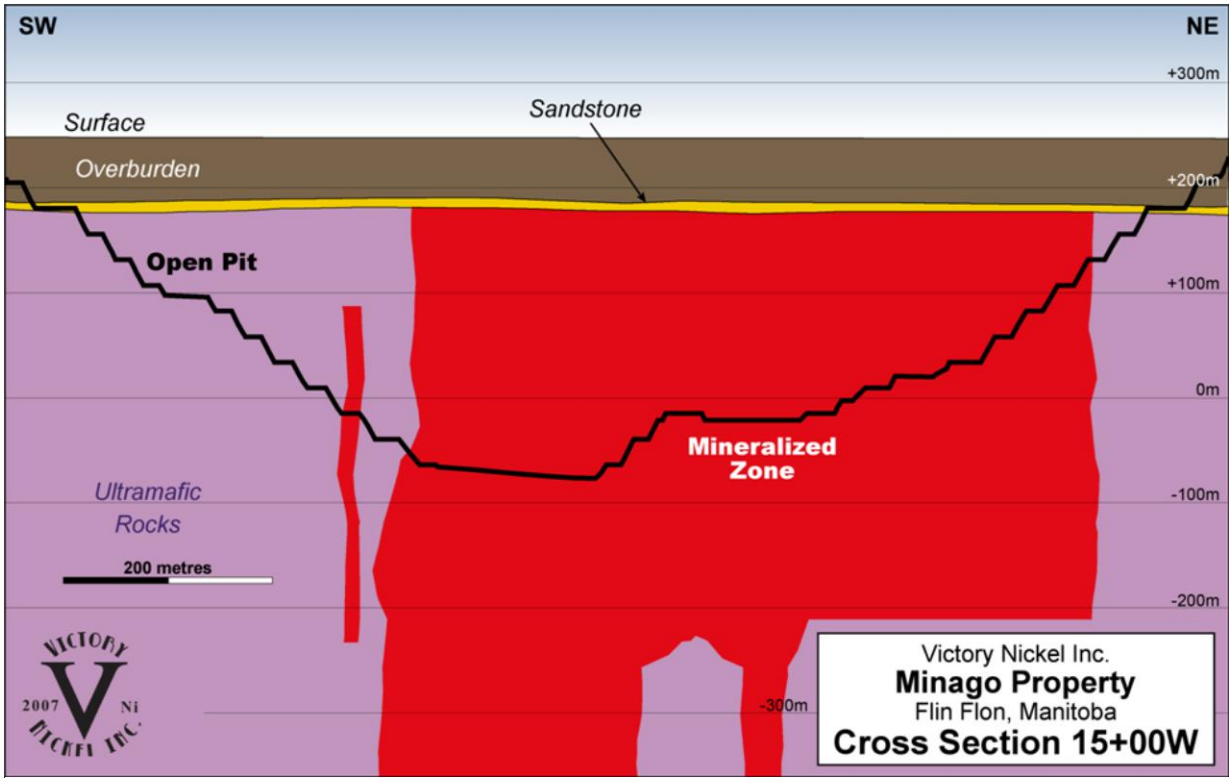

Chapter 9 – Environmental Management Plans

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9. ENVIRONMENTAL MANAGEMENT PLANS

The following sections provide a description of the key elements of Victory Nickel Inc.'s (VNI's) environmental management plans that will ensure that commitments to environmental protection and management documented in this report are carried out. These are site wide environmental management plans for various site components including TWRMF and its appurtenances.

This section includes the following environmental management plans:

- Environmental Management Plan;
- Environmental Protection Plan;
- Spill Contingency and Emergency Response Plan;
- Waste Management Plan;
- Wildlife Protection Plan; and
- Archaeology Contingency Plan.

These plans are presented at the conceptual level as the project has yet to receive operating permits, secure project financing, or complete detailed engineering. Final engineering and site-specific details may impose changes on the project that affect details about how the proposed management plans function at the operational level. Victory Nickel is committed to continual improvement and as such, once finalized, all environmental management plans will be reviewed on a regular basis and updated accordingly.

In addition to corporate level policies and procedures, which are applicable to all of VNI's activities and projects, VNI will prepare and implement project-specific management and protection plans that reflect the specific site conditions and characteristics of the Minago Project. For example, prior to the completion of the Tailings and Waste Rock Management Facility (TWRMF), an Emergency Preparedness Plan as well as an Operating, Maintenance and Surveillance (OMS) Manual will be developed in accordance with the Canadian Dam Safety Guidelines and the Mining Association of Canada requirements.

9.1 Environmental Management Plan

Victory Nickel Inc. (VNI) is committed to conducting its operations and activities in a manner that protects the natural environment, protects the environmental health and welfare of its employees and contractors, meets or exceeds requirements of all applicable environmental acts, regulations and permitting requirements, and keeps employees and the public informed about its environmental plans through its internal and external communication programs. Victory Nickel Inc. has designed and plans to develop the Minago Project using the following principles:

- minimize the geographic extent, duration, and magnitude of effects of project development and operations on valued ecosystem and cultural components;
- mitigate impacts where economically and technically feasible;
- design for eventual permanent, passive closure; and
- minimize risk of potentially harmful incidents.

Environmental management at the Minago Project will be integrated under one onsite environmental manager who will liaise closely with operations and will report directly to the General Manager. This structure will provide for an effective and integrated approach to environmental issues at the mine while at the same time ensuring that corporate environmental standards are achieved.

The following sub-sections describe corporate level policies and procedures that will apply as well as key positions of responsibility and duties. Subsequent sections provide the outlines and preliminary contents for project specific environmental protection plans and procedures that will be expanded and refined in conjunction with detailed project design and permitting, in readiness for roll-out during project construction and operation.

9.1.1 Environmental and Social Policies

Victory Nickel Inc. has adopted the following ten point environmental policy, adapted largely from the environmental policy of the Mining Association of Canada.

1. Integrated Management - Integrate environmental policies, programs, and practices into all activities of the organization.
2. Environmental Management - Monitor the performance of environmental programs and management systems to ensure compliance with company and legislative requirements.
3. Continual Improvement - Establish an ongoing program of review and improvement of environmental performance.
4. Risk Management - Identify, assess, and manage environmental risks.
5. Incident Management - Develop, maintain, and test emergency preparedness plans to ensure protection of the environment, workers, and the public.
6. Public Policy - Work with government and the public to develop effective, efficient, and equitable measures to protect the environment based on sound science.
7. Contractors and Suppliers - Require contractors to comply with company environmental policies and work co-operatively to improve environmental performance.
8. Communications - Encourage dialogue on environmental issues with employees and public and be responsive to concerns.

9. Employees - Ensure that all employees understand and are able to fulfill their environmental responsibilities.
10. Closure - Reclaim site in accordance with site-specific criteria in a planned and timely manner.

These policies will be applied in the development of the Minago Project and in the day-to-day operation of the company. They will be integrated or implemented on a regular basis through the following mechanisms:

- environmental protection standards and requirements will be included in contract specifications;
- a field-ready environmental management plan will be prepared;
- orientation with environmental management and operating plans will occur regularly; and daily on-site orientation meetings (tail gate meetings) will occur prior to the initiation of new work and/or high risk activities, including a review of environmental protection and management measures.

