less than 300mm below the ground surface, a 15mm x 150mm long rebar is cemented in a hole drilled in the rock. The rebar will be set into the rock a minimum distance of 80mm.
- b) No attempt to harass or disturb wildlife will be made by any person.
- c) Access to sensitive areas is to be approved by the Site Manager.
- d) Standard iron bars and sledgehammers are to be used to establish benchmarks.
- e) Access by heavy equipment to sensitive areas such as wetlands will only be through established right-of-ways.

2.2 Buffer Zones

Environmental Concerns

Buffer zones are essential boundaries for water bodies. Without adequate buffer zone vegetation, streams, ponds and lakes can become laden with silt run-off. Vegetation also provides cover for fish. This general procedure is addressed in detail in other General Procedures (Sections 2.3 and 2.4).

Environmental Protection Procedures

- a) Where possible, a 50 m buffer zone of undisturbed natural vegetation is to be maintained between construction areas and all waterbodies.
- b) Silt runoff control fences will be constructed at the toe of the slope outside the buffer zone when required to control runoff from areas of exposed soils towards waterbodies. Silt fences and buffer strips will be inspected on a regular basis by the Site Manager. Any accumulations of silt should be removed and disposed of in an area where it will not re-enter any water body. In addition, repairs and replacement of damaged silt fences will be addressed immediately.
- c) A minimum buffer zone of natural vegetation of 15 m from the high water mark of waterbodies will be maintained around work areas where available space poses a constraint. If the available space allows for establishing wider buffer zones, then a 50 m buffer zone will be maintained between construction areas and watercourses, and will be developed in consultation between the Site Manager and the DOEC.
- d) Where possible, fish habitat protection guidelines recommend the minimum width of the buffer zone between construction areas and all waterbodies will be calculated by the following formula:

$$\text{Buffer Width (m)} = 12 \text{ m} + 1.5 \times \text{slope (\%)} \quad (\text{Scruton et al. 1997})$$

However, a minimum buffer zone of 15 m will be maintained at all times, and where possible a 50 m buffer zone will be maintained except where specified otherwise.

- e) A minimum buffer zone of 25 m will be maintained around any archaeological site within which no construction activities will take place. Where available space poses constraints, this width may be reduced and supplemented by other protective measures.

2.3 Erosion Prevention

Environmental Concerns

Eroded material can increase siltation in waterbodies thereby decreasing suitable habitat for aquatic and animals. Erosion may lead to the loss of topsoil. Erosion prevention practices will be applied throughout all work areas on exposed or erodible materials.

Environmental Protection Procedures

General

Primary means of erosion control are avoidance of activities contributing to erosion. All areas of exposed erodible soils are to be stabilized by back-blading or grading to meet engineered slope requirements. Where erosion along exposed erodible slopes is a potential concern and a natural vegetation buffer of less than 15 m from the high water mark exists between erodible areas and waterbodies, a silt fence will be constructed to control silt runoff.

Engineering requirements will vary depending on the locations of the silt fence and will take such factors into consideration as drainage/surface area of exposed soils and time of year the silt fences employed.

Specific erosion and sedimentation control measures have been designed for construction in Newfoundland to minimize the effects of construction activities on the environment. They include: site drainage ditching system, including culverts and risers; installation of piped outlet siltation control ponds; temporary run-off interceptor ditches; and check sediment dam traps which will provide both energy dissipation and siltation control. However, regardless of these protection measures, if an environmental inspection reveals that silt is entering a watercourse, further mitigative measures will be implemented.

In no case shall exposed soil be left unstabilized for a period in excess of 30 days. Should work occur late in the season such that re-vegetation would be ineffective, straw mulch will be mixed into stabilized soil for over winter protection.

Streams

All stream bank sections that contain loose or erodible materials are to be stabilized. No material is to be deposited within the watercourse. Sloping is to be accomplished by back-blading and the material removed is to be deposited above the high water mark of any watercourse.

Excavation, embankment and grading of common rock and other materials may be required for access road construction.

2.4 Water Supply

General Water supply requirements during construction are estimated to be 30 m³/hr and will be obtained from Tally Pond via pumping and insulated/trenched high-density polyethylene (HDPE) piping to the construction camp. Water demand during operation is anticipated to be approximately 90 m³/hr to meet mill demands and general use by workers in buildings, equipment operation and fire demand; it will be pumped from Tally Pond. Potable water will be supplied from a well during construction and operation.

Environmental Concerns

Environmental concerns related to water supply include potential detrimental effects to the habitat (and populations) in and around Tally Pond.

Environmental Protection Procedures

- a) The water intakes will have an appropriate screen to prevent damage to fish. Guidelines for the screening of water intakes are provided by DFO (1995).
- b) Reclaimed water from the Tailings Management Areas will be used to minimize fresh water demand from Tally Pond.

2.5 Site Drainage

Surface water runoff will follow precipitation events.

Environmental Concerns

Environmental concerns related to surface water runoff include potential siltation of streams and erosion of earthworks.

Environmental Protection Procedures

The following measures will be implemented to minimize the potential impacts from surface water runoff:

- a) Surface water control facilities will be established prior to initiation of site development and boundary pit development activities, including, as required:
 - i) sedimentation ponds;
 - ii) diversion ditches and channels;
 - iii) sumps and pumps; and
 - iv) areas with potential for contamination (i.e., fuel storage areas).
- b) All site water that has the potential to be contaminated, will be sampled and tested for the criteria listed in Schedule A of the *Environmental Control Water and Sewage Regulations, 2003* under the *Water Resources Act* before it is discharged to a waterbody. Any water that does not meet these criteria shall not be released to a waterbody as defined within the Act.

2.6 Clearing Vegetation

Environmental Concerns

Vegetation clearing (e.g., trees, and shrubs) will be required in advance of access road construction, surveying, building construction and other site preparation activities. Concerns include the uncontrolled burning of slash and piling of vegetation in or near watercourses, and encounters with historic resources.

Environmental Procedures

Measures will be implemented to minimize the potential effects of vegetation removal. Clearing activities will be limited to those areas that are required for exploration, mine and site infrastructure, and will comply with the requirements of all applicable permits, including the Commercial Cutting Permit, the Operating Permit and the Permit to Burn from the Newfoundland and Labrador Department of Forest Resources and Agrifoods, Local Forest Management Unit.

- a) A cutting permit will be obtained prior to the start of any additional required site clearing. Clearing or removal of trees will be restricted to the minimum areas needed for the site and stockpiles.
- b) Clearing will consist of cutting to within 150 mm of the ground and disposing of all standing trees, as well as the removal of all shrubs, debris and other perishable materials from the area indicated on the engineering/survey drawings.
- c) All slash will be piled for subsequent disposal.
- d) Only those areas designated on drawings will be cleared. Trees will be blazed at intervals in advance of clearing to demarcate the limits of the work. Blazed trees will not be felled. Clearing activities will not remove any trees outside the authorized clearing widths.
- e) All merchantable or forest product timber within the specified clearing limits will be located so as not to obstruct the access or work of others. Merchantable timber is defined as all species cut down to a 50-mm top and suitable for use as firewood. This wood will be cut into lengths of 2.5 m and 1.22 m to ensure use down to the required 50-mm top diameter.
- f) All merchantable or forest product timber will be salvaged. This will become the property of Aur.
- g) Disposal of cleared unmerchantable timber, slash and cuttings by burning will be in compliance with the Forest Fire Regulations, 1996 under the *Forestry Act*, Environmental Code of Practice for Open Burning and the Permit to Burn (from the Newfoundland and Labrador Department of Forest Resources and Agrifoods). At no time will a fire be left unattended.
- h) Slash and any other construction material or debris will not be permitted to enter any watercourse. These materials will be piled above spring flood levels.
- i) Chain saws or other hand-held equipment will be used in clearing vegetation except where alternative methods or equipment are approved by the Department of Forest Resources and Agrifoods. The use of mechanical clearing methods, such as bulldozer, will not occur except where it can be demonstrated that there

Section 2.6 - Clearing Vegetation

is no merchantable timber (as defined by the DNR-Forest Resources), and where the resulting terrain disturbance and erosion will not result in the loss of topsoil or the sedimentation of watercourses and waterbodies. Also, a buffer zone of 15 m from the high water mark will be established in areas where clearing of vegetation is an activity within the vicinity of a waterbody.

