

**ENVIRONMENTAL PROCEDURE PLAN FOR
EXPLORATION AND REMOTE CAMPS**

Northern Empire Minerals Ltd.

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The following Environmental Procedures have been developed by Northern Empire Minerals Ltd. These principles form the guiding basis for the Environmental Operating Procedures that apply to all of our exploration activities within Nunavut Territory.

- Environmental management is an integral component of our exploration programs and is the responsibility of all program personnel.
- The potential environmental impact of our activities will be assessed and minimized.
- Environmental standards and quality of work will be continuously improved and maintained in conjunction with effective exploration.
- All relevant government laws and regulations for the protection of the environment will be known and complied with.
- All contractors and employees will be informed of our Environmental Policy, Environmental Principles, Environmental Management Standards, Environmental Operating Procedures and their designated environmental responsibilities.
- Effective communication and close liaison will be maintained with nearby communities and regulatory authorities.
- Exploration activities will be conducted with due regard for the protection of wildlife, flora and sites of natural, cultural and historical significance.
- Programs will be established to recycle and conserve resources.

ENVIRONMENTAL PROCEDURES

INTRODUCTION

Northern Empire Minerals Ltd. is committed to continuous improvement and to attaining high standards in environmental performance.

Exploration activities generally have a very low degree of impact upon the environment. We work in remote and relatively pristine areas, with particularly sensitive ecosystems and challenging environmental and climactic conditions. We must be diligent and innovative in the management of our activities to ensure minimal impact to the environment.

1. PLANNING

Exploration programs will be carefully planned to minimize disturbance and effectively manage environmental risks.

Risk Assessment

The activities associated with the proposed exploration program will be assessed for environmental risks and impacts. Variables such as topography, climate, fauna, vegetation and stakeholders must be considered. Procedures and/or processes will be implemented to manage and mitigate the identified environmental risks and impacts.

Emergency Preparedness

A Spill Contingency Plan has been established for exploration programs and remote camp locations. The plan includes contingencies for probable environmental emergencies as a result of natural occurrences and/or as a result of program activities.

Expenditure / Budget

Activities such as site clearance surveys, environmental training, and rehabilitation will be included in the program budget. These are a genuine program costs and must be treated as such. Good environmental planning and management will minimize environmental damage.

Due Diligence

The environmental status of land will be reviewed prior to acquisition and any potential environmental liabilities recognized. This may involve discussions with landholders or joint venture partners, on-site inspections, reviewing maps, photographs and previous reports of the area. This process will be continued during the life of the program and will include mapping or photographing of possible sensitive sites.

Legislative Requirements

All relevant legislation will be known, communicated and complied with.

Approvals

Stakeholders of the land to be explored will be identified. Relevant approvals from stakeholders and regulatory authorities will be obtained.

Responsibilities and Accountabilities

Environmental responsibilities will be assigned and communicated to all members of the program team. This includes employees and contractors. Contractor responsibilities will be outlined in the environmental schedule of the contract. The primary responsibility for protecting the environment from impacts related to program activities is assigned to the Program Supervisor.

Induction and Training

Field employees and contractors will undergo an environmental induction that includes relevant regulations.

Contractors

Preference will be given to contractors who display high standards of environmental management and performance.

Closure Planning

The short term and long term environmental implications of our activities must be considered and plans developed to eliminate or mitigate these impacts upon program closure.

2. STAKEHOLDERS

A stakeholder is an individual or group (i.e. landholder, local group, regulatory authority, community, etc.) concerned with or potentially affected by our exploration activities. Stakeholders will be identified for each program. Regular communication will be

maintained with these stakeholders for the duration of the program, and afterwards in some cases. Any agreement made with stakeholders should be documented.

Cultural and Heritage Issues

Cultural objects, remains and sites of spiritual, archaeological, anthropological or historical significance will be protected.

- Surveys may be required to identify sites of sacred, heritage and cultural significance. The results of these surveys must be documented.
- Any additional sites encountered during exploration will be left undisturbed and reported to the appropriate authority.
- Any discussions with local communities or traditional owners should be documented.