In Addition, Victory Nickel Inc. will adopt e3 plus guidelines and procedures when undertaking e3 plus exploration programs.

9.1.2 Management Structure and Responsibilities

The management structure and responsibilities are as follows:

- General Manager (onsite) – oversees all aspects of activities during the three project phases (planning, production, operating and closure). Reports directly to the President.
- President – oversees all aspects of mine site operations. Reports directly to the Chief Executive Officer.
- Vice-President, Environment and Sustainable Development (VPESD) – oversees all aspects pertaining to compliance with respect to environmental and safety issues, as well as oversees aspects pertaining to community affairs and corporate social responsibility. Reports directly to the President.
- Environmental Coordinator (onsite, EC) – oversees day-to-day operations in terms of environmental compliance and reporting. Reports directly to the General Manager (GM). The primary focus of this position will be to establish monitoring programs and procedures for reporting non-compliance with environmental regulations or commitments, and to ensure corrective action or implementation of adaptive management measures.
- Environmental Technician (ET) (onsite) – works in conjunction with the Environmental Coordinator and On-site Supervisor. Reports directly to the EC.

- Contractors – will conduct various stages of development. Reports directly to the Onsite supervisor. All contractors will be expected to demonstrate capacity to perform in a manner consistent with VNI's commitments, policies and procedures.

The following conditions currently apply and will continue to apply to all employees and contractors while working at the Minago Project:

- Attendance is mandatory at scheduled safety and environmental meetings.
- Personal protective equipment must be worn in designated areas and for specific work activities (e.g. chainsaw operation).
- Alcohol consumption and illegal drug use is prohibited.
- Vehicles must be operated responsibly. Road safety procedures must be followed.
- No machinery is to be operated within 30 m of any watercourse without governmental management approval.
- Fuels, lubricants, cleansers and solvents and waste substances, shall not be used, stored and/or disposed of within 30 m of any watercourse.
- Firearms are prohibited on Victory Nickel property, unless authorization is granted.
- Recreational hunting is not permitted on Victory Nickel property.
- For recreational fishing, possession of a valid *Manitoba License* is required. The use of barbless hooks is mandatory and all fish must be released as per Manitoba regulatory requirements.

9.2 Environmental Protection Plan

9.2.1 Introduction

The purpose of the Environmental Protection Plan (EPP) is to improve Victory Nickel Inc. (VNI's) ability to manage routine (scheduled) and emergency-related (unplanned) works with reduced environmental risk and liability to VNI.

This EPP provides a set of standards and procedures for planning and conducting maintenance and construction works. It applies to all employees and contractors employed at the Minago Project site, and they must ensure that environmental protection and compliance is achieved at all times. This document is in a conceptual stage, and will be updated and finalized as a separate document once the detailed engineering aspects are finalized. This field-ready document will reflect the most current standards for the protection of the environment and will present strategies for preventing and/or minimizing damage when working near or in sensitive environments.

A description of mitigation measures for various types of maintenance and construction activities is provided below to illustrate the type of content to be provided in the subsequent document.

9.2.2 Best Management Practices

Potential negative impacts can be avoided through good planning and the application of standard best management practices (BMPs) before, during and after construction and operations activities occur. Impact avoidance is the preferred means of protecting the environment; adverse environmental effects can be minimized by incorporating BMPs into construction and maintenance activities. BMPs help guide those conducting activities as to what practices are "best" for the environment. While it is recognized that there are general environmental techniques and procedures to minimize environmental damage, site-specific conditions will usually require a solution unique to that location. The generic BMPs listed below are not intended to be definitive, nor should they be interpreted as the only acceptable options.

All onsite activities that interact with the environment will be reviewed by the onsite Environmental Coordinator. The main steps for review and approval of an activity are as follows:

- obtain information pertaining to the job activity;
- determine environmental risk, consider risk and determine mitigation measures; and
- if required, contact government regulatory agencies and prepare regulatory applications.

Examples of BMP procedures that will be incorporated in project planning activities are summarized in following sub-sections.

9.2.2.1 Site Management and Monitoring

The purpose of good site management is to ensure that site activities impact the environment as little as possible. One of the greatest impacts resulting from poor site management is the introduction of a deleterious substance into the environment. A deleterious substance is any substance that would degrade or alter the quality of the environment so that it becomes harmful to fish or fish habitat. Examples of deleterious substances are: lubricating oils, gasoline and diesel fuel, antifreeze, soil and sediment, concrete wash water, etc. It is an offense to discharge a deleterious substance to a watercourse; therefore it is important when working in (i.e., such as when a culvert is installed) or near a water body to ensure that:

- all equipment used for instream work is clean and is in good mechanical order with no fluid leaks;
- all fuels and lubricants are stored well away from the watercourse;
- refueling and changing of oils/lubricants is completed away from bodies of water;
- spill containment and clean-up equipment are onsite at all times;

- all cast in place concrete is isolated from flowing waters for a minimum curing period of 72 hours to allow the pH to reach neutral levels;
- all water displaced from concrete forms during concrete pouring is discharged into a sump; and
- all stockpiles of material are kept above high watermarks.

Environmental monitoring will ensure a high standard of environmental protection and compliance with all regulatory requirements. Details of monitoring programs will be specific to each work activity. Generally, a monitoring program is designed to examine the effectiveness of mitigation measures, and will be conducted by the onsite Environmental Coordinator and Technician.

9.2.2.2 Instream Construction Windows

Instream works at watercourse crossings with known or inferred fish presence will be undertaken during the approved fisheries work window.

A combination of these periods is required, if more than one species occurs within a watercourse where activities are being conducted.

9.2.2.3 Sediment and Erosion Control

The key to controlling erosion and sedimentation caused by work-related activities is to manage off and onsite runoff. In general, to minimize erosion and sedimentation, work related activities will be conducted to:

- minimize disturbance to vegetation and limit area of clearing;
- install sediment control measures (silt fences, sediment traps, etc.) before starting work;
- inspect sediment control measures regularly and make necessary repairs immediately;
- minimize length of time that unstable erodible soils are exposed;
- direct sediment-laden or turbid runoff into vegetated areas;
- stabilize erodible soils as soon as practical by seeding or installing erosion control blankets; and
- cover temporary fills or stockpiles with impermeable covers (e.g. plastic) during heavy rainfall.

Effective ways to control erosion and trap sediment are summarized in Table 9.2-1. All sediment traps and barriers (i.e., silt fences, straw bales, etc.) must be cleaned regularly while they are in place, if they are to remain effective. Installation procedures will be provided on individual fact sheets to be contained within the final EPP document.

9.2.2.4 Site Isolation

Isolation techniques are required for instream work where sensitive habitat is potentially affected, or in areas where site activities have the potential to have impacts downslope.

The isolation of a work site reduces erosion and the release of contaminants offsite. Methods of isolating a work site so that works may proceed in isolation of flowing water or surface runoff include instream diversions, surface diversion berms or dikes, and swales, by-pass pipes, and coffer dams. A brief description of these mitigation techniques is provided in Table 9.2-2. Specific information pertaining to installation procedures will be provided in the final EPP.