- j) A 50 m buffer zone of undisturbed vegetation will be maintained between construction areas and all waterbodies (Section 2.2) (Scruton et al. 1997).
- k) Timber shall be felled inward toward the work area to avoid damaging any standing trees within the immediate work area.
- l) Workers will not destroy or disturb any features such as tent frames consisting of cut poles placed in a rectangular arrangement to hold a tent cover. Such features are indicative of a cultural or archaeological site and should be avoided until a report has been made to the Culture and Heritage Division and clearance to proceed has been received (see Section 3.3).
- m) The area within the Tailings Management Area will be cleared of all merchantable timber but other vegetation (brush and small trees) will be left in place.

2.7 Grubbing and Disposal of Related Debris

Environmental Concerns

The principle concerns associated with grubbing and disposal of related debris are the potential impacts on freshwater ecosystems and water quality.

Environmental Protection Procedures

Measures undertaken to minimize impact on aquatic habitat and resources are as follows:

- a) Grubbing of the organic vegetation mat and/or the upper soil horizons will be minimized, and left in place where possible.
- b) The organic vegetation mat and upper soil horizon material, which has been grubbed, will be spread in a manner, which attempts to cover exposed areas. Any surplus of such material will be stored or stockpiled for site rehabilitation and re-vegetation purposes elsewhere in the project area. Topsoil will be stockpiled separately from the overburden. The location of the stockpiles will be recorded and accessible for future rehabilitation purposes.
- c) Measures will be implemented to minimize and control runoff of sediment-laden water during grubbing, or the re-spreading and stockpiling of grubbed materials. Where grubbed materials are re-spread or stockpiled, as many stumps and roots as possible will be left on the ground surface to maintain soil cohesion, to dissipate the energy of runoff, and promote natural re-vegetation. Erosion control measures will be implemented in areas prone to soil loss; these measures could include brush cover, stone riprap, wire mesh, settling ponds, and drainage channels.
- d) The length of time that grubbed areas will be left exposed to the natural elements will be minimized to prevent unnecessary erosion.
- e) Grubbing activities will be avoided in areas of high slope(s) near watercourses. A buffer zone of 12 m + 1.5 x slope (%) will be maintained between grubbed areas and watercourses. Where possible, grubbing limits adjacent to watercourses will be flagged in the field (Scruton et al. 1997).
- f) During grubbing, care will be taken to ensure that grubbed material will not be pushed into areas that are to be left undisturbed.

2.8 Quarrying and Aggregate Removal

Environmental Concerns

The principal concerns for quarry development and associated aggregate removal include the potential for sedimentation of freshwater systems and loss of terrestrial habitat and land use.

Environmental Protection Procedures

Permits to Quarry will be obtained from the DNR-Mines before quarries are established.

The following measures will be implemented to minimize the potential impacts of quarrying activities and subsequent aggregate removal:

- a) Quarry activity will adhere to all relevant federal, provincial and municipal laws and regulations. All activities will be undertaken in strict compliance with quarry permits from the DNR-Mines.
- b) Quarry areas will be developed in a controlled manner to minimize potential environmental effects. The following protection procedures will be implemented to minimize disturbance and facilitate rehabilitation:
 - (i) where possible, quarries will be located a minimum of 100 m from any watercourse or waterbody. Deviations from this requirement will only be made under permit and with the permission of the Newfoundland and Labrador Department of Government Services and the DNR-Mines;
 - (ii) the development area, stockpile area and limits of clearing will be staked and/or flagged to prevent over-extension of the development, thereby minimizing the extent of the operation;
 - (iii) the area to be excavated will be clear cut of all vegetation prior to any grubbing, excavation or removal of any material (Section 2.6);
 - (iv) all stumps, organic matter and topsoil will be stripped from the area to be excavated and stockpiled at least 5 m from uncleared areas; stockpiled strippings will be kept at least 10 m from the area of excavation; separate overburden piles will be developed where this material is present; topsoil and the underlying overburden will not be mixed;
 - (v) stockpile areas are to be approved by the Site Manager prior to stripping;
 - (vi) upon completion of excavation of a quarry, no cliff faces or benches will be left at a height of greater than 5 m. Available material, left over from quarrying and stockpiled overburden will be used to minimize slopes and face heights;
 - (vii) following sloping, the topsoil and any organic materials will be re-spread over the disturbed area to promote natural re-vegetation by adjacent seed sources;
 - (viii) a settling pond will be established and, if required, cleaned on a regular basis to ensure that the retention capacity is maintained at all times; and

Section 2.8 - Quarrying and Aggregate Removal

- (ix) quarterly reports will be sent to the Department of Natural Resources indicating the quantity of quarry material removed.
- c) Dust from aggregate storage and handling will be controlled with water as required (Section 2.22).
- d) If crushing activities in the quarry require a water source, approval from the DOEC, Water Resources Division, and Department of Fisheries and Oceans (DFO) will be obtained prior to any water use.

2.9 Concrete Production/Placement

Environmental Concerns

Although cured concrete has little effect on water quality, fresh concrete and concrete products may raise the pH in receiving waters to potentially toxic levels (i.e., well above pH 9).

Environmental Protection Procedures

The following measures will be implemented to minimize the potential impacts from concrete production or placement.

- a) Mixing of cement to form concrete will take place at least 100 meters from any watercourse.
- b) Cement or fresh concrete shall not enter any watercourse or water body. Dumping of concrete or washing of tools and equipment in any body of water is prohibited.

2.10 Construction Camp

Environmental Concerns

Environmental concerns associated with the development of the Construction Camp include the clearing of vegetation and the subsequent soil disturbances that may result in erosion and the introduction of sediments into nearby streams. Development activities will result in habitat loss and noise disturbance for wildlife in the area.

Sensitive Areas and Periods

All waterbodies and forested areas are considered sensitive areas. Areas to be cleared should be minimized and only include areas needed for engineering requirements.

Permits, Approvals and Authorizations

A summary of the various permits, approvals and authorizations that pertain to the installation of the Construction Camp is provided in Table 2.1.

Environmental Protection Procedures

The Site Manager must review camp plans with the Engineer prior to commencement of construction to ensure that:

- a) Buffer zones are flagged prior to any disturbance activities.
- b) Natural vegetation is left in place where possible.
- c) Where possible, ground preparation required to create level areas/pads for trailers will involve the placement of fill over natural vegetation. If engineering requirements can be achieved without the prior removal of natural ground cover, this is the preferred method.
- d) Drainage from areas of exposed fill will be controlled by grade or ditching and directed away from watercourses, whenever possible.
- e) Surface water will be directed away from work areas by ditching and that runoff from these areas will have silt removed by filtration or other suitable treatment.
- f) The requirements for ditch blocks/check dams or sediment traps to intercept runoff are determined in the field.
- g) Check dams are used as required to reduce runoff velocity from work areas where there is exposed soil.
- h) Erosion control on exposed/disturbed soil will be principally through the following measures: minimize disturbed areas to what is required; grade disturbed areas to minimize erosion; and compact exposed areas. If required, erosion control matting may need to be placed on exposed slopes prone to erosion.

Table 2.1 Permits, Approvals and Authorizations for the Construction Camp

Permits/Approvals/Authorizations	Agency	Date Issued	Expiry Date
Water Use Authorizations	DOEC – Water Resources		
Permit to Occupy Crown Land	DOEC – Lands Div.		
Authorization to Control Nuisance Animals	DOEC – Wildlife Div.		
Permit to Quarry	DNR-Mines		
Certificate of Approval for the Storage and Handling of Gasoline and Associated Products	DGS		
Approval of Living Accommodations and Eating Facilities	DGS		
Certificate of Approval to Establish a Water Supply and Sewage	DOEC		
Permit to Burn Operating Permit	DNR-Forest		
<p>DGS – Newfoundland and Labrador Department of Government Services DNR – Newfoundland and Labrador Department of Natural Resources - Forest Resources DNR - Newfoundland and Labrador Department of Natural Resources - Mines DOEC - Newfoundland and Labrador Department of Environment and Conservation</p>			

2.11 Trenching

The development of water and sewer infrastructure may require trenching for the burial of lines.

Environmental Concerns

Where excavation for the construction of water lines or any other infrastructure is undertaken, potential runoff of sediment-laden water could result in effects on freshwater fish habitat and water quality.

Environmental Protection Procedures

The following measures will be implemented to minimize the potential impacts of trenching.

- a) The topsoil and excavated overburden and bedrock will be stored in separate stockpiles for later use during rehabilitation.
- b) Any material unsuitable for future rehabilitation will be disposed in a disposal area approved by the Site Manager.
- c) Dewatering of trenches will make use of measures to minimize and control the release of sediment laden water through the use of filtration through erosion control devices, settling ponds, straw bales, geotextile or other devices.

2.12 Dewatering – Work Areas

Work areas, during site development, may require dewatering.