3. FLORA AND FAUNA

All reasonable care will be taken to avoid interference with rare or endangered species of native flora or fauna.

Flora

- All reasonable care will be taken to avoid unnecessary impacts to flora and to mitigate required impacts.

Fauna

- Hunting is prohibited.
- Firearms and domestic animals are not permitted unless special permission has been obtained from the Exploration Manager.

4. AIRBORNE OPERATIONS

Our exploration activities require airborne support due to the remote locations. Additionally, due to the lack of serviceable airstrips in the region, this support involves aircraft equipped for off-strip operations (float planes, helicopters). These types of aircraft have a minimal potential impact upon the environment. The potential impacts include: petroleum product spill and disturbance of fauna and people from low altitude flying and frequent landings/take-offs. The likelihood of disturbing or disrupting people is considered low due to the remote locations of the activity. All stakeholders will be contacted prior to the commencement of operations. The requests of all stakeholders will be respected.

Airstrips

Only existing airstrips will be used.

Helipads

Helicopter landings and take-offs have little impact upon the flora or ground surface. However, helicopters require an area clear of obstructions that allows for safe manoeuvrability of the aircraft. The size of this area is dependant upon the aircraft type. The vast majority of our operations to date have been north of the tree line where the clearing of vegetation for landing site preparation is unnecessary.

- Landing sites will be selected, whenever possible, that have a competent ground surface and are naturally free of vegetation or marginally covered.
- Landing sites that are designated for repetitive use which are blanketed by ground cover vegetation must have a helipad constructed.
- Helipads will be constructed in such a way as to minimize surface contact with

- vegetation.
- Helipads will be constructed using dimensional lumber unless trees that have been cleared for the landing site are suitable for use.
- Vegetation clearing will be conducted as per the relevant section under “Land Disturbance” of this document.

Fuel

Aviation fuel at exploration operations is contained in 205 litre steel drums for ease of handling. These drums are stored horizontally on the ground with the bungs positioned at the mid-way point. This storage method prevents contact of surface water with the bungs and possible contamination of the fuel and keeps the bung seals submerged in fuel which prevents the seals from drying out and leaking.

- Fuel drums will be stored at a distance of no less than 100 metres from any surface water source (e.g. lake, stream, pond, etc.)
- Remote fuel storage locations (e.g. outside of camp) will be plotted on a suitable topographic map and the GPS positions will be recorded. An updated inventory of the fuel used will be maintained.
- Regular visual inspections will be conducted of all fuel caches
- Empty or otherwise no longer required fuel drums will be retrieved from all locations. Empty drums will be returned to the fuel supplier for recycling.
- Full fuel drums will not be stored remotely for more than one year.
- Fuel storage locations will have a suitable spill response kit.
- Refueling locations will have a suitable fire extinguisher.
- Spill prevention measures will be implemented prior to refueling (e.g. drip pan).

5. LAND DISTURBANCE

All necessary permits and permissions will be obtained prior to conducting any land disturbance. Great care will be taken to avoid and/or minimize land disturbance such as earthmoving and vegetation clearing. When clearing is unavoidable, it must be carried out in a manner that does not promote erosion. Whenever possible, areas that are naturally free of vegetation will be selected for logistical support sites (e.g. campsite, heli-pad). Operations requiring vehicle access will be conducted during the winter-spring period in order to take advantage of ice-covered waterways and frozen snow-covered ground to prevent disturbance of the soil and ground cover vegetation.

Supervision

Earth moving and clearing activities will be supervised at all times by a Northern Empire Minerals Ltd. representative who should clearly define the area to be disturbed using temporary markers.

Earthmoving

Earthmoving is limited to the construction of small pits and sumps for the collection and disposal of benign waste (e.g. ashes/coals from burnt garbage, drill fluids, greywater and sewage).

Topsoil (or surface material useful for regeneration or re-vegetation) will be removed and stockpiled separately from subsoil. Topsoil should be returned as soon as possible (preferably within six months) to maintain seed viability, nutrient quality and microbial activity.