9.2.2.5 Dust Control

Dust will be controlled in areas where it poses a risk to the environment or worker health and safety. Detailed plans will be provided in the final EPP document.

9.3 Spill Contingency and Emergency Response Plan

The principal objective of this preliminary plan is to provide an outline of the policies and procedures that will be employed to safely and effectively respond to spills of hazardous materials that may be encountered during construction, operation and decommissioning activities. This plan will be finalized once the detailed engineering design is completed, and it will comply with all federal and territorial regulatory requirements as far as spills of hazardous materials are concerned for mining projects. The plan is also designed to provide safe and effective work practices through knowledge of potential risks associated with mine operations along with procedures for dealing with wastes generated as a result of a spill as per preliminary details contained in Section 9.4: Waste Management Plan.

Following completion of the detailed engineering design, Victory Nickel Inc. (VNI) will prepare operational manuals for all facilities as well as general and facility-specific spill and emergency response plans. VNI will maintain the appropriate permits to ensure compliance with the conditions under the Manitoba Environmental Act and applicable Regulations such as the Storage Tanks Requirements for the storage and handling of petroleum products and other hazardous substances.

9.3.1 Spill Response Priorities and Responsibilities

All spills and emergencies will require immediate action as necessary, with priorities given to:

1. protecting lives and preventing injury;
2. protecting the environment;
3. protecting infrastructure; and
4. minimizing disruption or interference with business activities.

Table 9.2-1 Description of Sediment and Erosion Techniques

Technique	Description	Application
Vegetation: **Preservation and Replanting**	Maintain vegetation, minimize grubbing, maintain root mat and reseed/ replant.	On slopes, stream banks, and floodplains to permit infiltration and minimize surface disturbance.
Silt Fences	Geotextile vertical barrier that causes sediment deposition.	On slopes with erodible soils – surface applications only (not to be used instream (i.e. flowing water)).
Straw Bales	Barrier that causes sediment deposition.	On slopes with erodible soils and in shallow streams or low flows only.
Sediment Traps or Basins	Excavate minor depressions to allow sediment to settle.	In areas where high volumes of sediment laden water occurs; may be used with silt fencing or bales.
Flumes / Spillways	A chute or pipe of non-erodible material to convey runoff down a slope.	In areas with concentrated high velocity surface runoff.
Check Dams	Small dams to reduce the velocity of storm water flows in swales/ditches.	In small open channels.
Erosion Control Blankets	Natural fiber matting used to minimize surface erosion.	In areas with surface runoff or channels.
Plastic Covers	Tarp to cover erosive soils.	In non-vegetated areas where a temporary measure is required to control runoff until the site is stabilized.

Table 9.2-2 Description of Site Isolation Techniques

Technique	Description	Application
Instream Diversion	Divert streams using dams, alternate channels, berms, pumps, etc.	To isolate an area to work in the dry; may be used with other techniques to minimize erosion and sedimentation.
Diversion Berms/Dikes	Low berm used to divert surface water	Near slopes or around a work site; good for containing an area or preventing runoff into an area.
Swales	Ditch to intercept storm runoff and divert to an acceptable area	Along uphill side of exposed slopes to minimize runoff flowing across the slope; may be used with other techniques to minimize erosion and sedimentation.
By-Pass Pipes	Flexible hoses, pipes, or flumes used to carry / pump water through or around a site	To isolate an area to work in the dry; limits sediment release, maintains stream flow.
Coffer Dams	Sandbags, sheet piling, geotextiles used as a dam, use of pumps to remove water	To isolate or contain a work area on larger streams.

The conceptual notification and response procedures along with chemical storage and waste management guidelines are provided below and in Section 9.4: Waste Management Plan. Emergency contacts for VNI and those of all contractors and support organizations will be included in the final plan. The general steps required in the event of a spill are as follows:

1. Report all spills immediately to site Supervisors.
2. If safe, stop the source of the spill, prevent the spill from entering a watercourse, and clean-up the spill.
3. Contact the Manitoba 24-hour Spill Report Hotline and notify government agencies.
4. Complete the Spill Report Form.

Responsibilities for spill response are summarized in Table 9.3-1.

Table 9.3-1 Responsibilities for Spill Response

Position	Responsibilities
All Employees (First Observer)	• Assess the initial severity of the spill and safety concerns. • Identify the source of the spill. • Report all spills to the Work Supervisor as soon as possible. • Determine the size of the spill and stop or contain it, if possible. • Participate in spill response as member of the cleanup crew.
Work Supervisors	• Contact the General Manager. • Gather facts of the spill. • Assist as required in spill response measures.
Emergency Response Team	• Conduct cleanup of spills under direction of the General Manager. • Take appropriate response measures - deploy booms, absorbents and other equipment and materials as required. • Continue cleanup as directed by the General Manager or Emergency Supervisor.
General Manager (GM)	• Assist in initial and ongoing response efforts. • Supervise emergency response crew. • With work crew, take initial action to seal off the source and contain the spill. • Record spill information. • Ensure co-ordination of equipment and manpower as needed. • Oversee the cleanup operation until it is satisfactorily completed. • Continue actions until relieved or supplemented by (an)other Emergency Supervisor(s). • Decide with Environmental Coordinator, if mobilization of additional equipment from Spill Response Organization or Contractor is warranted.
Environmental Coordinator (EC)	• Ensure expeditious response and clean up of spill site and impacted areas. • Report the spill to the Manitoba 24-Hour Spill Report Line. • Together with the General Manager, decides if additional equipment is required to contain and clean up spills. • Notify senior management. • Oversee completion and distribution of a Spill Report. • Ensure investigation identifies measures to prevent similar spills.
VP Environment and Sustainable Development	• Works with GM and EC to ensure site remediation activities are conducted properly • Is responsible for all communication with the regulators • Assists the COO to ensure that all press releases are accurate and in accordance with company policy

Table 9.3-2 Responsibilities for Spill Response (cont'd)

Chief Operating Officer (COO)	• Is responsible for all communication with the media. Ensures that all press releases are accurate and in accordance with company policy. • Makes financial decisions on major expenses during large spill response.
VNI Board of Directors	• Establishes corporate environmental policy based on the recommendations of the Environmental Management Committee.

9.3.1.1 Equipment

Spill kits will be purchased for the diesel storage tank farm sites, the industrial complex building, surface operating equipment, and any fuel transfer stations such as helicopter re-fuelling areas. Kit contents will be based on the potential risks associated with each particular areas operation but generally contain oil sorbent pads, pillows and socks, granular sorbent, plug patties for instant leak stop, and protective equipment including gloves, goggles, and protective suits. The larger kits will be contained in weather-tight containers that also serve as a certified waste disposal container in accordance with the Federal Transportation of Dangerous Goods Act.

9.3.1.2 Training

As with any plan, a level of training and preparedness has to be implemented and maintained in accordance with both Occupational Health and Safety Regulations. At a minimum, a first responder awareness level training program including tactics for hazardous materials response will be implemented with all key staff and contractors.