Environmental Concerns

The major concern associated with dewatering of construction sites is siltation and direct fish mortality and/or habitat destruction for freshwater species.

Environmental Protection Procedures

- a) Filtration or other suitable measures, such as settling ponds, silt fences and dykes, will be provided to remove silt from, and reduce the turbidity of, water pumped from work areas before discharging.
- b) Where possible, clean water should be discharged to vegetated work areas to further reduce any potential effects on watercourses.
- c) The area of settling ponds will be gauged to accommodate the anticipated volume of discharged water.
- d) Discharged water will be encouraged to follow natural surface drainage patterns.
- e) Proper precautionary measures will be employed to prevent the alteration, disruption and destruction of fish habitat.
- f) Water pumped from excavations or work areas, or any runoff or effluent directed out of the project site must have silt removed by settling ponds, filtration or other suitable treatment before discharging to a body of water. Effluent discharge will comply with *Environmental Control Water and Sewage Regulations, 2003*.
- g) All site water including underground mine ground water and drill water, waste rock pile runoff, open pit water, tailings dam seepage, mill process water, tailings water and any other water that has the potential to be contaminated, will be sampled and tested for the criteria listed in Schedule A of the *Environmental Control Water and Sewage Regulations, 2003* under the *Water Resources Act* before it is discharged to a waterbody. Any water that does not meet these criteria shall not be released to a waterbody as defined within the Act.

2.13 Excavation, Embankment and Grading

Environmental Concerns

The principal environmental concern associated with excavation, embankment and grading are the potential impacts on aquatic ecosystems and water quality due to runoff of sediment-laden water.

Environmental Protection Procedures

Work will be conducted in a manner that ensures the minimum amount of disturbance necessary. All works near waterbodies or watercourses will be performed in strict compliance with the required watercourse alteration approvals from the DOEC and DFO. Work will be conducted in a manner that controls potential sedimentation of watercourses and waterbodies in or adjacent to the work areas as outlined in the following procedures.

- a) Excavation, embankment and grading will be done only upon completion of grubbing and stripping. Where engineering requirements do not require grubbing and stripping (e.g., within the buffer zone of a stream crossing), filling will occur without any disturbance of the vegetation mat or the upper soil horizons.
- b) Excavation, embankment and grading near stream crossings will be done in a manner which ensures that erosion and sedimentation of watercourses and waterbodies is minimized and is done in strict compliance with the required watercourse alteration permits from the DOEC and DFO.
- c) A buffer zone of undisturbed vegetation will be maintained between construction areas and all watercourses (Section 2.2).

2.14 Blasting on Land

Environmental Concerns

Blasting will be undertaken in association with quarry development. The principal environmental concerns include the following:

- destruction of vegetation outside quarry limits;
- noise disturbances to wildlife;
- disturbance of archaeological resources.

All blasting will be done in compliance with the appropriate permits' and approvals. All blasters will have a Blasters Safety Certificate from DOEC. All temporary magazines for explosive storage will have the appropriate approvals.

Environmental Protection Procedures

The handling, transportation, storage and use of explosives and all other hazardous materials will be conducted in compliance with all applicable laws, regulations, orders of the DOEC and the DNR-Mines, and the *Dangerous Goods Transportation Act* and the Dangerous Goods Transportation Regulations, 1996. The following measures will be implemented to minimize the impact of the use of explosives and blasting.

- a) Explosives will be used in a manner that will minimize damage or defacement of landscape features, trees and other surrounding objects by controlling through the best methods possible, the scatter of blasted material beyond the limits of activity. Outside of cleared areas, inadvertently damaged trees will be cut, removed and salvaged if merchantable.
- b) Blasting pattern and procedures will be used which minimize shock or instantaneous peak noise levels.
- c) Time delay blasting cycles will be used if necessary, to control the scatter of blasted material.
- d) Blasting will not occur near fuel storage facilities.
- d) The Blasters Safety Certificates from DOEC and the Temporary Magazine License (from Energy, Mines and Resources Canada) will be obtained prior to drilling and blasting.
- e) Use of explosives will be restricted to authorized personnel who have been trained in their use.
- f) There will be separate magazines on site, a magazine for explosives and a smaller cap magazine for dynamite blasting caps.
- g) The immediate area of the site will be surveyed within three hours prior to a blast and operations will be curtailed if sensitive animals (e.g., black bear, caribou, and moose) are observed within 500 m. Any individual animal sightings will be reported to the Site Manager.
- h) If blasting is necessary within the vicinity of an archaeological site, precautions must be taken to ensure that blasted material and shock waves do not disturb any part of the site. If necessary, protective covering should

Section 2.14 - Blasting on Land

be applied to the site under the supervision of an archaeologist. Blasting shall not be undertaken in these areas without notifying the Site Manager.

2.15 Blasting in Close Proximity to Water

Environmental Concerns

Blasting may be undertaken in association with many of the work elements. Underwater blasting will not be undertaken as part of the Exploration and Construction phases of the project.

Blasting in or near waterbodies can severely affect organisms with swim bladders (fish) but may also affect a variety of aquatic animals including shellfish, mammals, otters, birds and waterfowl. Affects may be lethal, especially for the more sedentary species, but in many instances, disturbance will be sublethal, perhaps causing the subsequent avoidance of habitat. The introduction of silt and ammonia, into the water column is also a concern for freshwater water quality and related impacts on aquatic life.

Environmental Protection Procedures

In order to minimize the potential impacts of blasting operations upon the aquatic environment, Aur has made a commitment to a "zero" policy on blasting within a watercourse. In addition, blasting near a waterbody will only occur in situations where necessary and will comply with the following:

- a) The handling, transportation, storage, and use of explosives and all other hazardous materials will be conducted in compliance with all applicable laws, regulations and orders of the DOEC and the DNR-Mines.
- b) Explosives will be used in a manner that will minimize scatter of blasted material beyond the limits of the activity. Outside the cleared areas, inadvertently damaged trees will be cut, removed, and salvaged if merchantable. Damage to the organic mat outside of disturbed areas will be restored as required and as directed by the Site Manager.
- c) Blasting patterns and procedures which minimize shock or instantaneous peak noise levels will be used.
- d) Time delay blasting cycles will be used to control the scatter of blasted materials.
- e) Blasting will not occur near fuel storage facilities.
- f) Blasting will not occur within a waterbody, however if it is deemed necessary, it will be undertaken in compliance with the required water resources permits from the DOEC and approval by DFO.
- g) The Blasters Safety Certificates (from the DOEC) and the Temporary Magazine License (from Energy, Mines and Resources Canada) will be obtained prior to drilling and blasting.
- h) Use of explosives will be restricted to authorized personnel who have been trained in their use.
- i) There will be separate magazines on site, a magazine for explosives and a smaller cap magazine for dynamite blasting caps.
- j) Drilling and blasting activities will be done in a manner that ensures that the magnitude of explosions is limited to that which is necessary. A blasting plan will be reviewed with one of the local DFO fisheries officers, in advance of work in close proximity to waterbodies. Aur's Site Manager will monitor the blast.

Section 2.15 - Blasting in Close Proximity to Water

- k) Three hours prior to any blasting near waterbodies, a visual reconnaissance of the area will be undertaken to ensure that there are no waterfowl or aquatic furbearers near the blast site. Blasting will be delayed in such circumstances until they have been allowed to leave the area of their own accord. Under no circumstances will noise or other devices be used to harass or otherwise disturb these animals to encourage them to leave the area of the proposed blast.

2.16 Drilling – Exploration, Geotechnical, or Water Well

Environmental Concerns

The environmental concerns with exploration drilling are surface disturbances, disposal of drilling fluids and cuttings, generation of dust, noise and the potential impacts on terrestrial habitats, air quality, aquatic ecosystems and historic resources.

Environmental Protection Procedures

Potential drilling sites in sensitive areas, will be inspected by the Site Manager, whenever possible.

- a) Vegetation will be cleared following the procedures detailed in Section 2.6.
- b) Waste oil is transported back to the Concentrator/Mill site for suitable disposal.
- a) Water applications will be used to control dust, where necessary and the source of water will be approved for use. The use of water for dust control or lubrication during drilling will be undertaken in a manner which ensures that runoff does not enter watercourses.
- c) Water used throughout the drilling process remains on the drill site. Water use is approved as part of the approval for exploration activities from the DNR-Mines. Every effort will be made to prevent turbid water from entering any watercourse.
- d) Cuttings from drill activities are not removed from the site. They will remain in the immediate location of drilling activities. Cuttings are not placed back down the hole.
- e) Drilling equipment will have muffled exhaust to minimize generated noise.
- f) Fuel will be stored, handled and transported according to Section 2.18.
- g) Garbage and solid waste will be removed from the drill site and deposited in an approved waste disposal area.
- h) Due to the nature of drilling activities (i.e., quicksnaps, and couplings) oil drops and leaks sometimes occur and every attempt possible is made to clean up the area. All rigs are equipped with oil absorbent material in case of a leak or spill.
- i) During the winter season, snow machines are used to transport drill materials, core and personnel to and from the drill sites.
- b) Drilling of water wells must be conducted in compliance with the *Water Resources Act* and Well Drilling Regulations, 2003.
- j) Abandoned exploration drill holes will be temporarily capped or indefinitely sealed with appropriate material depending on the timing to allow for any necessary downhole testing. When all testwork on the hole has been completed, it will be permanently sealed.