Clearing Vegetation for Vehicle Access

Since all operations requiring vehicle access will be conducted during the winter-spring period, the only vegetation clearing that may be necessary involves the removal of trees. This should only be done if access cannot be obtained via frozen waterways, natural and/or existing clearings and existing tracks.

- Keep the track width to a minimum.
- Weave around large trees and avoid creating long straight stretches.
- Use naturally cleared areas and consider the thickness of vegetation.
- Tracks should be positioned along ridges.
- Whenever possible, avoid clearing on steep slopes, side hills and drainage banks.

Clearing Vegetation in General

- Determine the exact requirements to avoid unnecessary and excessive clearing.
- Lop branches in preference to felling trees.
- Leave felled timber in a manner acceptable to the authorities. Otherwise, stockpile the cleared vegetation for subsequent re-spreading over the track. This is to protect exposed soil from erosion and to enable seed stocks to regenerate. Do not place felled vegetation where it will alter or disturb natural drainage channels.

Geochemical Sampling

When taking soil samples, areas naturally free of vegetation (frost boils) will be selected whenever possible. When this is not possible the organic layer and any topsoil should be put to one side and replaced after the sample is collected.

6. TRAVERSING

Gridding

- Foot accessible grid lines for geophysics, geochemistry and geology will be at minimal width.
- No large trees are to be felled. Branches will be cut to allow foot access and line of sight.
- The blazing of trees will be avoided unless required by government regulations.
- Do not leave pointed stakes that will endanger humans or animals.
- Wooden survey pegs will be used in preference to steel.
- Steel markers will only be used as permanent survey points and where possible will be positioned where they will not cause injury to animals or people, or interfere with vehicle movement.
- Care will be taken to ensure all pegs are removed at the completion of exploration.
- Flagging tape and spray paint will be used sparingly. If possible, biodegradable items will be used.
- hip-chain line will be broken after crossing a track or trail and care taken to ensure that the line has fallen clear of the right of way.

EM Induction Surveys

Wires will be watched, if practicable, during surveys to avoid endangering animals or people in the area. If potential exists for other people to be present in the area, warning signs will be erected. At no time are wires or cables to be left unattended.

7. DRILLING OPERATIONS

Contracts for exploration drilling services will stipulate adherence to the environmental component of Northern Empire Minerals Ltd.'s Responsibility Policy and these Environmental Procedures and include penalties for non-compliance.

Drill Sites

- Select sites to minimize damage to the environment.
- Sites should be as small as practicable but include enough area for fire protection.
- Avoid locating drill sites on steep slopes.
- Prepare sites as per the guidelines in section 5 (Land Disturbance).

Sumps

- Natural depressions will be used in preference to excavation.
- Ensure the number and size of sumps is adequate to contain all potential drilling fluids.
- Sumps should be positioned down slope of drill collars to ensure run-off flows into the sump.
- If excavation is required, the organic layer and any topsoil should be stockpiled separately for replacement during backfilling.
- Excavated sumps should be fenced or barricaded until they have been backfilled.
- Excavated sumps should be allowed to dry out (by evaporation) prior to burial.

Drilling Fluids

- Biodegradable drilling fluids will be used at all times where possible.
- Drilling fluids will be contained in sumps or by another suitable and approved method (e.g. tank).
- Fluids will be disposed of according to regulations.

Groundwater

- If encountered, artesian water flow will be controlled to prevent erosion of the ground surface and the silting of watercourses,

Waste

- Receptacles will be provided for rubbish at drill sites. No waste of any description will litter the site.
- Food waste will be removed from drill sites daily.
- Waste will be disposed of according to regulations and land use permits.

Reverse Circulation/Percussion

When handling drill samples (cuttings), care will be taken to prevent mixing of sub-soil with topsoil if they are significantly different from each other. A tarp or similar device should be placed around the hole to contain drill cuttings and to prevent contact with the ground surface. Water injection should be used to control dust. On completion of the hole, all cuttings not required for analysis or storage will be poured back into the hole or otherwise disposed of according to regulations.

Drilling on Ice

Drilling fluids and cuttings will be contained to prevent contact with the ice surface or water. A method to clean up an accidental spill of this material will be devised and the required equipment made available prior to the commencement of operations. Fluids and/or cuttings will be disposed of on land in a natural depression or excavated sump or otherwise in accordance with the land use permit.