Where contract fuel suppliers will be shipping fuels and other dangerous goods to the site, the requirement under the Transportation of Dangerous Goods Act will be met. VNI will assign a responsible person for ensuring that the appropriate records are maintained and any incidents involving the shipper and/or receiver are reported to the appropriate authorities.

9.3.1.3 Spill Response Action Plan

If it is safe to do so, the initial responder will:

1. Ensure his/her safety and the safety of others.
2. Shut off ignition sources and ensure no smoking.
3. Identify the spilled material.
4. Stop product flow, if possible.
5. Call for assistance to mobilize the Emergency Response Team.
6. Attend to injured.
7. Assess the severity of the spill.

8. Contain and recover spill as soon as possible.

Safety is of primary importance in responding to spill and in the subsequent actions. The Spill Contingency and Emergency Response Plan will outline the necessary steps to avoid subsequent risks to workers and the environment. In general, any spill or leakage of a petroleum or chemical product during transport or storage will be managed through the appropriate response procedures. In most instances, a berm will be established down slope from the spill and plastic tarps placed over the berm. Absorbent matting will be used for capture of the petroleum products. These absorbent matting and materials used to collect the petroleum products with be collected into containers or empty 205 L drums and disposed of in a Government approved manner such as burning. General guidelines to follow in the event of a diesel, gasoline, and Jet B fuel or antifreeze spill are summarized in Table 9.3-2.

9.3.2 Emergency Response

Emergency response will vary with the nature and circumstances of the emergency. VNI will establish an onsite Emergency Response Team. Specific training will be provided to the team members, and all employees and contractors will receive training in spill recognition and assessment, spill hazards, spill reporting, clean up procedures and general emergency response. All personnel will be familiar with the spill reporting requirements.

In addition, employees involved with fuel transfers will be fully trained in the safe operation of the fuel handling facilities, spill prevention techniques and fully cognizant of the spill reporting procedure. Mock accidents will be conducted to test the spill and emergency response procedures.

9.3.2.1 Forest Fires

In the event of a fire, onsite trained personnel and equipment will be readily accessible (i.e., round point shovels, fire extinguishers) to control and fight any fires in the immediate area. All fires will be reported to the Manitoba Government Forests Management Branch.

Open fires and smoking will be restricted so as to minimize forest fire hazards. In order to reduce the risk to infrastructure from a forest fire, regular vegetation management will be conducted (e.g., vegetation clearing along the road corridors) to serve as a firebreak.

9.4 Waste Management Plan

9.4.1 Introduction

This section includes a description of the various waste streams that will be generated by the Minago Project together with the proposed management plans for each waste type. Waste streams covered in this section include non-hazardous wastes (including domestic wastes),

hazardous wastes, mine wastes (waste rock, tailings, and waste water) and sewage. The following sections provide information pertaining to these waste streams. The Waste Management Plan (WMP) will be finalized following the completion of detailed engineering. Potential adverse environmental effects from hazardous material spills (e.g. diesel storage facilities, fuel transfers, fuelling operations) can be mitigated through engineering design, development of management and programs. The WMP will be specific to the requirements of the

Table 9.3-3 Action Plan Guidelines for Fuels, Oils, and Antifreeze

Spill Substance Type			
Location of Spill	**Diesel, Hydraulic, Lube and Waste Oil**	**Gasoline and Jet B Aviation Fuel**	**Ethylene Glycol (Antifreeze)**
On Land	Do not flush into ditches or drainage systems. Prevent entry into waterways and contain with berm or other barrier. Remove small spills with sorbent pads.	Block entry into waterways with berms or other barrier. Do not flush into ditches or drainage systems. Do not contain spill, if there is any chance of igniting vapours. On shop floors and in work yards, apply particulate sorbents.	Block entry into waterways with berms or other barrier. Do not flush into ditches or drainage systems. Contain spill by dyking with earth or other barrier. Remove minor spills with universal sorbent. Remove large spills with pumps or vacuum equipment.
On Snow and Ice	Block entry into waterways and contain with berm or other barrier. Remove minor spills with sorbent pads or snow. Use ice augers and pump when feasible to recover diesel under ice. Burn using Tiger Torches, if unrecoverable by other methods and it is feasible and safe to do so.	Block entry into waterways with snow or other barrier. Do not contain spill, if there is any chance of igniting vapours. In work yards, apply particulate sorbents.	Block entry into waterways with berms or other barrier. Do not flush into ditches or drainage systems. Contain spill by dyking with snow or other barrier. Remove minor spills with universal sorbent. Remove contaminated snow with shovels and mechanical equipment.

Table 9.3-2 Action Plan Guidelines for Fuels, Oils, and Antifreeze (cont'd)

On Muskeg/ Wetland	Do not deploy personnel and equipment on marsh or vegetation. Remove pooled oil with sorbent pads and/or skimmer. Flush with low pressure water to herd oil to collection point. Burn only in localized areas, e.g., trenches, piles or windrows. Do not burn if root systems can be damaged (low water table). Minimize damage caused by equipment and excavation.	Do not deploy personnel and equipment on marsh or vegetation. Remove pooled gasoline or Jet B with pumps. Low pressure flushing can be tried to disperse small spills. Burn carefully only in localized areas, e.g., trenches, piles or windrows. Do not burn if root systems can be damaged (low water table). Minimize damage caused by equipment and excavation.	Do not deploy personnel and equipment on marsh or vegetation. Remove pooled gasoline or Jet B with pumps. Burning is not feasible. Minimize damage caused by equipment and excavation.
On Water	Contain spill as close to release point as possible. Use spill containment boom to concentrate slicks for recovery. On small spills, use sorbent pads to pick up contained oil. On larger spills, obtain and use skimmer on contained slicks. Do not use sorbent booms/pads in fast currents and turbulent water. Intercept moving slicks in quiet areas using sorbent booms.	Do not attempt to contain or remove spills. Use booms to protect water intakes and sensitive areas.	Ethylene glycol sinks and mixes with water. Isolate/confine spill by damming or diversion.

facilities and process, and will also outline specific training requirements required for each facility and waste. Hazardous Materials Management Plans will also be prepared for each facility.

9.4.2 Waste Management during Construction and Operations

General requirements pertaining to the management, handling and storage of wastes including application of the waste hierarchy of reduction, reuse, recycling, treatment and disposal are provided below. Construction phase waste materials include sewage, nonhazardous solid wastes, hazardous waste solvents and lubricants, and sewage. Operational phase waste materials include these materials plus mine wastes, which include tailings, waste rock, sludge and water effluent.

9.4.2.1 Sewage

Site sewage treatment facilities will consist of pre-packaged wastewater treatment plants located at the camp and industrial complex. At each location, grey and black water will be collected via sanitary sewer systems and sent to a small in-ground concrete surge tank from where it will be pumped to the sewage treatment plant.

The plants will be designed to meet CCME Drinking Water Guidelines. The treated wastewater from the sewage treatment plant at the industrial complex will be pumped to the Polishing Pond and either recycled through the process plant or discharged to the Minago River or Oakley Creek watershed. The effluent from the sewage treatment plant at the camp will be discharged to a sewage lagoon. Digested sludge from the facility will be disposed of in an environmentally sound manner.