2.17 Watercourse (Stream) Crossing

Environmental Concerns

The environmental concerns associated with stream crossings and culvert installations include direct disturbances to or mortality of fish, and potential loss of fish habitat resulting from sedimentation and removal of habitat and stream bank vegetation. An evaluation of soil erosion potential will be conducted at each of the stream crossings. This assessment of erosion risk will assist in the development of specific erosion stabilization methods and effective sedimentation control practices on a site-specific basis.

Environmental Protection Procedures

Stream crossings will be constructed in compliance with the required Certificate of Approval for Culvert Installation from DOEC, Water Resources Management Division and any approvals required from DOEC and DFO. Aur recognizes that DFO does not routinely issue permits for instream work between September 15 and June 1. Aur will therefore consult with DFO to develop mitigation strategies to minimize the impact of instream work during sensitive periods.

The following measures will be implemented to minimize the potential impacts of stream crossings:

- a) Between September 1 and June 15, stream crossing construction activities will be undertaken under the direct supervision of the Site Manager.
- b) Work will be performed in such a way as to ensure that deleterious substances including, but not limited to, materials such as sediment, fuel and oil do not enter watercourses and waterbodies.
- c) Aur has attempted to minimize the number of water crossings in selecting access road alignment.
- d) A minimum buffer of undisturbed natural vegetation (15 m from the high water mark or 50 m if possible) 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:

$$\text{Buffer width (m)} = 12 \text{ m} + 1.5 \times \text{slope (\%)}$$

- e) In those locations where culverts are required, application will be made to DOEC and DFO. The culverts used will be sized to handle the 1-in-25 year return period flood and will be constructed in accordance with the Environmental Guidelines for Culverts from the DOEC, Water Resources Division. The following measures will also be implemented:
 - i) install culvert(s) in accordance with good engineering and environmental practices;
 - ii) unless otherwise indicated, all work should take place in dry conditions, either by the use of cofferdams or by diverting the stream.
 - iii) installation of cylindrical culverts shall be counter sunk only where necessary to protect fish habitat such that the culvert bottom is one-third the diameter below the streambed in the case of culverts less

than 750 mm outside the diameter; for culverts greater than 750 mm outside diameter, the culvert bottom shall be installed a minimum of 300 mm below the streambed;

- iv) in multiple (gang) culvert installations, install one culvert at an elevation lower than the others;
 - v) ensure that the natural low flow regime of the watercourse is not altered;
 - vi) a culvert will not be installed before site specific information such as localized stream gradient, fish habitat type and species present have been evaluated. Culverts are to be installed using the guidelines provided in Gosse et al. (1998).
 - vii) riprap outlets and inlets to prevent erosion of fill slopes;
 - viii) use culverts of sufficient length to extend a short distance beyond the toe of the fill material;
 - ix) use backfilling material that is of a texture that shall support the culvert and limit seepage and subsequent washing out;
 - x) align culverts such that the original direction of stream flow is not significantly altered;
 - xi) remove fill and construction debris from the culvert area to a location above the peak flow level to prevent its entry into the stream;
 - xii) confine construction activity to the immediate area of the culvert;
 - xiii) fill material shall not be removed from streambeds or banks; except when installing a culvert when removal of material is necessary to ensure a flat foundation;
 - xiv) minimize and restrict the use of heavy equipment in and near watercourses; where possible, an excavator will be used from shore rather than a bulldozer in the watercourse. Where it is absolutely necessary to do so, instream work will be performed by rubber tired vehicles only and will only be done in compliance with approvals from DOEC and DFO, respectively;
 - xv) as required, cofferdams of non-erodible material shall be used to separate work areas from the watercourse when excavating for culverts and footings; and
 - xvi) cofferdams shall be removed upon completion of construction and the streambed returned as closely as possible to its original condition.
- f) When fording any watercourse, the Environmental Guidelines for Fording from DOEC, Water Resources Division 1992 will be applied in conjunction with the following:
- i) areas of spawning habitat will be avoided;
 - ii) crossings shall be restricted to a single location and crossings made at right angles to the watercourse;
 - iii) equipment activity within the watercourse shall be minimized by limiting the number of crossings;

- iv) ensure that all equipment is mechanically sound to avoid leaks of oil, gasoline and hydraulic fluids;
- v) ensure that no servicing or washing of heavy equipment occurs adjacent to watercourses; temporary fuelling, servicing or washing of equipment in areas other than the main fuel storage site shall not be allowed within 30 m of a watercourse except within a refuelling site approved by Aur, where conditions allow for containment of accidentally spilled fuels; remove from the work area and properly dispose of all waste oil, filters, containers or other such debris in an approved waste disposal site;
- vi) stabilize the entire fording area using vegetation mats, corduroy roads or coarse material (125 mm diameter or greater) when such material is available from a reasonably close location within the right-of-way, and the ford area is not natural bedrock, or is easily disturbed by fording; when the substrate of the ford area is not subject to easy disturbance by fording, or coarse material is not easily available within the right-of-way, fording under existing substrate conditions may occur under the direction of the Site Manager;
- vii) ensure that fording activities shall not decrease the depth of the watercourses to less than 20 cm; where the existing depth is less than 20 cm, that depth shall be maintained;
- viii) ensure that fording activities are halted during high flow periods;
- ix) stabilize all bank sections which contain loose or erodible materials; if banks must be sloped for stabilization, no material shall be deposited within the watercourse; sloping shall be accomplished by back-blading and the material removed shall be deposited above the high water mark of the watercourse;
- x) all fording activities will comply with the required approvals from the DOEC and DFO;
- xi) the flow of water must be diverted around the work area during the installation of a culvert to ensure dry conditions are prevalent for construction activities; and
- xii) culverts must be marked to indicate their position under the snow.

2.18 Storage, Handling and Transfer of Fuel and Other Hazardous Material

Environmental Concerns

The major concern regarding the use of hazardous substances is their uncontrolled release to the environment through spillage and subsequent adverse effects on terrestrial, aquatic and marine habitat and species, soil, groundwater quality and human health and safety. The Duck Pond mine/mill will use the following hazardous materials: gasoline, diesel, aerophine 3418A collector, aero 7279 collector, xanthate, sodium cyanide, sodium hydrosulphite, frother, copper sulfate and flocculent.

During the construction phase, which starts with the upgrading and construction of the 23 km main access road to the site, it is anticipated that there will be several sections of road under construction simultaneously. Fuel for construction equipment will be delivered with the use of mobile fuel equipment.

Environmental Protection Procedures

The Duck Pond site will implement high standards for the storage and handling of fuel. Fuel and other materials under the exploration program will be brought to the site by vehicle. Drummed fuel will be stored in an area at the Concentrator/Mill site. The area will have an impervious fabric liner and will be dyked suitably to collect and control any spillage. Bulk fuel storage will be in self-contained, dyked, 40,000-L tanks. Gasoline will be held in a 10,000-L tank at the Concentrator/Mill site.

When the final site layout and plans are determined, a list and map will depict all locations of fuel storage and non-portable transfer lines.

The following procedures will apply to the use of fuel and other hazardous materials:

- a) The Workplace Hazardous Materials Information System (WHMIS) Regulations, 1996 under the *Occupational Health and Safety Act* will apply to all handling and storage of hazardous materials, and thus all relevant Material Safety Data Sheets (MSDS) will be readily available and maintained current.
- b) During road construction/upgrade, as much as practical, fuelling of the construction equipment will be carried out in a central location, in other words the construction equipment will travel short distances to the central fuel location/locations depending on the number of sections of road under construction. The mobile fuel vehicle will contain adequate fuel spill equipment in the event of a spill. All construction vehicles and construction equipment shall be required to carry emergency spill kits. The contractor's work force shall be trained prior to arrival on site, in the procedures to be undertaken in the event of a fuel spill. These procedures will become part of the contractor's submittal requirements after award of contract. At that time, a complete detailed list of spill kits will be available. The Construction Manager will keep a list of all Spill Kits available in each vehicle.
- c) All necessary precautions will be taken to prevent and minimize the spillage, misplacement or loss of fuels and other hazardous materials.
- d) Before installing fuel storage tanks, the necessary approvals in compliance with *The Storage and Handling of Gasoline and Associated Products, 2003* under the *Environmental Protection Act* will be

obtained from the Newfoundland and Labrador Department of Government Services. Verification of the storage tank approval will be retained for Aur.