Spill Prevention

Methods will be implemented for the handling and care of petroleum products, drilling additives, etc. so as to prevent accidental spillage of these materials. Drip pans will be placed under leaking equipment and, if practicable, the leaks will be repaired as soon as possible.

Core Cutting

Wastewater from core sawing will be controlled to prevent erosion of the ground surface and the silting of watercourses. Where practicable, it should be contained and recycled through the core saw. Cuttings from sulphide-rich core have the potential to acidify any soils with which they contact. All cuttings and unwanted core off-cuts or pieces will be contained and disposed of by burial or otherwise disposed of according to regulations.

Capping of Drill Holes

- All holes will be temporarily plugged immediately upon completion, using whatever safe means available (e.g. rocks), to eliminate any hazard to wildlife.
- Prior to, or on completion of the program, all open holes will be plugged with a proper down-hole plug and the area above the plug filled in.
- If later relocation of the hole is not required, casing will be removed whenever possible.
- Remaining casing will be cut off to ground level or below and capped.
- Any excess drill chips will be poured back down the hole.
- Any holes with flowing water will be permanently sealed unless written instruction from the relevant authority indicates otherwise.

8. CAMP SITE SELECTION AND DESIGN

To prevent disruption to flora and fauna, camps, wherever possible, will be located in naturally clear areas, not on migration routes (e.g. esker trails) and at least 50 metres from surface water.

To mitigate potential impacts, decisions regarding site selection and the type of structures and facilities to be established must consider the following criteria:

- Number of people to be accommodated.
- Duration of the camp.
- Activities to be undertaken at the camp.
- The time of year.
- Land use permit stipulations.

Fire Protection and Prevention

- Fire regulations will be observed at all times and permits obtained if necessary.
- The use of open fires will be avoided. Fires should be only be used for general garbage disposal and will be contained in an excavated pit or in a steel container, such as an empty fuel drum. Embers should be buried or transported from site to an approved landfill location.

- Personnel will be advised that disposing of cigarettes onto the ground is prohibited.
- Additional precautions such as prohibiting smoking and open flames will be implemented for areas of greater risk.

9. WATER MANAGEMENT

Precautions will be taken throughout our operations to prevent direct or indirect pollution of watercourses.

- Used water will be contained in excavated sumps or natural depressions. Water flow will be controlled to prevent erosion of the ground surface and the silting of watercourses.
- Proposed potable water should be tested for water quality.
- Regular water monitoring should be considered for areas of advanced exploration or semi-permanent camps.

10. HAZARDOUS MATERIALS

Whenever possible, the use of hazardous materials will be avoided. Other methods or non-hazardous substitutes will be employed.

- Exploration sites will have procedures in place for the storage, handling and disposal of hazardous materials.
- Whenever a substance is taken from its primary container and placed into a secondary container, the secondary container will be adequately labeled as to its contents.
- Material Safety Data Sheets (MSDS's) will be available for all hazardous materials on site.
- Fuels, oils and chemicals must be properly contained and stored at a minimum distance of 130 metres away from surface water unless expressly authorized by a land use permit or in writing by an inspector.
- Bulk tanks of fuel will be equipped with secondary containment that is capable of holding 110% of the primary tank.
- Flammable materials will be stored in cleared areas or in metal storage cabinets that is segregated from combustible material.
- Disposal of hazardous materials will occur off-site at an authorized facility.

Spill Response

- Spills will be cleaned up promptly.
- All spills will be reported internally to the appropriate company representatives.
- All governmental reporting requirements will be adhered to.
- Spill kits or absorbent material will be available at all fuel storage locations and remote areas of significant machinery activity (e.g. drill-sites, road building).

The following responses are suitable for fuel/petroleum product spills in different environmental media:

Spills on Land (gravel, rock, soil and vegetation)

- Trench or ditch to intercept or contain flow of fuel or petroleum products on land, where feasible (loose sand, gravel and surface layers of organic materials are amenable to trenching/ditching; trenching in rocky substrates is typically impractical and impossible).