9.4.2.2 Non-Hazardous Solid Waste

Non-hazardous waste will be segregated into the following two streams:

1. Putrescible kitchen wastes – organic food wastes from the kitchen facilities will be segregated, collected in closed bear-proof bins and incinerated daily to minimize wildlife attraction.

2. Non-putrescible waste – Burnable non-organic wastes will be incinerated. Non-burnable materials (such as cans, bottles, etc), used rubber products, scrap metal, and plastic packaging will be collected in designated recycling bins and removed from the site periodically. Non-hazardous solid wastes that cannot be recycled will be buried in a landfill, which will be established early in the construction phase and remain in use for the life of the mine. This material will be periodically buried under a layer of soil to prevent the loss of garbage through wind action.

9.4.2.3 Hazardous Waste

Victory Nickel Inc. (VNI) will prepare a Hazardous Materials Handling Plan prior to construction to address, but which may not be limited to:

- Tracking the volume of hydrocarbon and hazardous waste materials produced or used on site;
- Identification of disposal options;
- Appropriate transport, storage and handling procedures;
- Appropriate clean-up and emergency procedures for spills;
- Monitoring requirements;
- Contingency and response measures; and
- Reporting requirements.

These plans will minimize the potential for adverse environmental effects caused as a result of incorrect handling or in the event of an accident.

Hazardous wastes from the industrial area will include waste oil, ethylene glycol, and miscellaneous lubricants, solvents, and reagents. Hazardous waste will be segregated at the point of generation, placed into appropriate storage containers and then shipped off site to an acceptable disposal or recycling facility. All wastes will be handled, stored and disposed of according to the appropriate regulations under the Manitoba Environment Act and Special Waste Regulation. The appropriate regulations include but are not limited to the Contaminated Site Regulation, Special Waste Regulation, Solid Waste Regulation, Storage Tank Regulation and Spills Regulation. In addition, unused or damaged explosives will be disposed of in a manner that complies with the Manitoba Explosive Act.

Details pertaining to the source and management of these substances are provided below.

Waste Oil

The major sources of waste oil will be from the mobile equipment and power generators. This oil will be collected in designated waste oil tanks located in the mobile equipment maintenance area. The oil will be either periodically shipped off site to a licensed recycler, or it will be filtered or centrifuged to remove particulate matter and then used as fuel in the incinerator. The oil cleaning will be done in a contained area. The solid residue from the oil cleaning will be stored in a drum and periodically removed from the site by an authorized waste management contractor. Every attempt will be made to dispose of waste oil on site as a supplemental fuel supply.

Ethylene Glycol

Used ethylene glycol from mobile equipment coolant systems (antifreeze) and from the generator cooling/heat recovery system will be cleaned and re-used. This will either be done off site by a licensed recycler, or a small packaged glycol recycling plant utilizing distillation and filtration will be installed to handle the anticipated volume. Glycol that cannot be cleaned and recycled will be placed in drums and removed from the site by an authorized waste management contractor.

Waste Solvents and Lubricants

Miscellaneous, small quantities of waste solvents and lubricants will be generated through routine maintenance and repair of equipment. Solvents and lubricants will be collected and stored in appropriate drums for regular shipment to a licensed recycle or disposal facility.

Reagents

The ore processing operations will also involve the use of a number of reagents (Table 9.4-1). These do not generate waste products. The handling and management of all hazardous reagents to be used onsite will be documented in the Hazardous Materials Management Plan to be developed prior to site operations.

Other

A small amount of hazardous waste (such as syringes, bandages etc.) will be generated at the first aid room. This waste will be collected in designated purpose-built containers and disposed of in accordance with the final Waste Management Plan.

Waste vehicle batteries will be collected and placed on pallets for regular shipment to a licensed recycle or disposal facility. Used tires will be collected and those not used on site to provide vehicle protection barriers will be disposed of in the landfill.

Land Farm

A land farm will be constructed utilizing bioremediation to treat petroleum contaminated soil that is likely to accrue during the mine's operational life. The landform will be constructed near the proposed non-hazardous waste onsite landfill. The landform will be constructed on a compacted till or other suitable liner. Hydrocarbon contaminated soil will be transferred into the landform, spread out over the surface and regularly turned to promote remediation. The soils will be sampled to determine when hydrocarbon contamination has been reduced to acceptable standards, and subsequently stockpiled for use in reclamation projects. Water collected in the land farm will run through an oil-water separator and subsequently discharged into the tailings facility.

Table 9.4- 1 List of Reagents

ABBREVIATIONS	CHEMICAL NAME	COMMON NAME	USE	PURPOSE	Dosage (g/tonne)	Dosage (kg/day)
CMC	Carboxmethyl Cellulose	wood product (used to make creamy soups)	Depressant	Depressant for Talc(MgO) coats talc particles to make them hydrophilic	700	7000
PAX	Potassium Amyl Xanthate		Collector	Collector for minerals coats mineral particles to render them hydrophobic so that are attracted to air bubbles and reject water	425	4250
SHMP	Sodium hexametaphophate	Calgon (water softener)	Dispersant	Dispersant for Talc keeps talc particles from adhering to mineral particles	500	5000
MIBC	Methyl isobutyl carbinol	similar to dish soap	Frother	Frothing agent to create stable froth bubbles in flotation cells to float metal particles	70	700
Flocculent (Tails)	Anionic polyacrylamide	used in water treatment	Coagulant	used in thickeners and clarifiers to collect particles so that they will agglomerate and sink	23	227
Flocculent (Conc.)	Anionic polyacrylamide	used in water treatment	Coagulant	used in thickeners and clarifiers to collect particles so that they will agglomerate and sink	5	0.63

9.4.3 Waste Management - Closure Phase

At closure, all unused chemicals that are deemed to have short shelf life will be returned to suppliers/manufacturers. Those chemicals that cannot be returned will be disposed of in a proper manner as per manufactures instructions.

In the event of a temporary closure, the following is proposed:

- Chemicals will not be stored at the site with the exception of those required for water treatment plan and other incidental uses.
- Fuel supplies for equipment will remain on site and diesel fuel tanks will remain in service during this stage. VNI will comply with the requirements under the Manitoba Environment Act pertaining to storage and handling of petroleum products.

- All unused explosives and blasting agents will be returned to the suppliers during this stage and if it proves not to be in line with the economies of scale, the explosives will be destroyed in a safe manner consistent with the Explosives Act.

9.5 Wildlife Protection Plan

9.5.1 Introduction

The development of the Minago Project will affect wildlife and wildlife habitat. The project's potential effects on wildlife may include the following key issues:

- Habitat availability—impacted either directly by habitat loss or alteration, or indirectly by sensory disturbance (e.g., noise, human activity) and reduced patch size (e.g., increased habitat fragmentation);
- Disruption to movement patterns—resulting from increased habitat/landscape fragmentation (e.g., increased density of access corridors) or higher road use levels limiting daily or seasonal wildlife travel;
- Mortality risk—increases resulting directly from site development, mortality from mine traffic, increased hunting / poaching, or lethal control of problem wildlife.