- e) Fuels and other hazardous materials will be handled only by persons who are trained and qualified in handling these materials in accordance with the manufacturer's instructions and government laws and regulations. Operators will be present for the duration of a refuelling operation. In the event of any spill on land regardless of size that may enter a waterbody frequented by fish must be reported immediately to the spill line (709) 772-2083 or (800) 563-9089 as required by the *Fisheries Act*.
- f) Oils, grease, gasoline, diesel or other fuels will be stored at least 100 m from any surface water.
- g) Handling and fuelling procedures will comply with *The Storage and Handling of Gasoline and Associated Products, 2003* and any additional requirements put forth by the DOEC in order to limit potential contamination of soil or water.
- h) Any above-ground fuel container with the exception of those exempted under *The Storage and Handling of Gasoline and Associated Products, 2003*, will be positioned over an impervious mat and will be surrounded by an impervious dyke of sufficient height (minimum height 0.6 m) to contain:
- where a dyked area contains only one storage tank, the dyked area shall retain not less than 110% of the capacity of the tank; and
 - where a dyked area contains more than one storage tank, the dyked area shall retain not less than 110% of the capacity of the largest tank or 100% of the capacity of the largest tank plus 10% of the aggregate capacity of all the other tanks whichever is greater. Otherwise, approved self-dyked storage tanks will be used where required.
- i) Any dykes of earthwork construction will have a flat top not less than 0.6 m wide, and be constructed and maintained to be liquid tight to a permeability of 25 L/m³/day. The distance between a storage tank shell and the centre line of a dyke will be at least one-half the tank height.
- j) Storage tanks will be equipped with spill kits and additional spill kits will be available at a designated central storage location. All fuel transfer vehicles will be equipped with spill kits. All fuel handling personnel and other designated personnel will be trained in the use of spill kits and all training will be documented.
- k) Inventory of spill kits will be checked and verified to include at the minimum:
- | | |
|-----|--|
| 2 | 45 gallon polyethylene drums complete with covers and lever locks, printed 'SPILL KIT' |
| 2 | bags 44 litres each – *Oclansorb |
| 100 | Hi Point absorbent pads (3/8" x 17" x 19") |
| 2 | Spark resistant poly-shovels |
| 10 | 4-mil yellow heavy duty disposal bags (30"x48") |
| 10 | 4" x 4" Sorb Sox |
| 10 | 4" x 8" Sorb Sox |
| 2 | Pairs chemical resistant gloves |

- l) Fuel storage areas and non-portable transfer lines will be clearly marked or barricaded to ensure that they are not damaged by moving vehicles. The markers will be visible under all weather conditions. Barriers will be constructed in compliance with the *Storage and Handling of Gasoline and Associated Product Regulations, 2003*.
- m) Waste oils, lubricants, and other used oil will be disposed of under contract with a licensed used oil collector in accordance with the *Used Oil Control Regulation, 2002* under the *Environmental Protection Act*.
- n) All storage tank systems will be inspected on a regular basis as per *The Storage and Handling of Gasoline and Associated Products, 2003*. This involves, but is not limited to, gauging or dipping and the keeping of reconciliation records for the duration of the program.
- o) Contracted fuel suppliers will, before transporting or positioning fuel at the exploration site, have on file at Aur a copy of their fuel and hazardous material spills contingency plan which is required under *The Storage and Handling of Gasoline and Associated Products, 2003* and which is acceptable to Aur. The fuel and hazardous material spills contingency plan for Aur is provided in Section 3.1.
- p) Smoking will be prohibited within 10 m of a fuel storage area.
- q) Temporary fuelling or servicing of mobile equipment in areas other than the main fuel storage site will not be allowed within 100 m of a watercourse.
- r) Aur will, within thirty (30) days of known decommissioning of a storage tank system, empty the system of all products, remove the tank and associated piping from the ground, remove any contaminated soil, clean the area and restore the site.
- s) Any soil contaminated by small leaks of oil or grease from equipment will be disposed of in accordance with the *Waste Management Regulations, 2003* under the *Environmental Protection Act* and the *Used Oil Control Regulations*.
- t) A copy of the Contingency Plan for Fuel and Hazardous Material Spills (Section 3.1) will be present at storage facilities and during transfer of fuel. In case of a spill, the outlined procedures will be followed.
- u) Bulk fuel storage facilities will be dipped on a weekly basis to accurately gauge fuel consumption. These consumption rates will allow for visually undetectable sources of contamination to be identified and corrected.
- v) Hazardous (HAZMAT) waste produced on the site will be stored in a designated storage built on a concrete slab. The slab will be designed to contain all spills from stored HAZMAT. HAZMAT will include mainly used greases, used oils, used solvents and used batteries. A list of the material stored will be maintained at the entrance of the storage. The batteries will be contained in a steel container to avoid any contacts between acid and a non compatible HAZMAT. The storage will be kept locked. Contingency plans will be written during the construction phase and will details response procedures in case of a fire or a spill.

2.19 Solid Waste Disposal**Environmental Concerns**

Solid waste (e.g., domestic waste, paper, cardboard, wood), if not properly controlled and disposed of, will be unsightly, may cause human safety and health concerns, and could result in conflict with wildlife. Solid waste will be disposed of at the local municipal landfill site.

Environmental Protection Procedures

- a) Solid waste produced by site personnel and operations will be collected and disposed of at a local (Millertown) municipal dumpsite.
- b) Waste accumulated on site prior to disposal will be confined in "bear-resistant" containers so that it does not pose an environmental or health hazard or cause conflict with wildlife.
- c) No waste material will be deposited on-site.

2.20 Sewage Disposal

Environmental Concerns

The release of untreated sewage is a concern to human health, drinking water quality, and freshwater and marine ecosystems.

Environmental Protection Procedures

- a) The sewage disposal system will comply with the Newfoundland and Labrador Department of Health guidelines, the *Lands Act*, Waste Management Regulations, 2003 under the *Environmental Protection Act* and the *Environmental Control Water and Sewage Regulations, 2003* under the *Environmental Protection Act*.
- b) Development of sewage facilities will proceed in consultation with the relevant regulatory agencies for a temporary or permanent sewage collection system and a Certificate of Environmental Approval to Establish or Alter a Waste Management System will be obtained from the Newfoundland and Labrador Department of Government Services and DOEC.
- c) The location of the tile field at the sewage treatment facility will be clearly marked and vehicular traffic will not be permitted to operate within this defined boundary.
- d) Chlorine is not considered an option for sewage waste disinfection.

2.21 Mine Water/Waste Water Treatment

Environmental Concerns

The principle concerns associated with mine water and waste treatment are the potential impacts on freshwater ecosystems and water quality.

Environmental Protection Procedures

Measures undertaken to minimize impact on aquatic habitat and resources are as follows:

- a) Wastewater from the underground mine operations includes ground water and drill water. All mine water will be pumped directly to surface to the tailings box in the concentrator where it will be further pumped to the tailings containment area.
- b) Waste rock that is determined to be potentially acid generating (PAG) will be segregated from inert waste rock. The protocol for determining PAG waste rock will be developed to the satisfaction of Mines Branch prior to driving the underground ramp.
- c) Mineralized (PAG) waste rock, if brought to surface, will be placed on a low permeability pad where any runoff from the pile will be collected for pumping to the tailings containment area.
- d) Open pit water from precipitation and ground water inflow and runoff from waste rock will be collected in sumps and pumped or allowed to flow to a lined storm water pond where all water will be treated for pH adjustment (by addition of lime) and metals removal prior to discharge.
- e) Seepage from the North Tailings Dam will be collected in a ditch and regularly monitored to ensure that it complies with Canadian *Metal Mining Effluent Regulations* (2002). Collected seepage that is not in compliance will be pumped to the Tailings Management Area. Seepage from the South Tailings Dam will flow to the Sedimentation Pond.
- f) To minimize total water use, water will be reclaimed from the tailings containment area to be reused as process water in the concentrator.
- g) Boundary pit water and runoff from temporary mineralized rock storage areas will be collected and returned to the Tailings Management Area for treatment.
- h) Mill complex area drainage will be contained in the Tailings Management Area.
- i) Water from the underground mine will be collected and returned to the Tailings Management Area.
- j) Reclaimed water from the Tailings Management Area will be used to minimize fresh water demand from Tally Pond;
- k) Tailings water (supernatant) from the Tailings Management Area will be treated (pH adjustment using lime and retention/storage) and discharged to the tributary to Gills Pond Brook.