- Construct a soil berm down slope of the spill. Use of synthetic, impervious sheeting can also be used to act as a barrier.
- Where available, recover spills through manual or mechanical means including shovels, heavy equipment and pumps.
- Absorb petroleum residue with synthetic absorbent pad materials.
- Recover spilled and contaminated material, including soil and vegetation.
- Transport contaminated material to approved disposal or recovery site. Equipment used will depend on the magnitude and location of the spill.
- Where safe, disposal can be done through controlled in-situ combustion with the approval of government authorities and fire/safety consultants.
- Land based disposal is only authorized with the approval of government authorities.

Spills on Snow

- Trench or ditch to intercept or contain flow of fuel or petroleum products on snow, where feasible (ice and snow are amenable to trenching/ditching)
- Compact the snow around the outside perimeter of the spill area.
- Construct a dike or dam out of snow, either manually with shovels or with heavy equipment such as graders and dozers where available.
- If feasible, use synthetic liners to provide an impervious barrier at the spill site.
- Locate the low point of the spill area and clear channels in the snow, directed away from waterways, to allow non-absorbed material to flow into the low point.
- Once collected in the low area, options include shoveling spilled material into containers, picking up with mobile heavy equipment; pumping liquids into tanker trucks or using vacuum truck to pick up material,
- Where safe, disposal can be done through in-situ combustion with approval from government authorities,
- Liquid oil wastes, oil contaminated snow and debris and oil residues left after controlled, in-situ burning will be picked up and disposed of at a land disposal site approved by government authorities and fire/safety consultants.
- Transport contaminated material to approved disposal site. Equipment used will depend on the magnitude and location of the spill.

Spills on Ice

- Contain material spill using methods described above for snow if feasible and/or mechanical recovery with heavy equipment.
- Prevent fuel/petroleum products from penetrating ice and entering watercourses.
- Remove contaminated material, including snow/ice as soon as possible.
- Containment of fuel/petroleum products under ice surface is difficult given the ice thickness and winter conditions. However, if the materials get under ice, determine area where the fuel/petroleum product is located.
- Drill holes through ice using ice auger to locate fuel/petroleum product.
- Once detected, cut slots in the ice using chain saws and remove ice blocks.
- Fuel/petroleum products collected in ice slots or holes can be picked via suction hoses connected to portable pump, vacuum truck or standby tanker. Care should be taken to prevent the end of the suction hose clogging up with snow, ice or debris.
- Fuel/petroleum products that have collected in ice slots may be disposed of by in-situ burning if sufficient holes are drilled in ice. Once all the holes are drilled, the oil which collects in the holes may be ignited. Consult with fire/safety consultants and government authorities to obtain approval.

Spills on Water

- Contain spills on open water immediately to restrict the size and extent of the spill.
- Fuel/petroleum products, which float on water, may be contained through the use of booms, absorbent materials, skimming, and the erection of culverts.
- Deploy containment booms to minimize spill area, although effectiveness of booms may be limited by wind, waves and other factors.
- Use absorbent booms to slowly encircle and absorb spilled material. These absorbents are hydrophobic (absorb hydrocarbons and repel water).
- Once booms are secured, use skimmers to draw in hydrocarbons and minimal amounts of water. Skimmed material can be pumped through hoses to empty fuel tanks/drums.
- Culverts permit water flow while capturing and collecting fuel along the surface with absorbent materials.
- Chemical methods including dispersants, emulsion — treating agents and shoreline cleaning will be considered.
- Use absorbent pads and similar materials to capture small spills/oily residue on water.

Other Response Alternatives

In-situ combustion is a disposal method available for fuels and petroleum products~ In-situ burning can be initiated by using a large size portable propane torch (tiger torch) to ignite the fuel/petroleum products. Highly flammable products such as gasoline or alcohol, or combustible material such as wood, may be used to promote ignition of the spilled product. The objective is to raise the temperature for sustained combustion of the spilled product.

Precautions need to be taken to ensure safety of personnel. Also, spilled product should be confined to control burning. These include areas where the spilled material has pooled naturally or been contained via dikes, trenches, depressions or ice slots. Prior to any attempts at in-situ burning consultation with experts and approval by government authorities are required.