To address these potential project effects on wildlife, this proposed Wildlife Protection Plan (WPP) includes:

1. A list of proposed restrictions for conduct throughout the life of the Minago Project;
2. Consideration of potential wildlife issues and proposed practices to deal with specific issues;
3. A wildlife reporting strategy for mine staff, management and associated contractors and guests to the project area; and
4. A monitoring strategy to evaluate and adapt the WPP into the future.

These components are further discussed below.

9.5.1.1 Management Goal

The primary goal of the WPP is to develop a proactive management protocol for the Minago Project to increase human safety, to reduce the rate and intensity of wildlife and human conflicts, and to, in turn, reduce the threat for wildlife species from potential impacts associated with the project.

9.5.2 Management Policy and Practice

During the project, a wildlife protection, monitoring, management, and consultation plan will be set in place as an operational manual for the mitigation of potential project-related effects on wildlife and their habitats. This manual will provide the Environmental Coordinator, General Manager or designate(s) with:

- Instructions and/or context for project restrictions and management practices;
- Approaches for communicating the content and intent of the WPP; and
- Monitoring tasks to assess the effectiveness of the various components of the WPP and/or to identify issues of concern.

Prior to the commencement of project construction, Wildlife Protection Policies/Procedures will be established to encourage wildlife awareness and avoid disturbance effects. The Wildlife Protection Policies will include environmental training for all mine employees and contractors, and the implementation of an education and awareness program with respect to the wildlife and habitat protection needs of wildlife. The objective of this program will be to educate mine employees and contractors about potential wildlife mitigation. This program will be presented in conjunction with site orientation and training and will be available in written form as part of the overall environmental program at the mine.

Company-directed activities and transportation along the mine access road will be managed to avoid wildlife mortality and to eliminate movement barriers from wildlife access routes. Consultation with Manitoba officials and Department of Transportation will take place to implement appropriate wildlife protection measures, which may include, but may not be limited to, maintenance guidelines for winter, speed reduction zones, signs at crossings, radio equipped trucks and reporting of wildlife on roads.

The WPP will be reviewed every two years, and maintained and updated as a living document, as needed to reflect new information and management priorities. These components are discussed in more detail within the following sections.

9.5.2.1 Proposed Restrictions

A set of restrictions for wildlife protection will be the basis for the WPP. These restrictions are directed at minimizing the potential for adverse project-related effects (e.g., increased mortality risk) on wildlife in and around the project site. Project workers, managers, contractors, and guests that violate any of these restrictions will be subject to disciplinary action.

The restrictions include, but may not be limited to, the following:

- Firearms are not permitted at all times on or in the vicinity of the project site, including during travel to and from the site.

- Feeding wildlife is prohibited at all times on or in the vicinity of the project site, including during travel to and from the site.
- Harassment of wildlife is prohibited at all times on or in the vicinity of the project site, including during travel to and from the site.
- The deliberate destruction or disruption of wildlife nests, eggs, dens, burrows, and the like, is prohibited at all times on or in the vicinity of the project site, including travel to and from the site.
- Hunting and fishing is prohibited at all times on or in the vicinity of the project site, including during travel to and from the site. This restriction is applicable to all mine employees, managers and contractors. It will be in effect throughout the life of the project from construction through to closure. Infringement of this policy is to be reported.
- Pets are prohibited at all times on or in the vicinity of the project.
- The maximum speed limit on all access roads is 60 km/h.
- Access and use of ATVs and snowmobiles for recreational purposes on the mine haul road and the mine site will be prohibited. All traffic will be restricted to designated access roads and trails.

9.5.2.2 Wildlife Issues and Proposed Mitigation

Food wastes are the typical wildlife attractant that is implicated in the development of problem wildlife, especially with respect to problem bears. There are, however, other wildlife attractants that may create problems: chemicals (e.g., road salt), wildlife carcasses (e.g., road kills, hunter kills), and roadside vegetation (e.g., clover). Policy and practice directed at minimizing wildlife concerns related to attractants are presented below:

Management related to the control of wildlife attractants are intended to minimize and even eliminate the development of problem wildlife. However, in the event a problem wildlife situation, the Environmental Coordinator, General Manager or designate(s) will initiate the appropriate response actions. Any direct intervention with respect to problem wildlife will be conducted by authorized personnel in consultation with, and as approved and/or directed by Manitoba Conservation officials. Authorized personnel will opt for nonlethal solutions (e.g., aversive conditioning, relocation) whenever it is considered appropriate and safe to do so. Only authorized personnel will be permitted to use nonlethal (e.g., rubber bullets) and lethal problem wildlife interventions. Table 9.5-1 summarizes proposed mitigation practices for issues of problem wildlife.

Conflict between bears (black bears and grizzly bears) and humans resulting in death or life threatening situations for both humans and bears has become more prevalent in Canada with expanding human development in recent years. A contributing factor to these conflicts occurs when expanding human development overlaps with bear habitat.

The goal of the bear component of the WPP is to reduce human-bear interactions and to reduce and even eliminate bear mortalities associated with the project (Table 9.5-2). Bear management practices for this project will have two closely linked components: a Bear Awareness Program and Bear Safety Training Program. These programs will be presented to employees and consultants together, as an element of the EMS orientation, unless specialized training in bear safety is required for field survey crews and personnel designated for problem bear responses. In those cases, a professional will provide the appropriate bear safety training course.

Note that any direct intervention with respect to problematic bears will be conducted in consultation with, and as approved and/or directed by government officials.

9.5.3 Wildlife and Vehicles

Management procedures and policies intended to reduce the incidence of wildlife-vehicle collisions and near misses will be established. For example, project personnel will be required to verbally report wildlife carcasses observed along access roads to the Environmental Coordinator, General Manager or designate(s) as soon as possible – a wildlife carcass along the road may attract other wildlife (e.g., bears) to the road corridor and increase the risk of wildlife-vehicle incidents. Table 9.5-3 presents proposed management practices for traffic and wildlife/vehicle incidences.

9.5.4 Habitat Management and Wildlife Harassment

Management will be directed at minimizing potential project-related effects on wildlife habitat that may either occur directly (habitat loss, nest destruction) or indirectly (habitat avoidance due to sensory disturbance or disruption of daily movements).

In particular, restrictions on harassment and habitat destruction are important as the harassment of wildlife can lead to the abandonment of habitat, and the disruption of critical activities (e.g., nesting), and may result in injury to wildlife and/or humans.

Wildlife species are known to be subject to stress in association with human-caused disturbances. Human-caused disturbances that could have potentially adverse effects on wildlife include off-road vehicles, humans on foot, research activities, wildlife viewing, and aircraft over flights. The proposed restrictions described earlier will be essential in the minimizing harassment and effects of wildlife habitat. Table 9.5-4 summarizes the proposed mitigation practices for issues of wildlife habitat and harassment.