Section 2.21 - Mine Water/Waste Water Treatment

- l) Seepage from the tailings dams will be collected and returned to the Tailings Management Area or collected in the sedimentation pond prior to release to the tributary to Gills Pond Brook.
- m) Water including underground mine ground water and drill water, waste rock pile runoff, open pit water, tailings dam seepage, mill process water, tailings water and any other water that has the potential to be contaminated, will be directed to the tailings management areas. The water released from the Tailings Management Area will be sampled and tested for the criteria listed in Schedule A of the *Environmental Control Water and Sewage Regulations, 2003* under the *Water Resources Act* before it is discharged to a waterbody. Any water that does not meet these criteria shall not be released to a waterbody as defined within the Act.
- n) The relevant discharge criteria from the *Environmental Control Water and Sewage Regulations, 2003* are listed in Schedule A below:

Schedule A (from *Environmental Control Water and Sewage Regulations, 2003*)

Column 1 Constituents	Column 2 Maximum Content (in milligrams per litre unless noted)
B.O.D.	20
Coliform - faecal	1000/100 ml
Coliform - total	5000/100 ml
Solids (dissolved)	1000 (see note)
Solids (suspended)	30 (see note)
Oils (Ether extract)	15
Floating debris, oils and grease	None to be visible
Arsenic	0.5
Barium	5.0
Boron	5.0
Cadmium	0.05
Chlorine	1.0
Chromium (hexavalent)	0.05
Chromium (trivalent)	1.0
Copper	0.3
Cyanide	0.025
Iron (total)	10
Lead	0.2
Mercury	.005
Nickel	0.5
Nitrates	10
Nitrogen (ammoniacal)	2.0
Phenol	0.1
Phosphates (total as P ₂ O ₅)	1.0
Phosphorus (elemental)	0.0005
Selenium	0.01
Sulfides	0.5
Silver	0.05
Zinc	0.5

2.22 Dust Control**Environmental Concerns**

The environmental concerns associated with dust include human health effects and potential impacts on aquatic ecosystems and vegetation.

Environmental Protection Procedures

- a) Dust from construction activities will be controlled by using water.
- b) Waste oil will not be used for dust control, but other agents such as calcium chloride may be used with the approval of regulatory agencies.

2.23 Noise Control

Environmental Concerns

A variety of noises associated with heavy construction activity can cause negative effects on wildlife resources in terms of their distribution and abundance. Noises associated with blasting and heavy equipment use are temporary in nature and noises associated with drilling are considered long term, but localized.

Environmental Protection Procedures

Measures will be implemented wherever possible to minimize potential impacts arising from a variety of noise sources.

- a) Adherence to all permits, and approvals.
- b) Blasting plans will be developed prior to blasting.
- c) All vehicles and generators will have exhaust systems regularly inspected and mufflers will be operating properly.

2.24 Equipment Use and Maintenance

Environmental Concerns

A variety of mobile heavy equipment will be used throughout the project. Environmental concerns related to equipment use and maintenance include accidental spills and chronic leaks that may contaminate on-site waterbodies.

Environmental Protection Procedures

The following measures will be implemented to minimize the potential impact of equipment use and maintenance.

- a) All pumps will have drip pans placed beneath them.
- b) Routine inspections will be conducted on all hoses and connections on equipment.
- c) The only maintenance and repairs performed on-site will be minor (e.g., lubrication) and only performed on non-mobile equipment such as drilling equipment; all major repairs will be conducted in the shop area.
- d) All major equipment maintenance will be conducted in the shop area.
- e) The designated equipment storage areas will be located a minimum 50 m from waterbodies.
- f) All fuelling activities will be conducted at the fuel depot.
- g) All leaks will be repaired and a report provided immediately to the Environmental Coordinator .
- h) Refer to Section 2.18 for explicit environmental protection procedures pertaining to the handling, storage and transportation of all fuels and other hazardous materials.
- i) If a fuel or hazardous materials spill occurs, respond as per the contingency plan provided in Section 3.1.
- j) In addition to spill kits located at fuel storage tanks additional spill kits will be located at designated central storage location(s). Personnel who deal with fuelling, fuel transfer and equipment use and maintenance will be trained in the use of the kits.

2.25 Pumps and Generators

Environmental Concerns

A variety of water pumps, hoses and generators are in frequent use in many areas of exploration sites and the support and supply for work camps. Environmental concerns are associated with any accidental spills or chronic leaks contaminating waterbodies.

Environmental Protection Procedure

- a) Fuel must not be stored near generators or located adjacent to waterbodies.
- b) Drip pans should be placed underneath pumps and generators located near waterbodies.
- c) Hoses and connections on equipment located near waterbodies should be inspected routinely for leaks and drips.
- d) All leaks should be reported immediately to the Site Manager.
- e) In addition to spill kits located at fuel storage tanks additional spill kits will be located at designated central storage location(s). Personnel who deal with fuelling, fuel transfer and pumps and generators will be trained in the use of the kits.

2.26 Vehicle Traffic, including ATV and Snowmobile Traffic

Environmental Concerns

A source of physical disturbances to the environment during exploration and mine operations is a result of vehicle movements within the project area. Typically, mineral exploration activities are supported by the use of ATVs and tracked vehicles that could result in ground disturbance.

Environmental Protection Procedures

- a) The use of ATVs will be restricted to designated trails to minimize ground disturbance. ATV use will comply with the Motorized Snow Mobile and All-Terrain Vehicle Regulations, 1996 under the *Motorized Snow Mobile and All-Terrain Vehicle Act* and the Environmental Guidelines for Stream Crossings by All-Terrain Vehicles issued by Water Resources Management Division.
- b) During winter when the ground is covered with snow, snow machines will be used for equipment movement and supply. Where possible, snow machines will use established pathways, also minimizing disturbances to vegetation.
- c) Aur is committed to the proper development of access roads and marine docking and unloading facilities to minimize environmental damage resulting from equipment movement and supply of operations.
- d) The use of heavy equipment in and near watercourses will be minimized and restricted; where possible an excavator will be used from shore rather than a bulldozer in the watercourse. Where it is necessary to do so, instream work will be performed by rubber tired vehicles only, and will only be done in compliance with permits and approvals from DOEC and DFO, respectively (Section 2.17).

2.27 Tailings Dam Inspection

Environmental Protection Procedures

- a) The tailings dam will be designed and constructed to meet very stringent standards in accordance with PMP events.
- b) Aur will develop an operation, maintenance and surveillance manual for the tailings dams per the Mining Association of Canada guidelines. This will be completed by the personnel responsible for the operation and inspection of dams prior to the start of operation of the tailings management area
- c) If a failure should occur, mitigative measures would reduce the extent of solids movement downstream as well as recover displaced solids. Mitigation measures would include additional dam development, stream diversion, and removal of displaced solids and subsequent re-confinement.
- d) As a contingency measure, a seepage collection ditch and pond will be provided along the downstream toe of Dam A to collect the seepage through the dam.
- e) The planned Tailings Management Area dam has been designed to have an overflow spillway to protect the integrity of the structure during periods of extreme flooding. Should a failure occur, corrective actions would be employed to reduce the extent of solids migration downstream. Response actions will include additional dam development, stream diversion, and the removal of displaced solids and subsequent re-confinement.
- f) An emergency spillway will be provided at the northern abutment of Dam B, such that the spillway discharge will report to the sedimentation pond and then to the receiving waters on the southwest side of the Tailings Management Area.
- g) A program of systematic performance assessment by means of periodic inspections and instrument monitoring will be provided to ensure safe behaviour of the dams and appurtenant structures in accordance with the design.
- h) A number of inspection activities will be carried out to ensure safety of the dams and the appurtenant structures, including dam surveillance and dam safety inspections. Dam inspections will be conducted twice a year by project personnel and once a year by an independent consultant.
- i) The seepage flow through the dam and foundation will be minimized by design provisions consisting of a dam section with wide low permeability till core and construction of a low-permeability core trench. Where possible, all dam sections will be constructed on competent foundation materials. As tailings are deposited within the impoundment, a low-permeability tailings cover will blanket the impoundment thus further reducing the potential for seepage.
- j) The dam foundation area will be stripped of all organics (peat, topsoil and/or soil contaminated with organics). Based on the results of geotechnical investigation, stripping thickness under the dams will be variable but is expected to be generally less than 0.5 m. The thickness in the valley portion of Dam B is up to 2 or 3 m of muskeg deposit.