Chemical response methods are also available and may include the use of the following:

- Dispersants
- Emulsions-treating agents
- Visco-elastic agents
- Herding agents
- Solidifiers
- Shoreline cleaning agents

Biological response methods include, nutrient enrichment and natural microbe seeding.

11. WASTE MANAGEMENT

General (domestic and personal) Waste

All foreign material introduced to an area by employees or contractors will be collected and removed from the site to an approved landfill site unless the land use permit allows for on site disposal. All domestic and personal waste shall be managed in accordance with local health requirements.

General garbage will be incinerated prior to burial unless otherwise contradicted by government regulations. General garbage that is designated for shipment can be incinerated to reduce bulk unless otherwise contradicted by government regulations. Food wastes will not be stored on site; it will be incinerated and buried or shipped off site. Incineration will be conducted within an approved container (e.g. diesel-fired incinerator, modified steel drum). On site disposal of garbage will be avoided during reconnaissance activities. The garbage will be returned to the base of operations for proper disposal. Food-waste must be removed from remote locations on a daily basis. Food must be removed from remote locations whenever the locations are unoccupied.

Sewage will be contained in a pit (latrine) located more than 100 metres away from surface water. Pits will be approximately 3 ft square and 5 ft deep and treated with lime and /or bacterial digestives on a daily basis. The pit will be filled and capped with topsoil upon demobilization of the camps.

Wastewater (greywater) from kitchen or showering facilities will be directed to sumps designed to prevent discharge of particulate material. The sumps will be located more than 100 metres away from surface waters and be approximately 3 ft deep. The sump will be located outside the main shelter and be covered to prevent animals from accessing the pit. Biodegradable soaps and detergents are to be used at all times.

Recycling

Recycling programs should be initiated whenever practicable.

12. REHABILITATION

All reasonable steps will be undertaken to return the land surface to its 'original form, and to promote healthy re-vegetation and sustainable natural development. Rehabilitation varies depending on the speed of natural growth. Local land management authorities should be consulted concerning proven and recommended methods for rehabilitation and re-vegetation.

At the completion of exploration in an area, an inspection will be made to assess whether all rubbish has been removed, all drill holes have been capped, excavations have been backfilled. Topsoil replaced and bare lines scarified.

Regardless of location, the following steps are to be taken to aid natural rehabilitation of tracks, drill sites, camp sites, excavations, etc as soon as practicable after exploration is complete:

- Remove rubbish and waste material. Fill in all holes, trenches, and sumps with the stockpiled subsoil and compact it.
- Backfill excavations with the stockpiled subsoil and topsoil.
- Re-contour disturbed topography, particularly natural drainage patterns, as much as possible.
- Contour rip cleared or compacted surfaces to prevent erosion and to trap seeds. Compacted areas should be ripped to a depth of 0.5m where practicable using rippers with a minimum spacing of 1m.
- Cap all drill holes.
- Spread topsoil (or surface material useful for regeneration or re-vegetation) over all disturbed areas as a rooting medium for re-vegetation.
- Spread any cleared vegetation to trap wind-blown seeds, promote re-growth and minimize erosion.

- If necessary, spread fertilizer and an approved mix of seed over the disturbed area. (No exotic seeds are to be sown in native vegetated areas.)
- Fencing may be required in some areas of re-vegetation.
- Close off all cleared lines and tracks.
- Photographs should be taken of sites before, during and after the operation where surface disturbance is expected.
- Rehabilitated areas should be monitored after exploration is complete either by physical inspection or by contacting the appropriate licensing authority.

13. REPORTING AND RECORDS MANAGEMENT

Incident Reporting and Investigation

Any significant environmental incident must be promptly reported and adequately investigated.

Authorities must be notified as per regulations.

Examples of environmental incidents resulting from activities are:

- Hazardous materials spill.
- Bush fire.
- Introduction of noxious weeds or diseases.
- Damage to a heritage, cultural or sacred site.
- Contamination of surface or ground water,
- Significant erosion requiring major rehabilitation.