Table 9.5-1 Proposed Mitigation Practices for Issues of Problem Wildlife

Preventing Problem Wildlife	1. Littering is prohibited on and in the vicinity of the project site and along access roads. All garbage (e.g., lunch bags) must be returned to temporary storage containers. Note that this includes organic wastes (e.g., orange peels, apple cores). 2. Food wastes will be disposed of as per the Waste Management Plan. 3. Wastes associated with mechanical maintenance and repairs (e.g., motor oil) will be disposed of as per the Waste Management Plan. 4. All temporary (small) storage containers (e.g., garbage cans) for garbage and recycling are to be located indoors in bear-proof buildings. 5. The area around disposal stations will be kept free of garbage and spills will be cleaned up appropriately. 6. Feeding wildlife is prohibited at all times on or in the vicinity of the project site, including during travel to and from the site. 7. Wildlife incidents related to garbage or human food attractants have to be reported to the Environmental Coordinator, General Manager or designate(s) as soon as possible. 8. Improperly disposed of garbage, particularly food wastes, are to be reported to the Environmental Coordinator, General Manager or designate(s) as soon as possible. 9. All Project workers must have received a Bear Awareness orientation and be 'Bear Aware'. 10. Other wildlife incidents have to be verbally reported to the Environmental Coordinator, General Manager or designate(s) as soon as possible. 11. Observations of ungulate and large animal carcasses on and in the vicinity of the Project site, and along access roads have to be verbally reported to the Environmental Coordinator, General Manager or designate(s) as soon as possible.
Dealing with Problem Wildlife	1. The Environmental Coordinator, General Manager or designate(s) have to be immediately notified of any problem wildlife issue. Note that reporting wildlife incidents as they occur will ensure that proactive rather than reactive measures can be taken to prevent a serious outcome (e.g., human injury, destruction of the problem animal). 2. The Environmental Coordinator, General Manager or designate(s) will initiate the appropriate actions in response to a problem wildlife issue. 3. Only authorized personnel are permitted to use non-lethal (e.g., rubber bullets) and lethal problem wildlife interventions. 4. No one should attempt to deal with a problem wildlife issue on his/her own. Problem wildlife can be dangerous. 5. All staff should conform to recommendations regarding bear safety. All staff should have received a Bear Safety training orientation.

Table 9.5-2 Proposed Mitigation Practices for Bear Issues

Bear Safety Program	1. Bear safety pamphlets will be available from the Environmental Coordinator, General Manager or designate(s). 2. Bear safety videos will be available for viewing at any time. 3. Crews working in the field may carry commercially available personal deterrent devices (i.e., bear spray, bear 'bangers') but will require an orientation on the use of these devices. General restrictions on the use and transport of these devices must be followed. 4. Employees are not permitted to have firearms on or in the vicinity of the Project site. 5. Immediately notify the Environmental Coordinator, General Manager or designate(s) of any problem bear or bear safety issue (e.g., bear-human interaction). 6. The Environmental Coordinator, General Manager or designate(s) will initiate the appropriate actions in response to a problem bear or bear safety concern. 7. Only authorized personnel are permitted to use non-lethal (e.g., rubber bullets) and lethal problem bear or bear safety interventions. 8. No one should attempt to deal with a problem bear issue on his/her own. Problematic bears can be dangerous.
Bear Awareness Program	1. All new and returning staff and contractors are required to participate in a Bear Awareness Program orientation. 2. Bear Awareness pamphlets will be available from the Environmental Coordinator, General Manager or designate(s). 3. All requirements for preventing problem wildlife have to be met. 4. All bear observations in and around the Project site and along access roads must be reported.

Table 9.5-3 Proposed Mitigation Practices for Issues of Wildlife and Vehicles

Vehicles and Wildlife	1. Wildlife has the right-of-way on all roads, except where it is judged to be unsafe to do so. 2. The maximum speed limit on all access roads is 60 km/h. 3. Traffic signs for sensitive wildlife areas will be incorporated. 4. Verbal reporting is required for ungulate and other large animal carcasses observed on and in the vicinity of the Project site, and along access roads. Reporting should be to the Environmental Coordinator, General Manager or designate(s) as soon as possible. 5. Road snow clearing requirements have to be conformed to at the discretion of the Environmental Coordinator. 6. Project-related traffic (including ATVs and snowmobiles) is restricted to designated access roads and trails (with certain exceptions). 7. A vehicle collision that results in the death or injury of an ungulate or other large animal must be reported as soon as possible. 8. A near miss between a vehicle and an ungulate or other large animal should be reported as a wildlife 'incident'.

Table 9.5-4 Proposed Mitigation Practices for Issues of Wildlife Habitat and Harassment

Wildlife **Habitat**	1. Conform to General Restrictions for Wildlife Protection. 2. Conform to seasonal restrictions on vegetation clearing as per the direction of the Environmental Coordinator, General Manager or designate(s). 3. Vegetation cannot be cleared without approval of the Environmental Coordinator, General Manager or designate(s). 4. Vegetated buffers will be maintained adjacent to facilities and access roads. 5. Road snow clearing requirements have to be conformed to at the discretion of the Environmental Coordinator. 6. Wildlife crossing points along extensive open ditches have to be provided at the discretion of the Environmental Coordinator. 7. Seeding along road corridors cannot be conducted without the approval of the Environmental Coordinator, General Manager or designate(s), and will follow seed mix recommendations outlined in the Reclamation Plan. 8. Wildlife observations from the project site and along access roads have to be reported to the Environmental Coordinator, General Manager or designate(s).
Wildlife **Habitat** **Wildlife** **Harassment**	1. Any harassment of wildlife will be prohibited on site and by all mine staff, guests and contractors. 2. Manitoba guidelines for dealing with aerial impacts from helicopters and fixed-wing flights on wildlife species have to be adopted and followed. 3. All staff, pilots, guests and contractors will receive orientation and training with respect to wildlife harassment policies.

9.5.5 Wildlife Health

Management policy and practices are intended to reduce potential project-related effects on wildlife health (including non-vehicle related accidents and consumption of toxic substances). For example, company procedures on the safe and prompt clean up of any chemical spills will be followed, with the recognition that special considerations for wildlife may be necessary in some cases (e.g., temporary fencing to prevent wildlife access during the clean up process). Table 9.5-5 summarizes proposed mitigation practices for issues of wildlife health.

Table 9.5-5 Proposed Mitigation Practices for Issues of Wildlife Health

Wildlife Health	1. Feeding wildlife is prohibited at all times on or in the vicinity of the project site, including during travel to and from the site. 2. Company procedures on the safe and prompt clean up of any chemical spills have to be followed. 3. Engineering requirements have to be conformed to for all ditches and engineered embankments/dams/settling ponds as per the direction of the Environmental Coordinator, General Manager or designate(s). 4. Herbicides will not be used in vegetation management activities. Instead, manual clearing will be conducted when and where required, in adherence to the migratory bird vegetation clearing windows. 5. Any observations of wildlife in and around potential sources of contaminants (e.g., settling ponds, fuelling sites) have to be reported.

9.5.6 Wildlife Reporting

A wildlife records program that includes wildlife observations, location of wildlife features (e.g., active nests or dens), traffic incidents (e.g., road kills or near collisions), and wildlife incidents (e.g., aggressive encounters) will be implemented. This information will be regularly reviewed to identify issues of concern (e.g., road segments with a high incidence of road kills, active dens, etc.). If an issue of concern is identified, a strategy to address the concern will be developed in consultation with the appropriate agencies. The wildlife records program is an important tool in monitoring the effectiveness of the WPP recommendations.