Section 2.27 - Tailings Dam Inspection

- k) A core trench, comprising compacted till will be incorporated under the low permeability core. The core trench will penetrate the surficial red brown weathered till zone or any other permeable layers encountered at shallow depths and will be founded minimum of 0.5 m into the underlying grey brown intact till stratum.
- l) Seepage from Dam A will be collected and returned to the Tailings Management Area. Seepage from Dam B will flow to the sedimentation pond.
- m) Groundwater monitoring wells will be installed downstream of the dams and will be monitored on a regular basis to detect any near surface changes in groundwater quality.

3 CONTINGENCY PLANS

Note: Contingency plans to deal with accidents and unplanned situations have been developed, and will be modified as required throughout the project.

In reaching decisions on containment and clean-up procedures, the objectives of these contingency plans are to minimize the following:

- danger to persons;
- pollution to watercourses;
- area affected by the spill or fire;
- degree of disturbance to the area and watercourses during clean-up; and
- degree of disturbance to wildlife.

Notwithstanding contingency plans, Aur will adopt a policy to implement preventative measures as its first line of defence against the possibility of accidents.

Contingency plans have been developed for the following accidental and unplanned situations.

- 3.1 Fuel and Hazardous Material Spills
- 3.2 Wildlife Encounters
- 3.3 Discovery of Historic Resources
- 3.4 Forest Fires
- 3.5 Tailings Dam Failure
- 3.6 Mine Rescue and First Aid

As noted in Section 1.3, additional contingency plans will be detailed to address:

- Procedure in case of an Environmental Incident (general communication line)
- Procedure in case of fire on surface
- Procedure in case of a spill from the tailings and process water lines
- Procedure in case of a mill reactive product spill
- Procedure in case of a spill from a truck concentrate on site

These plans will be developed on information and planning that will be completed prior to operations.

3.1 Fuel and Hazardous Material Spills

Environmental Protection Procedures

In case of a fuel or hazardous material spill, the following procedures will apply.

- a) The individual who discovers the leak or spill will make a reasonable attempt to immediately stop the leakage and contain the flow. Spill kits are located at fuel storage tanks and at designated central storage location(s).
- b) Spill location, type of fuel or hazardous material, volume and terrain condition at the spill site will be determined and reported immediately to the Environmental or Camp Supervisor, who will report it immediately to Environment Canada (Item c).
- c) In the event of any spill on land regardless of size that may enter a waterbody frequented by fish must be reported immediately to the spill line (709) 772-2083 or (800) 563-9089 as required by the *Fisheries Act*. Required pertinent information includes:
 - i) name of reporter and phone number;
 - ii) time of spill or leak;
 - iii) time of detection of spill or leak;
 - iv) type of product spilled or leaked;
 - v) amount of product spilled or leaked;
 - vi) location of spill or leak;
 - vii) source of spill or leak;
 - viii) type of accident - collision, rupture, overflow, other;
 - ix) owner of product and phone number;
 - x) if the spill or leak is still occurring;
 - xi) if the spill or leaked product is contained, and if not, where it is flowing;
 - xii) wind velocity and direction;
 - xiii) temperature;
 - xiv) proximity to waterbodies, water intakes, and facilities; and
 - xv) snow cover and depth, terrain, and soil conditions.

Section 3.1 - Fuel and Hazardous Material Spills

- d) The Site Manager will act as the "On-Scene-Commander" for the purposes of cleaning up a fuel or hazardous materials spill. The Site Manager is familiar with spill clean-up procedures and mobilization procedures of the clean-up equipment. The Site Manager has full authority to take necessary and appropriate action without unnecessary delay.

The overall responsibility of coordinating a clean-up and maintaining this contingency plan current and up-to-date will be the Environmental Coordinator's responsibility.

Staff will be trained on the procedures to follow in case of hydrocarbon spills as well as information related to general communication line. Aur will provide personnel and responsibilities list before the start of construction.

A complete list of spill response equipment will be generated and distributed on-site before the start of construction.

- e) In reaching decisions on containment and clean-up procedures, the following criteria will be applied:
- i) minimize danger to persons;
 - ii) protect water supplies;
 - iii) minimize pollution of watercourses;
 - iv) minimize area affected by spill; and
 - v) minimize the degree of disturbance to the area and watercourses during clean-up.
- f) The Site Manager will act in consultation with the regulating authorities to:
- i) assess site conditions and environmental impacts of various cleanup procedures;
 - ii) assess potential for fuel recovery versus burning;
 - iii) deploy on-site staff to mobilize pumps and empty 215-L drums or other appropriate storage containers to the spill site;
 - iv) deploy on-site staff to build containment dykes and commence pumping contaminant into drums;
 - v) apply absorbent as necessary;
 - vi) dispose of all contaminated debris, cleaning materials and absorbent by burning, if appropriate, or by placing it in an approved land-fill site; and
 - vii) take all necessary precautions to ensure that the incident does not recur.

Section 3.1 - Fuel and Hazardous Material Spills

- g) The Site Manager will be responsible for the preparation of a written report which will be sent (as soon as possible and no later than 30 days after the spill) to Aur; and, from there to:

Newfoundland and Labrador Department of Government Services
Government Service Centre
9 Queensway
Grand Falls-Windsor, NL

Tel: (709) 292-4206

Fax: (709) 292-4528

and

Graham Thomas
Environmental Emergencies Coordinator
Environment Canada
6 Bruce Street
Mount Pearl, NL
A1N 4T3

709 772-4285 (bus)

709 687-5634 (cell)

3.2 Wildlife Encounters

Environmental Protection Procedures

Prevention

As a protection measure, hunting, trapping or fishing by project personnel is not permitted at the site.

The Camp Supervisor is responsible to see that the following procedures relating to food preparation, storage and waste disposal are implemented:

- a) Site and working areas will be kept clean of food scraps and garbage.
- b) Waste will be collected for disposal in bear-resistant containers. Waste will be transferred to the local landfill located in Millertown routinely as needed.

Response Actions

All project personnel will abide by the following rules in cases of wildlife encounters:

- a) No attempt will be made by any person at the project site to chase, catch, divert, follow or otherwise harass wildlife by vehicle or on foot.
- b) Equipment and vehicles will yield the right-of-way to wildlife.
- c) No personal pets, domestic or wild, will be allowed on the site. However, if a dog is required for deterrence purposes, approval will be obtained.
- d) All personnel should be aware of the potential for encounters with black bears and instructed to immediately report all sightings to the Camp Supervisor. At his discretion, the supervisor will notify the Wildlife Division.
- e) When nuisance animals (e.g., black bear or beaver) are identified in the project area, the Site Manager will be responsible for all subsequent actions. Responsive actions will be determined by the Site Manager, who will consult with the Wildlife Division prior to any active intervention (except in emergency). All actions must comply with Wildlife Division regulations and permits.
- f) The Site Manager must authorize the use of deterrent measures that include crackers and rubber bullets.
- g) Under provincial wildlife regulations, the displacement and release of any animal is the sole jurisdiction of the Wildlife Division and is to be undertaken only under Wildlife supervision.
- h) The camp has been issued a permit to destroy nuisance animals and there will be an approved firearm kept at the camp for that purpose. The Camp Supervisor (or a representative of the Wildlife Division) will determine if an animal is to be destroyed and will designate who will destroy the animal. The only firearm(s) allowed within the camp are those under the control of the camp supervisor (or his/her designate). Anytime an animal is destroyed, the Wildlife Division will be notified.

- i) A draft report of the displacement or killing of a bear will be prepared by the Site Manager and provided to personnel involved. A detailed written report will be submitted to Aur, and the Wildlife Division within 48 hours of killing a bear.

3.3 Discovery of Historic Resources

Environmental Protection Procedures

In case of the discovery of a historic or prehistoric artefact or archaeological site, the following procedures will apply:

- a) Under the *Historic Resources Act* all archaeological sites and artifacts are considered the property of the Crown, and must not be disturbed. Aboriginal peoples and other residents of the Duck Pond area are also concerned about the preservation and protection of archaeological and other cultural resources. Aur or the Contractor will take all reasonable precautions to prevent employees or other persons from removing or damaging any such articles or sites and may be held liable for prosecution under Sections 35.1 and 35.2 of the *Historic Resources Act* for all contraventions. Personnel working in the vicinity will be advised of the find. The site area will be flagged for protection and avoidance.
- b) All work will cease in the immediate area of the discovery until Aur advises the authorities of the discovery and, in consultation with the Provincial Archaeologist, authorizes a resumption of the work. If required, a full assessment will be conducted of the site and immediate area.
- c) Archaeological materials encountered will be reported initially to the Site Manager and immediately thereafter to Ms. Martha Drake, Resource Archaeologist, Culture and Heritage Division, at (709) 729-2462, fax (709) 729-0870, with the following information:
 - i) nature of activity;
 - ii) nature of the material discovered; and
 - iii) precise location of the find.

Following an assessment of the significance and mitigation needs, a report will be made to Aur and the Culture and Heritage Division. Any proposed mitigation will first be approved by the Culture and Heritage Division.

3.4 Forest Fires

Environmental Protection Procedures

The fire prevention and fire-fighting procedures described below will be followed.

Aur or the Contractor will take all precautions necessary to prevent fire hazards when working at the site. These include but are not limited to:

- a) Disposal of all flammable waste on a regular basis.
- b) Aur or the Contractor making available, in proper operating condition, sufficient fire fighting equipment to suit its labour force and fire hazards. The equipment will be maintained to the manufacturer's standards.
- c) Aur or the Contractor ensuring that its personnel are trained in the use of such equipment.
- d) In case of a forest fire, Aur or the Contractor will take immediate steps to contain or extinguish the fire.
- e) Aur will appoint a supervisory staff member as On-Scene-Commander for fighting any forest fires.
- f) Fires should be reported immediately to the Camp Supervisor, the nearest Forest Management Unit office and ultimately to the Forest Management Unit office in Corner Brook (709) 637-2408. The following information will be provided:
 - i) name of the reporter and phone number;
 - ii) time of detection of the fire;
 - iii) size of the fire; and
 - iv) location of the fire.
- g) The RCMP will also be notified immediately at (709) 637-4433, or (709) 637-4400 after hours.

3.5 Mine Rescue and First Aid

Environmental Protection Procedures

- a) A mine rescue station will be maintained at the site and will contain self-contained breathing apparatus and emergency equipment as required to equip two, six-person teams. Mine rescue personnel, including both miners and staff, will be trained to ensure any underground emergency including fire, can be responded to quickly and safely. Mine rescue practices will be held on a regular basis throughout the year.
- b) An underground emergency mine warning systems will be installed and will introduce ethylmercaptan from pressurized cylinders into the main ventilation intake and compressed air system.
- c) A room in the surface office complex will be designated as a marshalling point for all employees in case of an emergency. Further, a designated room will be maintained as an Emergency Control Centre to serve as a base of operations during a mine emergency. The room will contain the required communications equipment, written emergency procedures and a set of mine plans.
- d) A first aid station will be provided in the office/dry complex. A first aid attendant will be on duty on day shift five days a week. All supervisors will be required to be trained in advanced first aid and they will provide emergency coverage when the first aid attendant is not on duty. An emergency vehicle will be available at all times to take emergency cases to local hospitals if necessary.
- e) An emergency vehicle will be on-site. The vehicle will include equipment for environmental emergencies (i.e., special clothing and absorbent material).

4 ENVIRONMENTAL INSPECTION

Environmental compliance monitoring on-site will be the responsibility of the Site Manager appointed by Aur. Inspection will ensure implementation of the general and special environmental protection measures that are specified in this document and that will be included in the applicable contracts and other relevant permits, approvals and authorizations. The Site Manager will be instructed on the environment-related general, special and technical clauses to be implemented as part of the contracts. The Site Manager will also receive instruction from a professional archaeologist in the identification of potential historic resources that may be encountered in the work area.

Reporting

Aur commits to submitting a Monthly Environmental Monitoring Report to the Environmental Assessment Division of the DOEC. Environmental problems and issues will be reported on aspects regarding but not limited to:

- a) watercourse (stream) crossings;
- b) borrow sites;
- c) erosion problems;
- d) historic resources;
- e) wildlife encounters; and
- f) permits and authorizations.

5 MINE CLOSURE

Although closure of the minesite in the near future is considered unlikely, a comprehensive plan for closure of the camp and other works will be developed in conjunction with DOEC, DNR-Mines, DFO and Environment Canada.

6 CONTACT LIST

NAME	AFFILIATION	TELEPHONE NO.
Edmund Stuart	President North America - Aur Resources Inc.	(416) 362-2614
Guy Belleau	Project Manager - Aur Resources Inc. – Duck Pond Mine	(709) 852-2195
Contractor	To Be Named	

FOR FIRES:

Duty Officer	Grand Falls-Windsor Forest Fire Depot	(709) 489-2222
Duty Officer	Buchans Fire Department	(709) 672-3333
Duty Officer	Grand Falls-Windsor RCMP Detachment	(709) 489-2121
Forestry	24-Hour Forest Fire Emergency Line	(800) 898-4528

FOR HAZARDOUS MATERIAL SPILLS:

Duty Officer	Canadian Coast Guard	Phone	(800) 563-9089
		Fax	(709) 772-5369
Graham Thomas	Environmental Emergencies Coordinator	Phone	(709) 772-4285 (bus)
	Environment Canada		(709) 687-5634 (cell)
	6 Bruce Street		
	Mount Pearl, NL		
	A1N 4T3		

FISH AND FISH HABITAT ISSUES:

Leon King,	Area Habitat Biologist – Central	(709) 292-5197
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7 PERMITS, APPROVALS AND AUTHORIZATIONS

The following table lists permits, approvals and authorizations that may be required for the project.

Permit, Approval Or Authorization	Issuing Agency
<ul style="list-style-type: none"> • Environmental Approval to Alter a Body of Water <ul style="list-style-type: none"> • Settling Ponds • Tailings Pond • Site Drainage • Environmental Approval for a Water Intake Structure/Withdrawal System • Environmental Approval for Dams and Appurtenant Structures <ul style="list-style-type: none"> • Tailings Dams • Water Use Licence • Environmental Permit for Culvert Installation • Certificate of Approval for all Watercourse Crossings 	DOEC - Water Resources Management Division
<ul style="list-style-type: none"> • Blasters Safety Certificate • Certificate of Approval for a Water Supply System • Certificate of Approval for a Sewage/Septic System • Approval for Storing and Handling Gasoline and Associated Products <ul style="list-style-type: none"> • Temporary Fuel Cache • Fuel Tank Registration • Fire, Life and Safety 	GSC
<ul style="list-style-type: none"> • Certificate of Approval for Construction • Certificate of Approval for any Industrial or Processing Works 	DOEC – Pollution Prevention Division
<ul style="list-style-type: none"> • Permit to Occupy Crown Land • Easement Rights for Poleline 	DOEC-Lands Division
<ul style="list-style-type: none"> • Approval of Development Plan, Rehabilitation Plan, Financial Security • Mill Licence • Mining Lease • Surface Rights Lease 	DNR- Mineral Development Division
<ul style="list-style-type: none"> • Quarry Permit 	DNR – Quarry Materials Management

Section 7 - Permits, Approvals and Authorizations

Permit, Approval Or Authorization	Issuing Agency
<ul style="list-style-type: none"> • Operating Permit <ul style="list-style-type: none"> • Permit to Burn 	DNR-Forest Resources
<ul style="list-style-type: none"> • Approval for Works and Undertakings Affecting Fish Habitat 	DFO
<ul style="list-style-type: none"> • Permit to Control Nuisance Animals 	DOEC-Wildlife Division
<ul style="list-style-type: none"> • Radio Station Licence 	Industry Canada
<ul style="list-style-type: none"> • Approval for Operation of Temporary Lunchroom/ Washroom Facilities • Food Establishment License 	Newfoundland and Labrador Department of Health, Public Health Inspector
<ul style="list-style-type: none"> • Temporary Magazine License • Blasting Magazine License 	Energy Mines and Resources Canada, Explosives Division
<ul style="list-style-type: none"> • Approval to Conduct Work Over Navigable Waters 	Transport Canada – Navigable Waters Protection
<ul style="list-style-type: none"> • Approval for Waste Disposal 	Town of Millertown
DOEC - Newfoundland and Labrador Department of Environment and Conservation DNR - Newfoundland and Labrador Department of Natural Resources - Mines DNR – Newfoundland and Labrador Department of Natural Resources - Forest Resources DFO – Fisheries and Oceans GSC – Newfoundland and Labrador Department of Government Services – Government Service Centre	

8 LITERATURE CITED

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Scruton, D.A., D.R. Sooley, L. Moores, M.A. Barnes, R.A. Buchanan and R.N. McCubbin. 1997. Forestry Guidelines for the Protection of Fish Habitat in Newfoundland and Labrador. Fisheries and Oceans, St. John's, NF. iii + 63 pp., 5 Appendices