Two different wildlife records will be established:

1. Wildlife observations: Observation of signs (e.g., tracks, scat, nests, burrows, etc.) or observations of the animals themselves, behaving in a 'normal' way. Wildlife observations provide information on wildlife habitat use and behavior patterns in relation to the project. Project workers and contractors will be encouraged to record wildlife observations (including notes on habitat use).

2. Wildlife incidents: Reports of close or aggressive encounters, unusual behavior in and around site facilities, traffic accidents or near misses, and observations of dead (e.g., road kill) or injured animals. Project workers and contractors are required to verbally notify the Environmental Coordinator, General Manager or designate(s) of wildlife incidents as soon as possible.

While there is a distinction between wildlife observations and wildlife incidents that will be communicated to employees and consultants, there is the potential for overlap, especially

regarding observations of certain wildlife (i.e., bears) in the immediate vicinity of project facilities. Thus, all wildlife observation reports should be reviewed for evidence of a potential problem (e.g., habituation).

A written log of wildlife observations and incidents for the mine property and access road will be maintained for the life of the mine (until there are no longer employees on site).

The Wildlife Log will include time and date, species, location of observation and other relevant information such as mortality of wildlife and birds. The area definition should include the mine property and access road, as well as the relevant portions of the lease area. The Wildlife Log shall be in written form, including maps.

A review of the log will occur annually (each January) for the area. Wildlife collisions and mortalities will be reported immediately to the local Manitoba conservation office.

Wildlife observations, monitoring programs, and incidents may be required to be followed up with additional mitigation as determined by project staff in consultation with the Manitoba officials and the Norway House (NH) Resource Management Board.

9.5.7 Monitoring

Wildlife activities in the project area are to be monitored in order to identify changes in wildlife migration, distribution, and abundance. Evaluation of relationships between observed changes and project-related activities will take place and information for the planning of mitigation will be obtained. The WPP is thus flexible in time, allowing for further program development to enhance management efficacy. Provisions to evaluate and monitor methods to improve management policies and practices by learning from their outcomes will be conducted. Evaluation will be implemented annually unless urgent evaluation is required, or increased periodic evaluation is deemed necessary.

Monitoring programs will be developed for certain Valued Ecosystem and Cultural Components (VECCs) where significant project effects are predicted, or where the effectiveness of proposed mitigation is poorly understood. This may include monitoring VECCs such as moose. Monitoring may be required to assess changes from baseline conditions.

9.6 Archaeology Contingency Plan

There are no heritage resources sites at the project site or along the access road; however, given the proximity of the project to Little Limestone Lake, there is the potential for offsite activities to disturb heritage sites in the area. The following five points outline Victory Nickel Inc (VNI's) general First Nations heritage protection measures:

1. A heritage awareness program will be included in environmental awareness training to promote the nature and value of heritage resources, clearly describe the importance of

these sites to the Aboriginal peoples, and orientate personnel to VNI's policy of site identification, protection and mitigation for the benefit of the public.

2. Heritage resources awareness training will be provided in the basic orientation for all workers and contractors.
3. Identified heritage resource sites will be protected and monitored during project activities.
4. In the event that a heritage site is encountered during construction, work will cease until the site is assessed by a qualified archaeologist and a First Nation's representative. A representative protection plan will be developed for approval by the regulatory authority.
5. Workers will also be required to report the discovery of archaeological sites, or the vandalism of such sites to the Environmental Coordinator, Environmental Technician, or General Manager.

9.7 Operations, Maintenance and Surveillance Program for the TWRMF

VNI will prepare an OMS Manual for the TWRMF. The OMS will be one component of an overall site management framework, with linkages to other aspects of the site. It also falls under the tailings management framework suggested by MAC in 1998 and depicted in Figure 9.7-1. The framework includes the integration of environmental and safety considerations into each stage of the life cycle of a tailings management facility.

The objective of an OMS Manual is to have one lead document to provide basic information and procedures required for the safe operation, maintenance and surveillance of the TWRMF. It will also provide links to reference information and their physical locations to enable effective use of pre-existing technical information, to reduce duplication as well as avoid having a Manual that is ineffective and cumbersome due to its size.

The OMS Manual will define and describe the following:

- Roles and responsibilities of personnel assigned to the TWRMF;
- Procedures and processes for managing change;
- The key components of the TWRMF;
- Procedures required to operate, maintain and monitor performance of the facility to ensure that it functions according to its design and meets regulatory and corporate policy obligations and links to emergency planning and response; and
- Requirements for analysis and documentation of the performance of the facility (MAC, 2003).

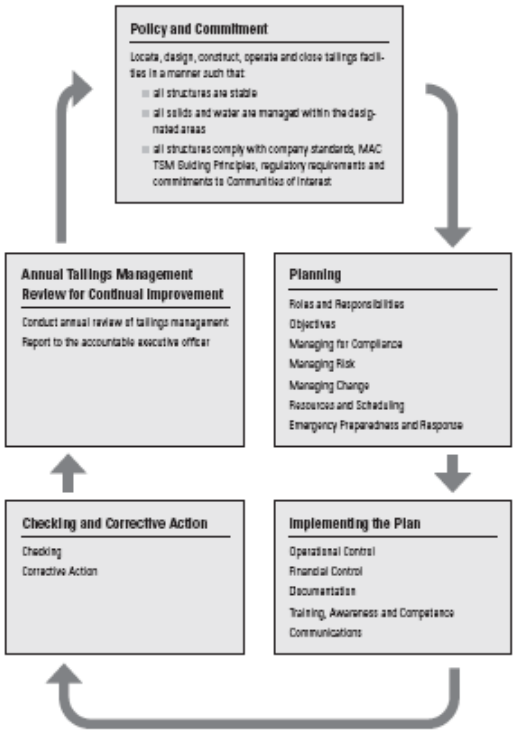

Figure 9.7-1 Elements of the Tailings Management Framework

The layout of the OMS will be based on a number of guidance documents including:

- Developing Operation, Maintenance and Surveillance Manuals for Tailings and Water Management Facilities by the Mining Association on Canada (MAC), dated June 13, 2003;
- A Guide to the Management of Tailings Facilities, by MAC, September 1998 (Refer to Figure 9.7); and
- Requirements under EAL 2981 and other regulatory requirements at the time.

The Manual will consist of the following information:

- Introduction on the project and development of an OMS Manual for the Minago Project;
- Description of the facility, basic components and a timeline of the past and future;
- Details of the Operation, Maintenance and Surveillance of the TWRMF;
- Overview of Emergency Planning and Response;
- References used in writing the manual;
- Glossary and List of Acronyms provides the baseline terms used in the Manual;
- Tables, Figures and Drawings to provide additional details; and

- Appendices provide other relevant information including photographs of the facility and its components, specific worksheets, inspection sheets, as well as information and locations of the most relevant supporting and reference documents.

The manual in its initial form will be a starting point for what should be a continually evolving management program for the facility. VNI will be responsible to continue refining the report into a hands-on manual for site personnel to utilize in their regular work, to use as a reference manual and for emergency situations. In addition, the manual will continue to evolve with input from the Minago Project site, the parent company Victory Nickel, as well as the Minago Project's stakeholders, consultants and regulatory agencies.